

MP/96

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# Current Industrial Reports

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## Manufacturing Profiles: 1996



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U.S. Department of Commerce  
Economics and Statistics Administration  
BUREAU OF THE CENSUS

MP/96

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## Manufacturing Profiles: 1996



Issued July 1998

U.S. Department of Commerce  
William M. Daley, Secretary

Economics and Statistics Administration  
Robert J. Shapiro, Under Secretary  
for Economic Affairs

BUREAU OF THE CENSUS  
James F. Holmes, Acting Director

## Acknowledgments

This report was prepared in the Manufacturing and Construction Division (formerly Industry Division). **Judy Dodds**, Assistant Chief for Census and Related Programs, was responsible for the overall planning, management, and coordination of this project. Planning and the compilation of data were under the direction of **Michael Zampogna**, Chief, Manufactured Nondurables Branch assisted by **Allen Foreman, Robert Miller, Robert Reinard, Nat Shelton, Suzanne Conard, Kim Credito, Kay Hanks, Karen Harshbarger, Nancy Higgins, Walter Hunter, James Jamski, Andy Kraynak, Joyce Pomeroy, Venita Powell, Sue Sundermann, Ronanne Vinson, Kristin Williams, Lissene Witt, and Michael Yamaner**; **Kenneth I. Hansen**, Chief, Manufactured Durables Branch, assisted by **Mike Brown, Raphael Corrado, Milbren Thomas, Brian Appert, Zoraida Arledge, Stanis Batton, Carol Beasley, Chris Blackburn, Larry Blumberg, Brenda Campbell, Renee Coley, Mary Ellickson, Merry Glascoe, Indrek Grabbi, Vera Harris-Bourne, Keith McKenzie, Philippe Morris, JoAnna Nguyen, Betty Pannell, Arminta Quash, Cindi Ramsey, Chris Savage, Wanda Sledd, Ann Truffa, and Richard Wiesler**.

Coordination of the publication process was under the direction of **Mendel D. Gayle** Chief, Forms, Publications, and Customer Services Branch. **Lillie M. Skinner** implemented various phases of the publication process, assisted by **Dorothy L. Heaton** and **Enid Winters**.

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**SUGGESTED CITATION**

U.S. Bureau of the Census, *Manufacturing Profiles: 1996*, MP/96, U.S. Government Printing Office, Washington, DC, 1998.

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# Introduction

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## GENERAL

This publication presents all the data compiled in the Current Industrial Reports (CIR) program for data year 1996. These data were originally released electronically from March through December 1996. This publication replaces all of the individual reports issued in the CIR series for 1996.

Current data are released electronically on Internet for all individual surveys as they become available. Use <http://www.census.gov/econ/www/manumenu.html>. Individual reports can be accessed by choosing "Current Industrial Reports (CIR's)," clicking on "Report Number Index"; from the "Industrial Products by Numeric Index," choose the survey of interest. Follow the menu to view the text (ASCII) file or to download the worksheet file (WK format) to your personal computer. Several years of data are presented for each individual survey. A printed "compendium" publication, including data from all of the individual surveys, will be produced at the end of the data year.

The CIR program has been providing monthly, quarterly, and annual measures of industrial activity for many years. Since 1904, with its cotton and fats and oils surveys, the CIR program has formed an essential part of an integrated statistical system involving the quinquennial census of manufactures and the annual survey of manufactures. The CIR surveys, however, provide current statistics at a more detailed product level than either of the other two statistical programs.

The primary objective of the CIR program is to produce timely, accurate data on production and shipments of selected products. The data are used to satisfy economic policy needs and for market analysis, forecasting, and decision-making in the private sector. The product-level data generated by these surveys are used extensively by individual firms, trade associations, and market analysts in planning or recommending marketing and legislative strategies, particularly if their industry is significantly affected by foreign trade. Although production and shipments information are the two most common data items collected, the CIR program collects other measures also such as inventories, orders, and consumption. These surveys measure manufacturing activity in important commodity areas such as textiles and apparel, chemicals, primary metals, computer and electronic components, industrial equipment, aerospace equipment, and consumer goods.

The CIR program uses a unified data collection, processing, and publication system. The census bureau updates

the survey panels for most reports annually and reconciles the estimates to the results of the broader-based annual survey of manufactures and the census of manufactures. The census of manufactures provides a complete list of all producers of the products covered by the CIR program and serves as the primary source for CIR sampling. Where a small number of producers exist, CIR surveys cover all known producers of a product. However, when the number of producers is too large, cutoff and random sampling techniques are used. Surveys are continually reviewed and modified to provide the most up-to-date information on products produced. The CIR program includes a group of mandatory and voluntary surveys. Typically the monthly and quarterly surveys are conducted on a voluntary basis. Those companies that choose not to respond to the voluntary surveys are required to submit a mandatory annual counterpart corresponding to the more frequent survey.

## FUNDING

The census bureau funds most of the surveys. However, a number of surveys are paid for either fully or partially by other Federal Government agencies or private trade associations. A few surveys are mandated, but all are authorized by Title 13 of the United States Code.

## RELIABILITY OF DATA

Survey error may result from several sources including the inability to obtain information about all cases in the survey, response errors, definitional difficulties, differences in the interpretation of questions, mistakes in recording or coding the reported data, and other errors of collection, response, coverage, and estimation. These nonsampling errors also occur in complete censuses. Although no direct measurement of the biases due to these nonsampling errors has been obtained, precautionary steps were taken in all phases of the collection, processing, and tabulation of the data in an effort to minimize their influence.

A major source of bias in the published estimates is the imputing of data for nonrespondents, for late reporters, and for data that fail logic edits. Missing figures are imputed based on period-to-period movements shown by reporting firms. A figure is considered to be an impute if the value was not directly reported on the questionnaire, directly derived from other reported items, directly available from supplemental sources, or obtained from the respondent during the analytical review phase. Imputation generally is

limited to a maximum of 10 percent for any one data cell. Figures with imputation rates greater than 10 percent are suppressed or footnoted. The imputation rate is not an explicit indicator of the potential error in published figures due to nonresponse, because the actual yearly movements for nonrespondents may or may not closely agree with the imputed movements. The range of difference between the actual and imputed figures is assumed to be small. The degree of uncertainty regarding the accuracy of the published data increases as the percentage of imputation increases. Figures with imputation rates above 10 percent should be used with caution.

## DATA REVISIONS

Statistics for previous years may be revised as the result of corrected figures from respondents, late reports for which imputations were originally made, or other corrections. Figures that have been revised by more than 5 percent from previously published figures are indicated by footnotes.

## DISCLOSURE

The Bureau of the Census operates under Title 13 of the United States Code, which prohibits the bureau from making "any publication whereby the data furnished by any particular establishment or individual under this title can be identified." This rule prohibits the census bureau from publishing data that enables a data user to derive detailed information about an individual respondent. Therefore, in the publication, a "D" appears in place of the sensitive data value.

## EXPLANATION OF GENERAL TERMS

**Capacity.** The maximum quantity of a product that can be produced in a plant in 1 day if operating for 24 hours. Includes the capacity of idle plants until the plant is reported to be destroyed, dismantled, or abandoned.

**Consumption.** Materials used in producing or processing a product or otherwise removing the product from the inventory.

**Exports.** Includes all types of products shipped to foreign countries, or to agents or exporters for reshipment to foreign countries.

**Gross shipments.** The quantity or value of physical shipments from domestic establishments of all products sold, transferred to other establishments of the same company, or shipped on consignment, whether for domestic or export sale or use. Shipments of products purchased for resale are omitted. Shipments of products made under toll arrangements are included.

**Interplant transfers.** Shipments to other domestic plants within a company for further assembly, fabrication, or manufacture.

**Inventories.** The quantity or value of finished goods, work in progress, and materials on hand.

**Machinery in place.** The number of machines of a particular type in place as of a particular date whether the machinery was used for production, prototype, or sampling, or was idle. Machinery in place includes all machinery set up in operating positions.

**Net receipts.** Derived by subtracting the materials held at the end of the previous month from the sum of materials used during the current month.

**Production.** The total volume of products produced, including: products sold; products transferred or added to inventory after adjustments for breakage, shrinkage, and obsolescence, plus any other inventory adjustment; and products that undergo further manufacture at the same establishment.

**Quantities produced and consumed.** Quantities of each type of product produced by a company for internal consumption within that same company.

**Quantity and value of new orders.** The sales value of orders received during the current reporting period for products and services to be delivered immediately or at some future date. Also represents the net sales value of contract change documents that increase or decrease the sales value of the orders to which they are related, when the parties concerned are in substantial agreement as to the amount involved. Included as orders are only those that are supported by binding legal documents such as signed contracts or letter contracts.

**Quantity and value of shipments.** The figures on quantity and value of shipments represent physical shipments of all products sold, transferred to other establishments of the same company, or shipped on consignment, whether for domestic or export sale. The value represents the net sales price, f.o.b. plant, to the customer or branch to which the products are shipped, net of discounts, allowances, freight charges, and returns. Shipments to a company's own branches are assigned the same value as comparable appropriate allocation of company overhead and profit. Products bought and resold without further manufacture are excluded.

**Stocks.** Total quantity of ending finished inventory.

**Unfilled orders (backlog).** Calculated by adding net new orders and subtracting net sales from the backlog at the end of the preceding year.



# Chapter 1.

## Food Products

### FLOUR MILLING PRODUCTS (M20A)

#### INTRODUCTION

The data on flour milling products are from a survey that covers all firms in the United States operating wheat and rye flour mills. Some very small specialty mills are only canvassed annually.

#### EXPLANATION OF TERMS

**Wheat ground for flour.** Represents the purchased weight of wheat ground, including the weight of foreign material (dockage). Includes the milling of Canadian wheat in bond. Measured in bushels of 60 pounds.

**Rye ground for flour.** Represents the purchased weight of rye ground, including the weight of foreign materials (dockage). Measured in bushels of 56 pounds.

**Millfeed.** Includes bran, middlings, shorts, and other milling byproducts intended principally for use as feed materials.

**Cwt. sacks.** Represents 100-pound sacks of flour. The actual average weight of the "100-pound sacks" is published below.

**Capacity.** Represents maximum quantity of flour that can be produced in a mill in 1 day if operating for 24 hours. Includes the capacity of idle mills until the mills are reported to be destroyed, dismantled, or abandoned.

**Stocks of flour.** Represents mill stocks in all positions, sold and unsold.

Table 1. Summary of Commercial Wheat Milling Production: 1986 to 1996

Year	Wheat flour production (1,000 cwt. sacks)	Wheat ground for flour (1,000 bushels)	Millfeed production (1,000 tons)	Average pounds per cwt. sacks of flour	
				Wheat	Millfeed
1996 .....	397,776	878,070	7,042	132.4	35.4
1995 .....	388,689	869,296	7,144	134.2	36.8
1994 .....	392,519	884,707	7,186	135.2	36.6
1993 .....	387,419	871,408	6,963	135.0	35.9
1992 .....	370,829	833,339	6,707	134.8	36.2
1991 .....	362,311	808,966	6,436	134.0	35.5
1990 .....	354,348	788,186	6,109	133.5	34.5
1989 .....	342,762	761,021	6,072	133.2	35.4
1988 .....	344,154	769,699	6,163	134.2	35.8
1987 .....	341,565	767,507	6,260	134.8	36.7
1986 .....	326,316	737,537	5,799	135.6	35.5

Table 2. Commercial Wheat Milling Production by Month: 1996 and 1995

Month	Wheat flour production (1,000 cwt. sacks)	Wheat ground for flour (1,000 bushels)	Millfeed production (1,000 tons)	Daily (24-hour) capacity in wheat flour <sup>1</sup> (1,000 cwt. sacks)	Wheat flour mill stocks <sup>1</sup> (1,000 cwt. sacks)	Average pounds per cwt. sack of flour	
						Wheat	Millfeed
<b>1996</b>							
<b>Total .....</b>	<b>397,776</b>	<b>878,070</b>	<b>7,041,882</b>	<b>(X)</b>	<b>(X)</b>	<b>132.4</b>	<b>35.4</b>
December .....	31,970	71,326	568,008	1,411	<sup>†</sup> 6,671	133.9	35.5
November .....	33,056	73,694	583,262	(NA)	(NA)	133.8	35.3
October .....	37,495	82,670	648,846	(NA)	(NA)	132.3	34.6
September .....	34,645	75,099	593,831	1,406	<sup>†</sup> 6,350	130.1	34.3
August .....	35,579	77,406	618,335	(NA)	(NA)	130.5	34.8
July .....	33,909	73,619	593,353	(NA)	(NA)	130.3	35.0
June .....	30,636	67,655	542,867	1,405	<sup>†</sup> 6,400	132.5	35.4
May .....	33,203	72,605	592,380	(NA)	(NA)	131.2	35.7
April .....	31,227	69,391	558,821	(NA)	(NA)	133.3	35.8
March .....	32,201	72,124	583,618	1,415	<sup>†</sup> 6,927	134.4	36.2
February .....	32,285	72,373	585,593	(NA)	(NA)	134.5	36.3
January .....	31,570	70,108	572,968	(NA)	(NA)	133.2	36.3
<b>1995</b>							
<b>Total .....</b>	<b>388,689</b>	<b>869,296</b>	<b>7,144,328</b>	<b>(X)</b>	<b>(X)</b>	<b>134.2</b>	<b>36.8</b>
December .....	31,178	70,014	583,253	1,413	6,869	134.7	37.4
November .....	33,410	74,750	619,420	(NA)	(NA)	134.2	37.1
October .....	35,071	78,376	655,356	(NA)	(NA)	134.1	37.4
September .....	32,975	74,156	617,189	1,396	6,582	134.9	37.4
August .....	34,489	77,784	649,195	(NA)	(NA)	135.3	37.6
July .....	31,041	69,794	575,081	(NA)	(NA)	134.9	37.1
June .....	32,277	71,949	588,037	1,405	6,312	133.7	36.4
May .....	33,508	74,709	605,668	(NA)	(NA)	133.8	36.2
April .....	29,919	66,591	538,419	(NA)	(NA)	133.5	36.0
March .....	34,538	76,938	623,022	1,398	6,496	133.7	36.1
February .....	29,385	65,249	527,454	(NA)	(NA)	133.2	35.9
January .....	30,898	68,986	562,234	(NA)	(NA)	134.0	36.4

NA Not available. <sup>†</sup>Revised by 5 percent or more from previously published data. X Not applicable.

<sup>1</sup>Collected quarterly.

Table 3. Commercial Rye Milling Production by Month: 1996 and 1995

Month	Rye flour production (1,000 cwt. sacks)	Rye ground for flour (1,000 bushels)	Millfeed production (tons)	Daily (24-hour) capacity <sup>1</sup> (1,000 cwt. sacks)	Stocks of rye flour <sup>1</sup> (1,000 cwt. sacks)	Average pounds ground per cwt. sack of flour	
						Rye	Millfeed
<b>1996</b>							
<b>Total</b> .....	<b>1,484</b>	<b>3,557</b>	<b>16,426</b>	<b>(X)</b>	<b>(X)</b>	<b>134.2</b>	<b>22.1</b>
December .....	134	308	1,203	11	(D)	128.7	18.0
November .....	137	316	(D)	(NA)	(NA)	129.2	19.7
October .....	152	349	(D)	(NA)	(NA)	128.6	20.9
September .....	133	318	(D)	11	(D)	133.9	23.4
August .....	130	305	(D)	(NA)	(NA)	131.4	21.2
July .....	121	281	(D)	(NA)	(NA)	130.0	18.5
June .....	95	247	(D)	11	(D)	145.6	28.6
May .....	121	286	(D)	(NA)	(NA)	132.4	22.7
April .....	118	298	(D)	(NA)	(NA)	141.4	26.4
March .....	118	291	(D)	11	(D)	138.1	26.9
February .....	<sup>1</sup> 107	269	(D)	(NA)	(NA)	140.8	25.2
January .....	<sup>1</sup> 118	289	(D)	(NA)	(NA)	137.2	20.4
<b>1995</b>							
<b>Total</b> .....	<b>1,395</b>	<b>3,172</b>	<b>15,407</b>	<b>(X)</b>	<b>(X)</b>	<b>127.3</b>	<b>22.1</b>
December .....	129	292	(D)	11	(D)	126.8	23.1
November .....	125	284	(D)	(NA)	(NA)	127.2	24.6
October .....	(D)	(D)	1,578	(NA)	(NA)	131.0	24.9
September .....	(D)	(D)	(D)	11	(D)	129.3	23.2
August .....	122	286	(D)	(NA)	(NA)	131.3	23.9
July .....	102	227	(D)	(NA)	(NA)	124.6	24.1
June .....	109	245	(D)	11	(D)	125.9	20.1
May .....	108	246	(D)	(NA)	(NA)	127.6	21.4
April .....	99	228	(D)	(NA)	(NA)	129.0	19.2
March .....	125	276	(D)	11	(D)	123.6	19.6
February .....	116	265	(D)	(NA)	(NA)	127.9	19.3
January .....	123	272	(D)	(NA)	(NA)	123.8	21.1

D Withheld to avoid disclosing data for individual companies. NA Not available. <sup>1</sup>Revised by 5 percent or more from previously published data.  
 X Not applicable.  
<sup>1</sup>Collected quarterly.

Table 4. Summary of Commercial Wheat Milling Production by Geographic Area: 1996 and 1995

Geographic area	1996			1995		
	Total (1,000 cwt. sacks)	Wheat flour production		Total (1,000 cwt. sacks)	Wheat flour production	
		Wheat ground for flour (1,000 bushels)	Daily (24-hour) capacity <sup>1</sup> (cwt. sacks)		Wheat ground for flour (1,000 bushels)	Daily (24-hour) capacity <sup>1</sup> (cwt. sacks)
<b>United States</b> .....	<b>397,776</b>	<b>878,070</b>	<b>1,410,625</b>	<b>388,689</b>	<b>869,296</b>	<b>1,413,315</b>
California and Hawaii .....	29,099	64,334	101,130	28,158	62,458	98,880
Florida .....	9,066	20,429	31,800	8,070	18,339	31,800
Georgia .....	(D)	(D)	(D)	(D)	(D)	(D)
Illinois .....	18,841	42,591	67,218	19,132	43,667	67,218
Indiana .....	(D)	(D)	(D)	(D)	(D)	(D)
Iowa .....	(D)	(D)	(D)	(D)	(D)	(D)
Kansas .....	37,600	83,538	150,760	40,082	91,226	149,260
Michigan .....	7,894	17,618	31,900	8,031	18,120	31,800
Minnesota .....	34,266	75,248	117,280	36,244	79,128	133,680
Missouri .....	28,924	63,268	98,300	27,662	60,226	98,000
New York .....	29,192	63,122	105,850	30,401	66,857	105,702
North Carolina .....	11,715	25,179	37,125	11,346	25,036	37,725
Ohio .....	23,778	53,379	80,468	24,447	54,752	84,468
Oklahoma .....	9,341	21,327	30,500	9,403	21,774	30,500
Oregon and Washington .....	14,048	31,021	53,840	13,900	31,129	53,540
Pennsylvania .....	14,658	34,497	57,622	14,484	32,660	58,122
Tennessee .....	15,537	36,085	54,705	15,339	34,711	54,638
Texas .....	15,484	35,027	50,160	14,951	34,413	50,060
All other states .....	72,841	154,132	260,267	64,821	142,416	252,547

D Withheld to avoid disclosing data for individual companies.

<sup>1</sup>Capacity as reported for December of each year.

Table 5. Quantity of Wheat Flour Produced by Geographic Area: 1996 and 1995

[1,000 cwt. sacks]

Geographic area	Total	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
<b>1996</b>													
<b>United States.....</b>	<b>397,776</b>	<b>31,570</b>	<b>32,285</b>	<b>32,201</b>	<b>31,227</b>	<b>33,203</b>	<b>30,636</b>	<b>33,909</b>	<b>35,579</b>	<b>34,645</b>	<b>37,495</b>	<b>33,056</b>	<b>31,970</b>
California and Hawaii .....	29,099	2,338	2,308	2,342	2,287	2,408	2,236	2,498	2,505	2,549	2,709	2,483	2,436
Florida .....	9,066	765	848	789	720	723	641	732	769	705	802	731	841
Georgia .....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Illinois .....	18,841	1,397	1,541	1,567	1,459	1,579	1,335	1,553	1,762	1,646	1,889	1,634	1,479
Indiana .....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Iowa .....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Kansas .....	37,600	'2,964	'2,835	'3,064	'2,952	'3,022	'2,798	'3,414	'3,499	'3,391	3,508	3,016	3,137
Michigan.....	7,894	611	660	670	654	710	615	608	706	689	793	616	562
Minnesota .....	34,266	2,703	2,887	2,878	2,681	2,745	2,655	2,947	3,010	3,027	3,136	2,800	2,797
Missouri .....	28,924	2,310	2,275	2,330	2,155	2,484	2,292	2,551	2,616	2,551	2,748	2,415	2,197
New York .....	29,192	2,353	2,365	2,312	2,229	2,534	2,370	2,599	2,604	2,630	2,712	2,253	2,231
North Carolina.....	11,715	928	921	911	936	1,001	952	1,073	1,079	'986	1,117	956	855
Ohio .....	23,778	2,008	1,916	1,961	1,790	2,022	1,815	1,882	2,051	2,043	2,319	2,074	1,897
Oklahoma .....	9,341	747	780	705	743	768	745	844	849	859	854	743	704
Oregon and Washington...	14,048	1,175	1,099	1,124	1,110	1,240	1,129	1,227	1,264	1,232	1,301	1,115	1,032
Pennsylvania.....	14,658	1,058	1,364	1,172	1,134	1,234	1,002	1,265	1,306	1,272	1,422	1,247	1,182
Tennessee .....	15,537	'1,318	'1,336	'1,296	'1,188	'1,311	'1,193	'1,252	'1,364	'1,318	'1,361	'1,282	'1,318
Texas .....	15,484	1,261	1,284	1,274	1,242	1,259	1,239	1,248	1,366	1,310	1,397	1,281	1,323
All other states .....	72,841	'5,634	5,919	5,880	5,967	6,046	5,709	'5,923	'6,446	6,144	6,956	6,232	5,985
<b>1995</b>													
<b>United States.....</b>	<b>388,689</b>	<b>30,898</b>	<b>29,385</b>	<b>34,538</b>	<b>29,919</b>	<b>33,508</b>	<b>32,277</b>	<b>31,041</b>	<b>34,489</b>	<b>32,975</b>	<b>35,071</b>	<b>33,410</b>	<b>31,178</b>
California and Hawaii .....	28,158	2,215	2,120	2,384	2,119	2,313	2,315	2,291	2,565	2,440	2,612	2,494	2,290
Florida .....	8,070	715	627	711	659	668	674	645	693	623	663	655	737
Georgia .....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Illinois .....	19,132	1,413	1,459	1,820	1,536	1,671	1,451	1,613	1,716	1,619	1,729	1,633	1,472
Indiana .....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Iowa .....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Kansas .....	40,082	3,288	3,201	3,608	3,301	3,470	3,459	3,366	3,531	3,299	3,495	3,084	2,980
Michigan.....	8,031	574	587	698	543	715	750	622	755	731	782	697	577
Minnesota .....	36,244	2,726	2,588	3,233	2,763	3,224	3,017	2,793	3,131	3,191	3,417	3,218	2,943
Missouri .....	27,662	2,213	2,088	2,496	2,094	2,282	2,360	2,006	2,130	2,407	2,686	2,595	2,305
New York .....	30,401	2,494	2,272	2,700	2,280	2,734	2,620	2,486	2,700	2,601	2,611	2,498	2,405
North Carolina.....	11,346	867	850	1,012	902	973	951	908	1,007	956	997	1,023	900
Ohio .....	24,447	2,072	1,784	2,101	1,800	2,109	1,971	1,954	2,338	2,139	2,329	2,063	1,787
Oklahoma .....	9,403	716	706	826	771	806	788	767	841	790	845	794	753
Oregon and Washington...	13,900	1,103	1,064	1,246	1,055	1,217	1,147	1,137	1,246	1,177	1,251	1,169	1,088
Pennsylvania.....	14,484	1,049	992	1,246	1,031	1,261	1,217	1,132	1,368	1,233	1,358	1,343	1,254
Tennessee .....	15,339	1,218	1,244	1,483	1,275	1,296	1,217	1,175	1,334	1,226	1,322	1,316	1,233
Texas .....	14,951	1,236	1,190	1,346	1,214	1,307	1,215	1,241	1,325	1,257	1,248	1,254	1,118
All other states .....	64,821	5,256	4,975	5,696	4,951	5,608	5,360	5,152	5,779	5,361	5,659	5,576	5,448

D Withheld to avoid disclosing data for individual companies.

'Revised by 5 percent or more from previously published data.

Note: Detail may not add to total because of independent rounding.

Table 6. Quantity of Wheat Ground for Flour by Geographic Area: 1996 and 1995

[1,000 cwt. sacks]

Geographic area	Total	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
<b>1996</b>													
<b>United States.....</b>	<b>878,070</b>	<b>70,180</b>	<b>72,373</b>	<b>72,124</b>	<b>69,391</b>	<b>72,605</b>	<b>67,655</b>	<b>73,619</b>	<b>77,406</b>	<b>75,099</b>	<b>82,670</b>	<b>73,694</b>	<b>71,326</b>
California and Hawaii .....	64,334	5,214	5,186	5,188	5,058	5,306	4,941	5,485	5,487	5,558	6,010	5,451	5,450
Florida .....	20,429	1,718	1,940	1,786	1,623	1,629	1,470	1,654	1,731	1,596	1,832	1,600	1,850
Georgia .....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Illinois .....	42,591	3,167	3,521	3,594	3,308	3,517	3,039	3,415	3,954	3,655	4,281	3,738	3,402
Indiana .....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Iowa .....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Kansas .....	83,538	'6,664	'6,432	'6,851	'6,645	'6,670	'6,218	'7,456	'7,623	'7,308	'7,791	'6,804	'7,076
Michigan.....	17,618	1,347	1,448	1,479	1,444	1,607	1,351	1,359	1,585	1,549	1,789	1,398	1,262
Minnesota .....	75,248	5,894	6,406	6,406	5,920	5,920	5,835	6,434	6,606	6,564	6,862	6,231	6,170
Missouri .....	63,268	5,092	5,069	5,187	4,769	5,282	4,908	5,369	5,539	5,333	6,139	5,577	5,004
New York .....	63,122	'4,935	5,152	5,109	4,739	5,277	5,191	5,563	5,578	5,566	5,934	5,074	5,004
North Carolina.....	25,179	2,045	2,050	2,023	2,040	2,106	2,014	2,160	2,241	2,114	2,443	2,045	1,898
Ohio .....	53,379	4,585	4,334	4,460	3,999	4,565	3,988	4,128	4,546	4,549	5,198	4,712	4,315
Oklahoma .....	21,327	1,722	1,817	1,638	1,739	1,703	1,669	1,851	1,838	1,876	1,991	1,787	1,696
Oregon and Washington...	31,021	2,614	2,494	2,538	2,480	2,654	2,446	2,596	2,681	2,626	2,899	2,598	2,395
Pennsylvania.....	34,497	2,503	3,192	2,756	2,650	2,855	2,731	2,931	3,033	2,932	3,259	2,893	2,762
Tennessee .....	36,085	'3,111	'3,117	'2,985	'2,797	'3,046	'2,786	'2,908	'3,156	'3,046	'3,027	'3,021	'3,085
Texas .....	35,027	2,916	2,971	3,022	2,843	2,847	2,814	2,856	3,049	2,916	3,133	2,784	2,876
All other states .....	154,132	12,100	12,659	12,608	12,724	12,928	12,004	12,532	13,534	12,968	14,619	13,030	12,498
<b>1995</b>													
<b>United States.....</b>	<b>869,296</b>	<b>68,986</b>	<b>65,249</b>	<b>76,938</b>	<b>66,591</b>	<b>74,709</b>	<b>71,949</b>	<b>69,794</b>	<b>77,784</b>	<b>74,156</b>	<b>78,376</b>	<b>74,750</b>	<b>70,014</b>
California and Hawaii .....	62,457	4,902	4,701	5,293	4,685	5,114	5,097	5,076	5,730	5,474	5,746	5,545	5,094
Florida .....	18,339	1,628	1,424	1,617	1,489	1,493	1,509	1,435	1,616	1,424	1,499	1,503	1,702
Georgia .....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Illinois .....	43,667	3,224	3,300	4,093	3,489	3,778	3,289	3,695	3,949	3,751	3,993	3,737	3,369
Indiana .....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Iowa .....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Kansas .....	91,226	7,436	7,201	8,078	7,410	7,834	7,798	7,806	8,234	7,595	7,964	7,052	6,818
Michigan.....	18,320	1,336	1,335	1,574	1,215	1,806	1,709	1,399	1,701	1,637	1,752	1,561	1,295
Minnesota .....	79,128	5,956	5,669	7,095	5,991	7,029	6,615	6,087	6,826	6,949	7,466	7,019	6,426
Missouri .....	60,226	4,812	4,541	5,408	4,548	5,164	5,130	4,390	4,661	5,197	5,792	5,589	4,994
New York .....	66,857	5,525	4,873	5,983	4,995	5,998	5,734	5,453	5,989	5,711	5,722	5,489	5,385
North Carolina.....	25,036	1,942	1,827	2,242	1,973	2,118	2,068	2,020	2,236	2,143	2,213	2,257	1,997
Ohio .....	54,752	4,654	3,984	4,687	4,006	4,706	4,372	4,378	5,207	4,776	5,276	4,643	4,063
Oklahoma .....	21,774	1,659	1,629	1,905	1,774	1,859	1,815	1,812	1,927	1,837	1,955	1,845	1,757
Oregon and Washington...	31,129	2,482	2,382	2,794	2,367	2,709	2,556	2,546	2,811	2,642	2,813	2,625	2,402
Pennsylvania.....	32,660	2,390	2,239	2,814	2,330	2,844	2,744	2,539	3,092	2,792	3,048	3,013	2,815
Tennessee .....	34,711	2,732	2,805	3,326	2,871	2,943	2,751	2,668	3,041	2,801	2,989	2,997	2,787
Texas .....	34,413	2,806	2,719	3,056	2,768	2,991	2,782	2,867	3,089	2,923	2,887	2,929	2,596
All other states .....	142,217	11,446	10,785	12,428	10,818	11,954	11,796	11,420	12,821	11,903	12,469	12,307	12,070

D Withheld to avoid disclosing data for individual companies.

'Revised by 5 percent or more from previously published data.

Table 7. **Production and Mill Stocks of Wheat Flour by Quarter: 1996 and 1995**

[1,000 cwt. sacks]

Quarter	Production	Mill stocks <sup>1</sup>
<b>1996</b>		
<b>Total</b> .....	<b>397,776</b>	<b>16,671</b>
First quarter .....	96,056	16,927
Second quarter .....	95,066	16,400
Third quarter .....	104,133	16,350
Fourth quarter .....	102,521	16,671
<b>1995</b>		
<b>Total</b> .....	<b>388,689</b>	<b>6,869</b>
First quarter .....	94,821	6,496
Second quarter .....	95,704	6,312
Third quarter .....	98,505	6,582
Fourth quarter .....	99,659	16,869

<sup>1</sup>Revised by 5 percent or more from previously published data.<sup>1</sup>Total represents end of month's stocks for fourth quarter.Table 8. **Durum Wheat Products by Month: 1996 and 1995**

Product description	Total	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
<b>1996</b>													
Durum wheat ground.....	70,069	5,755	6,513	6,448	5,503	5,976	5,473	5,183	5,688	5,791	6,599	5,689	5,451
Straight semolina.....	32,623	2,621	2,956	2,928	2,547	2,734	2,589	2,496	2,674	2,701	3,120	2,682	2,575
Blended semolina.....	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>1995</b>													
Durum wheat ground.....	67,627	5,581	5,319	6,222	5,080	5,544	4,876	4,919	5,827	5,920	6,662	6,014	5,663
Straight semolina.....	30,964	2,566	2,446	2,855	2,334	2,562	2,271	2,233	2,640	2,656	3,080	2,739	2,582
Blended semolina.....	-	-	-	-	-	-	-	-	-	-	-	-	-

- Represents zero.

**HISTORICAL NOTE**

The current M20A series of monthly reports, with annual summaries of wheat ground and wheat milling products, originated in May 1923. Data, by states, have been published monthly since 1927. Beginning in 1931 and ending with the June 1947 report, monthly wheat flour production by capacity groups was published. The annual summary report during the years 1931 to 1964 also contained a table showing production by capacity groups. Historical data may be obtained from the Current Industrial Reports (called Facts for Industry before 1959) available at your local Federal Depository Library. Historical data are

also available on microfiche; contact Customer Services, 301-457-4100.

**FUNDING**

Since 1990, part of the cost of this survey has been paid by "Milling and Baking News" published by Sosland Publishing Company.

**CONTACT FOR DATA USERS**

For additional information about these data, contact Venita Powell, 301-457-1320.

## CONFECTIONERY (MA20D)

### INTRODUCTION

The data on confectionery are from a survey that covers all manufacturers in the United States producing consumer type confectionery and chocolate products. Manufacturers of cough drops, medicated candy, roasted peanuts, unsweetened popcorn, and fountain syrup are excluded from the survey. Small firms that manufacture confectionery for sale at retail on the premises are classified in retail trade and are also excluded from this survey. Data for chewing gum were included for the first time in the 1993 survey, but were excluded from all data prior to that time.

Table 9 summarizes the quantity and value of manufacturers' shipments of total confectionery products over the last decade. It also shows the average quantity and value of confectionery consumed, on a per capita basis, in the United States. Table 10 shows the quantity and value of shipments of confectionery and nonconfectionery by the type of product. Table 11 shows the quantity and value of the materials that were consumed in the manufacturing process. Apparent consumption figures are derived in table 12 by subtracting the exports from the total manufacturers' shipments plus the imports.

### SUMMARY OF FINDINGS

The total per capita consumption of confectionery products, including chewing gum, bubble gum, and chewing gum base, increased to 26.2 million pounds in 1996, compared with 25.7 million pounds in 1995. This represents an increase of 2 percent. The total per capita consumption of these same products amounted to \$51.6 million in 1996, compared with \$50.0 million in 1995, an increase 3 percent. The total per capita consumption of confectionery products, excluding chewing gum, bubble gum, and chewing gum base, amounted to 24.3 million pounds and \$46.1 million in 1996, compared with 23.8 million pounds and \$44.7 million in 1995.

Total quantity of shipments of confectionery products, excluding chewing gum, bubble gum, and chewing gum base for 1996 was 6,286.1 million pounds, compared to 6,065.2 million pounds in 1995, an increase of 3.6 percent. Total value of shipments of confectionery products, excluding chewing gum, bubble gum, and chewing gum base for 1996 was \$12,079.1 million compared to \$11,535.3 million in 1995, an increase of 4.7 percent. The quantity of chocolate and chocolate type confectionery shipped increased 2.6 percent, while the quantity of nonchocolate type confectionery increased by 5.1 percent. The value of chocolate type confectionery shipped increased 5.3 percent, while the value of nonchocolate type confectionery increased 3.8 percent.

The single largest category remained chocolate enrobed or molded with candy, fruit, or nut center with a quantity shipped of 1,348.3 million pounds. The category showing the largest pound increase was chocolate assortments and other candy, which increased 12.0 percent to 306.3 million pounds in 1996, from 273.5 million pounds in 1995.

### EXPLANATION OF TERMS

**Chocolate type products.** Products that contain, as an ingredient, either real chocolate or a chocolate compound containing substitute raw material ingredients such as cocoa butter extenders. Products that include a mixture of chocolate type and nonchocolate type pieces (such as certain boxed assortments) are included in chocolate type assortments.

*Solid.* Includes hollow molded and contains no additional foods of any kind. Examples are chocolate stars, Easter bunnies, hollow chocolate Santas, and solid chocolate candy bars.

*Solid with inclusions.* Solid chocolate mixed with other foods such as dried fruits, nuts, and rice.

*Enrobed or molded with bakery product center.* Molded or enrobed chocolate exterior with a baked cookie or wafer center. May or may not have additional confectionery layers or ingredients.

*Enrobed or molded with candy, nuts, or fruit center.* Examples are chocolate covered cherries, and candy bars covered in chocolate with centers of nougat, caramel, and peanuts.

*Panned.* Products manufactured using the panning process. Examples are bridge mix, sugar panned chocolate centers, chocolate covered nuts, and dried fruit made by the panning process.

*Assortments and others.* Products comprising an assortment of two or more of the above subcategories, and/or products that do not fall into any of the above subcategories. Examples are packages or boxes containing combinations of product types.

**Nonchocolate type products.** All other confectionery products that do not contain either real chocolate or chocolate compound as an ingredient.

*Hard candy.* Comprising a sugar mass that is processed to be nongrained, a sugar mass that is grained through serration, and brittles that frequently contain nuts. Examples are pops, lemon drops, pressed mints, dessert mints, candy canes, and sour balls.



**Chewy candy.** Comprising a plastic-textured grained or nongrained caramel that is sometimes mixed with corn or other foods, toffee that is less plastic than caramel, taffies that vary from hard chewy to soft chewy, and grained and nongrained nougats. Examples are caramel covered popcorn and caramels.

**Soft candy.** Comprising crystallized and noncrystallized creams, fudges, grained and nongrained marshmallows, soft jellies, and gums. Examples are candy corn and orange slices.

**Iced coated.** Enrobed, formed, or deposited nonchocolate confectioner's coated candies. Examples are bark, "white chocolate," and coconut bonbons.

**Panned.** Products manufactured using the panning process. Examples are jelly beans and Boston baked beans.

**Licorice and licorice-type.** Sugar and starch based (products) flavored with licorice extract and colored black. Other flavors and colors may be substituted in licorice-type. Examples are licorice twists, licorice shoelaces, and nuggets.

**Other chocolate products.** Comprised of coatings, both chocolate and compound, including baking chocolate sold in bars and chips through retail outlets; chocolate chips and other chocolate coatings sold to bakers, ice cream manufacturers, biscuit and cracker manufacturers, and other outlets; chocolate liquor, cocoa butter melted, and cocoa cake and powder.

**Chewing gum.** An emulsion consisting of a polymer base, bulk fillers, and flavors. Includes chewing gum, bubble gum, and chewing gum base.

**Milk products.** Includes all milk products such as fluid milk and cream; condensed, evaporated, and dried milk; and creamery butter.

**Fats and oils.** Includes margarine, hydrogenated shortenings, corn, cottonseed, coconut, soybean and peanut oils, etc; excludes slab oils.

**Table 9. Summary of Manufacturers' Shipments of Confectionery Products: 1985 to 1996**

[Quantity in millions of pounds. Value in millions of dollars]

Year	Total				Excluding chewing gum			
	Pounds	Value	Per capita consumption <sup>1</sup> (pounds)	Per capita consumption <sup>1</sup> (dollars)	Pounds	Value	Per capita consumption <sup>1</sup> (pounds)	Per capita consumption <sup>1</sup> (dollars)
1996.....	6,797	13,514	26.2	51.6	6,286	12,079	24.3	46.1
1995.....	6,572	12,918	<sup>r</sup> 25.7	<sup>r</sup> 50.0	6,065	11,535	<sup>r</sup> 23.8	<sup>r</sup> 44.7
1994.....	6,253	12,208	24.5	47.1	5,750	10,837	22.5	41.8
1993.....	5,988	11,894	23.6	46.4	5,572	10,670	21.9	41.5
1992.....	(NA)	(NA)	(NA)	(NA)	5,387	10,428	21.5	41.1
1991.....	(NA)	(NA)	(NA)	(NA)	4,989	9,710	20.3	38.9
1990.....	(NA)	(NA)	(NA)	(NA)	4,840	9,004	20.1	36.7
1989.....	(NA)	(NA)	(NA)	(NA)	4,852	8,682	20.4	35.8
1988.....	(NA)	(NA)	(NA)	(NA)	4,570	8,278	19.2	34.4
1987.....	(NA)	(NA)	(NA)	(NA)	4,231	7,678	18.3	32.3
1986.....	(NA)	(NA)	(NA)	(NA)	4,201	7,280	18.4	31.3
1985.....	(NA)	(NA)	(NA)	(NA)	4,326	7,092	19.1	30.7

NA Not applicable. <sup>r</sup>Revised by 5 percent or more from previously published data.

<sup>1</sup>Production plus imports minus exports divided by population, including armed forces abroad, as of July 1, 1995.

Source of population data: U.S. Bureau of the Census, U.S. Population Estimates, Series PPL-41 (July 1, 1996, population was 266,313,000).

Table 10. Quantity and Value of Shipments of Confectionery and Nonconfectionery by Type of Product: 1996 and 1995

[Quantity in thousands of pounds. Value in thousands of dollars]

Product description	1996		1995	
	Quantity	Value	Quantity	Value
<b>CONFECTIONERY</b>				
<b>Shipments</b> .....	<b>6,797,139</b>	<b>13,514,407</b>	<b>6,572,562</b>	<b>12,917,679</b>
Chocolate and chocolate-type confectionery .....	3,110,369	7,574,730	3,031,798	7,194,832
Solid .....	423,572	905,239	412,647	895,506
Solid with inclusions .....	269,566	726,236	254,101	677,187
Enrobed or molded:				
With candy, fruit, nut, or granola center .....	1,348,341	3,264,926	1,349,121	3,154,539
With bakery product center .....	214,726	517,763	197,940	459,949
Panned .....	547,830	1,217,547	544,442	1,154,508
Assortments and other .....	306,334	943,019	273,547	853,143
Chocolate type, n.s.k. ....	-	-	-	-
Nonchocolate-type confectionery .....	2,968,221	4,099,481	2,823,176	3,947,796
Hard candy .....	762,156	1,221,504	704,646	1,155,001
Chewy candy, including granola bars .....	538,852	1,011,173	592,272	1,074,694
Soft candy .....	834,657	803,455	797,036	773,323
Iced/coated .....	10,639	23,813	10,534	23,054
Panned .....	565,409	746,060	463,651	644,666
Licorice and licorice-type .....	256,508	293,476	255,037	277,058
Nonchocolate type, n.s.k. ....	-	-	-	-
Chewing gum, bubble gum, and chewing gum base .....	(S)	1,435,338	(S)	1,382,366
Confectionery, n.s.k. <sup>1</sup> .....	207,481	404,858	210,384	392,685
<b>NONCONFECTIONERY</b>				
<b>Shipments</b> .....	<b>1,406,435</b>	<b>1,387,872</b>	<b>1,511,064</b>	<b>1,485,687</b>
Chocolate products other than confectionery:				
Baking chocolate (bars or blocks) .....	16,240	25,735	16,812	26,617
Chocolate coatings (blocks, wafers, and liquid) .....	298,437	324,620	339,940	370,147
Chocolate liquor .....	37,760	40,202	41,142	44,996
Cocoa butter .....	22,359	35,136	24,182	36,971
Compound coatings (blocks, wafers, and liquid) .....	192,167	134,307	209,333	152,744
Chocolate chips and baking pieces .....	370,828	474,587	405,845	502,156
Cocoa powder, syrup/toppings, and other .....	468,644	353,285	473,810	352,056
Nonconfectionery chocolate, n.s.k. ....	-	-	-	-

- Represents zero. n.s.k. Not specified by kind. S Does not meet publication standards.

<sup>1</sup>Represents estimated data for small companies, typically those with fewer than five employees, that were not included on the mailing panel.

Table 11. Consumption of Selected Ingredients by the U.S. Confectionery Industry: 1996 and 1995

[Quantity in thousands of pounds. Value in thousands of dollars]

Materials	1996		1995	
	Quantity	Value	Quantity	Value
<b>Materials consumed</b> .....	<b>(X)</b>	<b>3,606,450</b>	<b>(X)</b>	<b>3,577,991</b>
Sugar (cane-beet) .....	2,894,049	739,121	2,862,409	746,950
Cocoa beans .....	535,244	372,653	533,522	363,456
Corn syrup, including HFCS and dextrose .....	1,872,524	225,594	1,663,978	201,665
Chocolate liquor, imported .....	32,910	30,168	31,613	28,603
Chocolate liquor, domestic .....	35,357	36,423	36,016	36,404
Cocoa powder composition coatings .....	41,700	20,892	38,064	19,297
Cocoa cake or powder .....	133,433	49,912	143,530	59,144
Cocoa butter .....	339,689	357,964	334,047	335,843
Chocolate coatings, milk .....	222,062	243,480	230,103	251,756
Chocolate coatings, other than milk .....	104,692	94,041	113,053	103,136
Fats and oils .....	244,782	123,310	245,211	115,781
Gum base .....	(D)	(D)	(D)	(D)
Milk and milk products .....	503,898	371,965	532,135	370,891
Peanuts, shelled basis .....	348,685	230,138	337,671	221,293
Almond kernels .....	44,275	110,160	48,600	113,054
Other nuts and nut meats (kernels) .....	19,315	50,653	22,784	54,359
Coconut meat .....	20,709	14,816	22,395	15,025
Other edible materials <sup>1</sup> .....	725,759	494,222	723,031	497,784
Materials, n.s.k. ....	(X)	(D)	(X)	(D)

D Withheld to avoid disclosing data for individual companies. n.s.k. Not specified by kind. X Not applicable.

<sup>1</sup>Includes corn starch, essential oils, eggs and egg products, fruits, jams, and other materials on which specific data were not collected.

Note: Materials such as parts and containers consumed in the manufacturing process are not reported in this survey. This information will be available in the 1992 Census of Manufactures report for industries 2064 and 2066. Specifically excluded in this report are freight charges and other direct charges incurred by the establishment, fuels consumed, parts, containers, scrap, electric energy purchases, work done by others on materials or parts furnished by other establishments (contract work), and cost of products bought and resold in the same condition.

**Table 12. Shipments, Exports, Imports, and Apparent Consumption of Confectionery Products: 1996 and 1995**

[Quantity in thousands of kilograms. Value in thousands of dollars]

Product code <sup>1</sup>	Product description	Manufacturers' shipments		Exports of domestic merchandise <sup>2</sup>		Percent exports to manufacturers' shipments		Imports for consumption <sup>3</sup>		Apparent consumption <sup>5</sup>		Percent imports to apparent consumption	
		Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value <sup>4</sup>	Quantity	Value	Quantity	Value
20642, 20662	Confectionery: Chocolate-type confectionery . . . . .	1,410,863	7,574,730	78,400	270,576	5.6	3.6	79,927	300,127	1,412,390	7,604,281	5.7	3.9
	1995 . . . . .	1,375,224	7,194,832	72,089	237,532	5.2	3.3	81,145	274,027	1,384,280	7,231,327	5.9	3.8
20643	Nonchocolate-type confectionery . . . . .	1,346,385	4,099,481	70,135	185,702	5.2	4.5	157,783	350,229	1,434,033	4,264,008	11.0	8.2
	1995 . . . . .	1,280,593	3,947,796	65,400	167,629	5.1	4.2	145,732	344,574	1,360,925	4,124,741	10.7	8.4
20648	Chewing gum, sugar, and nonsugar . . . . .	(S)	1,435,338	15,487	50,939	(S)	3.5	38,883	79,711	(S)	1,464,110	(S)	5.4
	1995 . . . . .	(S)	1,382,366	16,817	53,094	(S)	3.8	37,799	82,464	(S)	1,411,736	(S)	5.8
20669 81	Nonconfectionery: Cocoa butter . . . . .	10,142	35,136	2,861	11,310	28.2	32.2	68,762	257,629	76,043	281,455	90.4	91.5
	1995 . . . . .	10,969	36,971	2,972	10,006	27.1	27.1	57,158	210,069	65,155	237,034	87.7	88.6
20661 11, 21	Chocolate coatings, blocks, wafers, or liquid confectionery . . . . .	222,538	458,927	2,276	2,140	1.0	0.5	6,602	10,536	226,864	467,323	2.9	2.3
	1995 . . . . .	249,150	522,891	2,823	2,934	1.1	0.6	6,699	10,873	253,026	530,830	2.6	2.0
20661 14, 20669 12-13, 61	Other chocolate and cocoa products . . . . .	405,279	893,809	53,816	115,202	13.3	12.9	211,983	287,968	563,446	1,066,575	37.6	27.0
	1995 . . . . .	425,299	925,825	49,490	105,074	11.6	11.3	147,507	205,335	523,316	1,026,086	28.2	20.0

<sup>1</sup>Revised by 5 percent or more from previously published data. S Does not meet publication standards.

<sup>1</sup>For comparison of SIC-based codes with Schedule B export numbers and HTSUSA import numbers, see "Contact for Data Users" at end of this subsection.

<sup>2</sup>Source: Bureau of the Census report EM 545, *U.S. Exports*.

<sup>3</sup>Source: Bureau of the Census report IM 146, *U.S. Imports for Consumption*.

<sup>4</sup>Dollar value represents c.i.f. (cost, insurance, and freight) value at first port of entry in the United States plus U.S. import duties.

<sup>5</sup>Apparent consumption is derived by subtracting exports from the total manufacturers' shipments plus imports.

Note: "Confectionery, n.s.k." is excluded from this table.

**HISTORICAL NOTE**

Data on confectionery products have been collected by the Bureau of the Census since 1926. In 1989, data tables showing the quantity and value of shipments of chocolate and nonchocolate-type confectionery, by type of product and package, were discontinued. Also discontinued in 1989 were data showing the sales and resales of confectionery by type of customer.

Starting with the 1990 report, data showing the quantity and value of shipments by type of product of other chocolate products (nonconfectionery) were added. Starting with the 1993 report, data for chewing gum were added.

Historical data may be obtained from Current Industrial Reports (called Facts for Industry before 1959) available at

your local Federal Depository Library. Historical data are also available on microfiche; contact Customer Services, 301-457-4100.

**FUNDING**

Since 1990, this survey has been conducted under the sponsorship of the National Confectioners Association and the Chocolate Manufacturers Association.

**CONTACT FOR DATA USERS**

For additional information about these data, contact Nat Shelton, 301-457-4643.

## FATS AND OILSEED CRUSHINGS, PRODUCTION, CONSUMPTION, AND STOCKS (M20J, M20K)

### INTRODUCTION

Data published in the fats and oils series were collected by mail on Bureau of the Census monthly forms: M20J, Oilseeds, Beans, and Nuts (Primary Processors); M20H, Animal and Vegetable Fats and Oils (Warehouse Stocks); M20L, Fats and Oils (Renderers); M20M, Animal and Vegetable Fats and Oils (Consumption and Stocks); and M20N, Animal and Vegetable Fats and Oils (Production, Consumption, and Stocks).

Statistics from the M20J forms show the amount of selected raw materials crushed along with the production and stocks of the byproducts extracted (crude oil and cake and meal) during the crushing process. The crushing facilities are referred to as the Primary Processors. The data are published monthly. Data on soybeans and cottonseeds are shown for selected states.

The statistics from the M20H, M20L, M20M, and M20N forms are published in the monthly report series M20K, Fats and Oils, Production, Consumption, and Stocks. This report focuses on the production and stocks of rendered animal fats, along with the production and stocks of specified primary fats and oils and end products produced during the year. Also collected are the quantities of crude oil consumed in the production of once-refined oil.

### SUMMARY OF FINDINGS

For the 1996 calendar year, soybean crushings were 41,763.8 thousand short tons. This showed a decrease of 1.0 percent, from the 1995 figure of 42,165.2 thousand short tons. The production of crude soybean oil was 15,447.6 million pounds, and the production of refined soybean oil was 12,274.1 million pounds. This showed a decrease of 1.2 percent from the 1995 figure of 15,636.2 million pounds for crude oil, and a 1.0-percent decrease from the 1995 figure of 12,399.1 million pounds for refined soybean oil. The consumption of soybean oil in end products was 12,322.3 million pounds, a slight decrease from the 1995 figure of 12,354.0 million pounds.

At the same time, cottonseed crushings were 3,779.5 thousand short tons. This represented a 6.2-percent decrease from the 1995 figure of 4,028.1 thousand pounds. The production of crude cottonseed oil was 1,219.8 million pounds, and the production of refined cottonseed oil was 875.8 million pounds in 1996. This represented a 5.6-percent decrease from the 1995 figure of 1,291.8 million pounds for crude cottonseed oil, and a decrease of 10.5 percent from the 1995 figure of 978.7 million pounds for refined cottonseed oil.

The production of crude corn oil was 2,187.5 million pounds and the production of refined corn oil was 956.7 million pounds in 1996. This represented a 2.5-percent

decrease from the 1995 figure of 2,243.5 million pounds for crude corn oil and a 12.6-percent decrease from the 1995 figure of 1,094.1 million pounds for refined oil.

Also, for the calendar year 1996, the production of refined peanut oil increased 14.2 percent and the production of refined coconut oil decreased 26.5 percent. The production of refined rapeseed oil increased 16.9 percent. At the same time, the consumption in end products of peanut oil increased 24.9 percent, while the consumption in end products of coconut oil decreased 27.2 percent.

### SCOPE OF SURVEY

The data on fats and oils are from surveys that cover all plants in the United States that crush vegetable oil-bearing materials (oilseeds, beans, nuts, etc.). This survey also covers all firms producing or consuming major edible fats and oils, and warehouses storing these products. Following is a description of the types of establishments included in this survey:

1. Plants that use alkali refining or similar processes to clarify crude vegetable oils and remove excess fatty acids.
2. Plants that use animal fats or once-refined vegetable oils in the production of edible fats and oils such as salad oil, cooking oil, shortening, margarine, hard butter, mellorine fats, monoglycerides, and diglycerides. In general, plants consuming fully-refined edible fats and oils in the further manufacture of food products are not included. In this regard, salad dressing plants that use fully-refined deodorized vegetable oils (salad oils) are not included; nor are bakeries, salad oil blending plants, or potato chip plants. Similar plants that refine their own oils are included. With minor exceptions, reporting plants are those equipped for fats and oils processing that either remove undesirable material, or on a commercial scale, alter the color, odor, or melting point.
3. Plants using crude or once refined fats and oils in such industrial products as soap, paint, varnish, plastics, or other products containing substantial amounts of fats and oils.
4. Plants that render crude material into lard, edible and inedible tallow and grease, either as their primary operation or as an adjunct to meat packing.
5. Terminals and warehouses storing fats and oils in bulk or in drums, including public and private storage. Warehouses storing only end products such as packaged salad oil, lard, and shortening are not included.

## EXPLANATION OF TERMS

**Net receipts at mills (current month).** Figures under this heading are derived by subtracting stocks held at the end of the previous month from the sum of materials crushed during the current month and stocks held at the end of the current month.

**Shipments and transfers (current month).** Figures under this heading are derived by subtracting stocks held at the end of the current month from the sum of stocks held at the end of the previous month and production during the current month.

**Linters.** The fuzz or short fibers that adhere to cottonseed after ginning.

**Hulls.** The outer covering of cottonseeds or soybeans.

**Cake and meal.** The residue left after the oil is extracted from a seed, nut, or kernel.

**Crude vegetable oils.** Oil until it has been processed by an alkali or caustic wash or by some equivalent operation.

**Lecithin.** A mixed phosphatide product obtained from soybean oil in the degumming process.

**Refined vegetable oils.** Includes oils that have undergone an alkali or caustic wash or a similar process but have not passed through a further stage of refinement.

**Salad or cooking oils.** Salad or cooking oils are vegetable oil products, completely liquid at room temperature, that have been deodorized or winterized and deodorized.

**Baking and frying fats.** Baking and frying fats, commonly known as shortening, are animal or vegetable fats or oils or combinations thereof, that have been deodorized or hydrogenated and deodorized and that are sold entirely for baking or frying purposes. They exhibit consistencies that may be fluid, plastics, or solid at room temperature.

**Margarine, soft (1-lb).** Includes margarine packaged in a cardboard sheath containing two half-pound tubs.

**Consumer (retail) products, solids or rolls.** Includes only those products packaged for sale directly to the retail (consumer) market.

Table 13. Receipts, Crushings, and Stocks of Major Raw Materials at Oil Mills: 1996

[Thousands of short tons]

Product description	Total	Dec.	Nov.	Oct.	Sept.	Aug.	July	June	May	April	March	Feb.	Jan.
<b>Soybeans:</b>													
Receipts at mills .....	41,345.9	3,803.7	4,481.0	6,142.5	2,508.0	2,669.1	2,965.1	2,562.5	2,838.7	3,171.0	3,109.7	3,301.3	3,793.3
Crushed or used .....	41,763.8	4,143.4	3,993.2	3,810.2	3,027.2	3,171.7	3,355.8	3,223.8	3,189.9	3,364.2	3,464.7	3,335.9	3,683.8
Stocks <sup>1</sup> .....	3,181.2	3,181.2	3,520.9	3,033.1	700.8	1,220.0	1,722.6	2,113.3	2,774.6	3,125.8	3,319.0	3,674.0	3,708.6
<b>Cottonseed:</b>													
Receipts at mills .....	3,752.0	673.2	1,085.0	1,328.1	335.3	96.8	<sup>1</sup> 8.7	(0.5)	(53.2)	<sup>1</sup> 82.7	<sup>1</sup> 34.1	66.1	<sup>1</sup> 95.7
Crushed or used .....	3,779.5	352.6	355.1	331.7	<sup>1</sup> 225.0	229.2	215.0	228.5	330.8	354.4	381.4	373.5	402.3
Stocks <sup>1</sup> .....	2,541.8	2,541.8	2,221.2	1,491.3	494.9	384.6	517.0	723.3	952.3	1,336.3	1,608.0	1,955.3	2,262.7
<b>Peanuts:</b>													
Receipts at mills .....	426.4	18.7	20.4	(D)	<sup>1</sup> 19.2	23.2	(D)	47.9	56.6	48.6	49.4	(D)	33.5
Crushed or used .....	416.7	26.3	26.1	24.9	31.9	37.4	37.4	38.1	43.3	44.2	38.2	34.4	34.5
Stocks <sup>1</sup> .....	16.5	16.5	<sup>1</sup> 24.1	<sup>1</sup> 29.8	<sup>1</sup> 37.1	49.8	64.0	(D)	(D)	(D)	(D)	(D)	5.8
<b>Linseed:</b>													
Receipts at mills .....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Crushed or used .....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Stocks <sup>1</sup> .....	(D)	(D)	(D)	(D)	(D)	7.0	(D)	(D)	(D)	(D)	(D)	(D)	(D)
<b>Sunflower:</b>													
Receipts at mills .....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Crushed or used .....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	24.5	(D)	(D)	(D)	(D)	(D)
Stocks <sup>1</sup> .....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	33.4	32.5	54.5	(D)
<b>Safflower:</b>													
Receipts at mills .....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Crushed or used .....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Stocks <sup>1</sup> .....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
<b>Rapeseed:</b>													
Receipts at mills .....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Crushed or used .....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Stocks <sup>1</sup> .....	(D)	(D)	(D)	(D)	(D)	(D)	31.6	19.3	(D)	(D)	(D)	(D)	(D)

D Withheld to avoid disclosing data for individual companies.

<sup>1</sup>Revised by 5 percent or more from previously published data.<sup>1</sup>Calculated at end of period.

Table 14. Production, Consumption, Shipments and Transfers, and Stocks of Major Crude and Refined Animal and Vegetable Fats and Oils: 1996

Product description	Unit of measure	Total	Dec.	Nov.	Oct.	Sept.	Aug.	July	June	May	April	March	Feb.	Jan.
<b>SOYBEAN OIL</b>														
Production:														
Crude oil	Mil lb	15,447.6	1,472.7	1,429.7	1,400.6	1,143.1	1,172.6	1,262.8	1,220.9	1,197.0	1,259.3	1,291.9	1,235.8	1,361.2
Refined oil	do	12,274.1	1,025.7	1,064.1	1,111.7	1,058.7	1,115.8	971.9	962.8	1,009.3	997.3	1,042.6	934.3	979.9
Cake and meal	Thou s tons	30,767.7	3,038.5	2,940.6	2,797.5	2,226.0	2,330.2	2,461.1	2,376.0	2,349.2	2,489.3	2,562.2	2,466.7	2,730.4
Lecithin	do	103.3	8.4	8.0	8.3	13.2	8.2	8.3	7.4	7.8	9.0	8.1	8.4	8.2
Millfeed	do	2,353.3	225.3	211.2	195.3	178.1	183.2	195.2	190.2	185.5	193.8	195.3	185.4	214.8
Shipments and transfers:														
Cake and meal	do	30,914.3	3,071.8	2,863.4	2,812.4	2,237.8	2,395.8	2,560.1	2,288.6	2,423.2	2,469.4	2,435.5	2,540.1	2,816.2
Millfeed	do	2,347.4	229.3	196.8	192.6	172.2	198.1	203.6	178.2	186.8	200.8	182.6	184.4	222.0
Consumption:														
Crude in refining <sup>1</sup>	Mil lb	12,662.0	1,059.8	1,099.2	1,143.6	1,089.0	1,145.6	1,006.7	996.8	1,041.4	1,032.7	1,080.3	952.8	1,014.1
In end product <sup>2</sup>	do	12,322.3	1,093.1	1,080.9	1,137.1	1,042.8	1,123.2	959.9	946.2	1,020.6	999.8	1,026.4	927.4	964.9
In edible products	do	12,017.1	1,068.2	1,059.0	1,109.9	1,014.9	1,096.5	932.6	921.0	991.9	973.0	999.4	906.6	944.1
Baking and frying fats	do	4,690.0	399.1	407.9	420.6	391.9	448.5	368.5	371.7	386.0	377.3	402.9	358.3	357.3
Salad and cooking oil	do	5,507.5	510.8	491.1	516.2	470.9	497.6	439.4	415.9	457.2	446.3	431.8	399.7	430.6
Margarine	do	1,694.2	151.7	153.4	165.8	145.9	143.9	118.7	123.1	132.1	132.4	149.2	137.0	141.0
Other	do	125.4	6.6	6.6	7.3	6.2	6.5	5.9	10.3	16.6	17.0	15.5	11.6	15.3
In inedible products	do	305.2	24.9	21.9	27.2	27.9	26.7	27.3	25.2	28.7	26.8	27.0	20.8	20.8
Paint and varnish	do	50.5	3.3	3.2	4.3	4.2	4.7	4.5	4.6	4.6	4.7	5.6	3.8	3.0
Resins and plastics	do	121.1	7.9	8.1	11.0	11.4	11.2	11.7	11.0	11.7	10.0	11.2	7.8	8.1
Other	do	98.0	9.5	7.6	9.2	9.4	7.9	8.1	7.2	9.4	8.3	7.4	6.7	7.3
Stocks:														
Crude oil	Mil lb	914.9	914.9	851.4	783.0	713.7	774.6	848.9	785.0	696.4	746.2	688.8	668.1	680.5
Refined oil	do	222.0	222.0	186.8	196.4	216.1	217.1	205.1	216.1	227.2	257.3	287.0	257.2	275.2
Cake and meal	Thou s tons	200.9	200.9	234.2	157.0	171.9	183.7	249.3	348.3	260.9	334.9	315.0	188.3	261.7
Millfeed	do	53.6	53.6	57.6	43.2	40.5	34.6	49.5	57.9	45.9	47.2	54.2	41.5	40.5
<b>COTTONSEED OIL</b>														
Production:														
Crude oil	Mil lb	1,219.8	115.9	114.8	98.9	71.7	72.4	78.4	47.7	103.5	111.6	125.6	121.4	130.9
Refined oil	do	875.8	82.1	82.8	64.9	53.0	62.4	54.5	53.8	75.0	81.2	89.8	84.6	91.7
Cake and meal	Thou s tons	1,714.8	158.2	161.5	146.1	102.7	104.4	105.3	104.4	150.1	160.2	168.3	169.8	183.8
Hulls	do	1,014.9	101.0	98.7	85.0	64.6	63.8	59.2	58.6	82.9	97.4	102.4	97.4	103.9
Linters: <sup>1</sup>														
First cut	Mil lb	(D)	9.9	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
First cut	1,000 bales	(D)	15.8	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Second cut	Mil lb	450.5	40.1	41.1	37.1	27.0	32.1	26.2	26.2	38.2	41.7	45.4	45.7	49.7
Second cut	1,000 bales	710.6	63.2	64.8	58.5	42.6	50.6	41.3	41.3	60.3	65.8	71.6	72.1	78.4
Mill run	Mil lb	(D)	9.8	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Mill run	1,000 bales	(D)	15.8	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Shipments and transfers:														
Cake and meal	Thou s tons	1,703.6	171.0	162.8	151.5	104.8	105.6	107.4	103.6	138.4	146.1	158.3	164.7	189.4
Hulls	do	1,011.7	103.4	98.4	87.6	66.7	69.2	63.3	60.5	75.3	93.2	100.9	94.8	98.4
Linters: <sup>1</sup>														
First cut	Mil lb	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	10.3	(D)	(D)
First cut	1,000 bales	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	16.5	(D)	(D)
Second cut	Mil lb	430.4	38.2	40.6	34.8	25.2	32.1	26.5	26.2	41.8	36.8	41.9	40.0	46.3
Second cut	1,000 bales	678.9	60.3	64.0	54.9	39.7	50.6	41.8	41.3	65.9	58.0	66.1	63.1	73.0
Mill run	Mil lb	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	7.7	(D)	(D)
Mill run	1,000 bales	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	12.4	(D)	(D)
Consumption:														
Crude in refining	Mil lb	902.3	85.1	85.1	67.2	54.4	64.3	56.2	55.5	77.3	83.4	92.1	87.2	94.5
In end product <sup>2</sup>	do	525.6	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
In edible products	do	512.9	44.3	48.3	48.0	44.5	44.5	40.0	40.4	45.8	38.6	39.5	39.2	39.8
Baking and frying fats	do	236.6	24.1	24.1	22.4	20.7	26.9	16.8	17.2	19.9	16.2	18.3	15.7	14.3
Salad and cooking oil	do	242.0	17.9	22.0	23.2	21.8	15.6	21.4	21.3	23.4	19.9	17.3	18.4	19.8
In inedible products	do	12.7	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Stocks:														
Crude oil	do	25.1	25.1	28.5	23.3	31.2	24.0	38.7	40.8	40.5	45.6	41.5	37.2	21.1
Refined oil	do	71.0	71.0	67.6	67.7	57.4	69.2	77.9	77.4	89.6	97.9	98.0	96.9	87.5
Cake and meal	Thou s tons	32.4	32.4	45.2	46.5	51.9	54.0	55.2	57.3	56.5	44.8	30.7	20.7	15.6
Hulls	do	23.9	23.9	26.3	26.0	28.6	30.7	36.1	40.2	42.1	34.5	30.3	28.8	26.2
Linters: <sup>1</sup>														
First cut	Mil lb	9.0	9.0	8.1	7.0	4.5	(D)	6.4	10.5	11.0	10.9	(D)	9.4	10.4
First cut	1,000 bales	14.4	14.4	12.9	11.2	7.2	(D)	10.2	16.8	17.6	17.4	(D)	15.0	16.6
Second cut	Mil lb	32.2	32.2	30.3	29.8	27.5	25.7	25.7	26.0	26.0	29.6	24.7	21.2	15.5
Second cut	1,000 bales	50.8	50.8	47.8	47.0	43.4	40.5	40.5	41.0	41.0	46.7	39.0	33.4	24.4
Hulls	Mil lb	23.9	23.9	26.3	26.0	28.6	30.7	36.1	40.2	42.1	34.5	30.3	28.8	26.2

See footnotes at end of table.

Table 14. Production, Consumption, Shipments and Transfers, and Stocks of Major Crude and Refined Animal and Vegetable Fats and Oils: 1996—Con.

Product description	Unit of measure	Total	Dec.	Nov.	Oct.	Sept.	Aug.	July	June	May	April	March	Feb.	Jan.
<b>CORN OIL</b>														
Production:														
Crude oil . . . . .	Mil lb . . . . .	2,187.5	208.2	187.9	190.1	174.3	165.7	152.4	182.4	180.0	197.3	197.9	165.2	186.1
Refined oil . . . . .	. . .do . . . . .	956.7	79.6	78.0	77.2	84.7	62.5	69.8	85.2	84.5	79.8	94.7	86.2	74.5
Consumption:														
Crude in refining . . . . .	. . .do . . . . .	1,016.4	84.7	83.0	82.0	90.2	66.5	74.5	90.5	90.0	84.8	100.0	91.6	78.6
In end product <sup>2</sup> . . . . .	. . .do . . . . .	590.0	58.9	49.9	46.1	56.9	42.6	41.5	56.5	52.3	45.2	51.9	40.5	47.6
In edible products . . . . .	. . .do . . . . .	589.9	58.9	49.9	46.1	56.9	42.6	41.5	56.5	52.3	45.2	51.9	40.5	47.6
Baking and frying fats . . . . .	. . .do . . . . .	80.1	4.4	6.6	8.1	7.8	6.7	8.2	7.4	7.9	7.3	6.1	3.6	6.0
Salad and cooking oil . . . . .	. . .do . . . . .	432.5	46.0	35.4	30.7	41.1	30.2	30.1	42.9	39.4	32.9	40.2	32.4	31.2
Stocks:														
Crude oil . . . . .	. . .do . . . . .	30.4	30.4	29.1	28.8	31.3	35.7	36.8	30.4	22.7	28.3	29.5	27.2	20.4
Refined oil . . . . .	. . .do . . . . .	53.9	53.9	31.6	31.4	28.8	69.4	113.4	110.2	110.9	89.4	66.3	51.7	32.3
<b>PEANUT OIL</b>														
Production:														
Crude oil . . . . .	Mil lb . . . . .	350.5	21.8	20.6	21.1	27.1	31.5	31.4	33.3	36.7	36.8	31.9	29.1	29.2
Refined oil . . . . .	. . .do . . . . .	131.2	10.9	15.2	11.4	10.4	9.7	10.3	8.6	13.2	9.3	13.7	8.6	9.9
Cake and meal . . . . .	Thou s tons . . . . .	233.6	14.6	14.8	14.2	17.4	20.3	21.0	20.8	24.8	25.3	21.5	19.1	19.8
Shipments and transfers:														
Cake and meal . . . . .	. . .do . . . . .	232.0	(D)	(D)	(D)	(D)	20.7	20.9	20.5	25.6	24.9	21.9	18.3	19.8
Consumption:														
Crude in refining . . . . .	Mil lb . . . . .	135.5	11.3	15.7	11.7	10.7	10.0	10.6	8.9	13.7	9.6	14.1	8.9	10.3
In end product <sup>2</sup> . . . . .	. . .do . . . . .	137.4	12.6	15.1	12.2	11.0	11.3	10.0	11.0	10.5	11.3	12.7	9.9	10.1
In edible products . . . . .	. . .do . . . . .	136.5	12.5	15.0	12.1	10.9	11.2	9.9	10.9	10.4	11.2	12.6	9.8	10.0
In inedible products . . . . .	. . .do . . . . .	0.9	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Stocks:														
Crude oil . . . . .	. . .do . . . . .	31.0	31.0	(D)	28.0	29.6	(D)	24.5	(D)	20.8	18.9	(D)	(D)	(D)
Refined oil . . . . .	. . .do . . . . .	2.8	2.8	3.3	2.6	3.5	3.2	4.0	3.8	5.4	2.6	3.5	3.0	3.6
Cake and meal . . . . .	Thou s tons . . . . .	4.7	4.7	(D)	3.6	4.3	3.1	3.5	3.4	3.1	3.9	3.5	3.9	3.1
<b>LINSEED OIL</b>														
Production:														
Crude oil . . . . .	Mil lb . . . . .	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Refined oil . . . . .	. . .do . . . . .	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Cake and meal . . . . .	Thou s tons . . . . .	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Shipments and transfers:														
Cake and meal . . . . .	. . .do . . . . .	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Consumption:														
Crude in refining . . . . .	Mil lb . . . . .	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
In end product <sup>2</sup> . . . . .	. . .do . . . . .	98.6	6.1	6.7	6.0	7.8	10.8	9.0	9.5	10.1	8.1	7.2	8.5	8.8
In inedible products . . . . .	. . .do . . . . .	98.6	6.1	6.7	6.0	7.8	10.8	9.0	9.5	10.1	8.1	7.2	8.5	8.8
Paint and varnish . . . . .	. . .do . . . . .	18.3	0.9	1.9	1.1	2.4	2.2	0.9	2.1	1.1	1.2	1.4	1.2	1.9
Resins and plastics . . . . .	. . .do . . . . .	47.4	2.6	2.1	2.3	2.6	5.5	5.3	4.8	6.1	3.9	3.1	4.6	4.5
Other inedible products . . . . .	. . .do . . . . .	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Stocks:														
Crude oil . . . . .	. . .do . . . . .	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Refined oil . . . . .	. . .do . . . . .	16.7	16.7	16.7	20.2	13.5	27.6	21.4	17.7	15.9	17.0	16.5	19.9	21.7
Cake and meal . . . . .	Thou s tons . . . . .	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
<b>SUNFLOWER OIL</b>														
Production:														
Crude oil . . . . .	Mil lb . . . . .	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Refined oil . . . . .	. . .do . . . . .	58.1	4.3	9.6	5.3	(D)	4.9	4.2	6.6	7.4	3.0	3.4	3.9	(D)
Cake and meal . . . . .	Thou s tons . . . . .	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Shipments and transfers:														
Cake and meal . . . . .	. . .do . . . . .	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Consumption:														
Crude in refining <sup>1</sup> . . . . .	Mil lb . . . . .	58.3	4.3	9.6	5.3	(D)	5.0	4.2	6.7	7.4	3.0	3.4	3.9	(D)
In end product <sup>2</sup> . . . . .	. . .do . . . . .	90.0	8.0	6.8	6.8	8.3	8.8	6.7	7.7	10.6	6.8	6.6	6.9	6.0
In edible products . . . . .	. . .do . . . . .	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
In inedible products . . . . .	. . .do . . . . .	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Stocks:														
Crude oil . . . . .	. . .do . . . . .	(D)	(D)	(D)	(D)	22.4	27.1	39.3	29.9	37.2	51.2	53.1	(D)	(D)
Refined oil . . . . .	. . .do . . . . .	6.7	6.7	7.9	8.3	7.9	8.4	7.1	8.8	13.1	8.9	11.1	5.7	4.3
Cake and meal . . . . .	Thou s tons . . . . .	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)

See footnotes at end of table.



Table 14. Production, Consumption, Shipments and Transfers, and Stocks of Major Crude and Refined Animal and Vegetable Fats and Oils: 1996—Con.

Product description	Unit of measure	Total	Dec.	Nov.	Oct.	Sept.	Aug.	July	June	May	April	March	Feb.	Jan.
<b>SAFFLOWER OIL</b>														
Production:														
Crude oil . . . . .	Mil lb . . . . .	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Refined oil . . . . .	do . . . . .	33.6	2.7	3.0	3.1	3.3	3.1	2.1	1.9	3.5	2.4	2.3	3.5	2.7
Cake and meal . . . . .	Thou s tons . . . . .	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Shipments and transfers:														
Cake and meal . . . . .	do . . . . .	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Consumption:														
Crude in refining <sup>1</sup> . . . . .	Mil lb . . . . .	34.8	2.8	3.1	3.2	3.4	3.2	2.2	1.9	3.7	2.5	2.4	3.6	2.8
In end product <sup>2</sup> . . . . .	do . . . . .	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
In edible products . . . . .	do . . . . .	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
In inedible products . . . . .	do . . . . .	0.8	(Z)	(Z)	(Z)	(Z)	(Z)	(Z)	(Z)	(Z)	(Z)	(Z)	(Z)	(Z)
Stocks:														
Crude oil . . . . .	do . . . . .	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Refined oil . . . . .	do . . . . .	1.1	1.1	1.0	1.3	1.5	1.8	1.2	1.5	1.8	0.8	1.0	0.4	0.3
Cake and meal . . . . .	Thou s tons . . . . .	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
<b>RAPESEED OIL</b>														
Production:														
Crude oil . . . . .	Mil lb . . . . .	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Refined oil . . . . .	do . . . . .	168.7	13.6	11.4	21.6	21.6	25.1	11.6	10.9	12.4	9.1	12.7	10.2	8.5
Cake and meal . . . . .	Thou s tons . . . . .	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Shipments and transfers:														
Cake and meal . . . . .	do . . . . .	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Consumption:														
Crude in refining <sup>1</sup> . . . . .	Mil lb . . . . .	173.0	13.9	11.7	22.0	22.2	25.6	11.8	11.2	12.7	9.3	13.1	10.7	8.8
In end product <sup>2</sup> . . . . .	do . . . . .	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
In edible products . . . . .	do . . . . .	317.9	23.2	24.7	31.0	25.6	40.0	24.3	25.0	25.1	23.9	27.2	24.3	23.6
Salad and cooking oils . . . . .	do . . . . .	209.0	14.1	14.7	20.9	16.7	31.4	15.1	16.5	15.6	15.6	17.0	15.9	15.5
In inedible products . . . . .	do . . . . .	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Stocks:														
Crude oil . . . . .	do . . . . .	(D)	(D)	(D)	(D)	(D)	35.4	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Refined oil . . . . .	do . . . . .	17.3	17.3	17.9	17.5	23.2	20.6	17.0	17.9	18.3	29.8	22.3	18.2	18.8
Cake and meal . . . . .	Thou s tons . . . . .	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
<b>LARD</b>														
Production . . . . .	Thou s tons . . . . .	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
Consumption:														
In end products <sup>2</sup> . . . . .	do . . . . .	447.9	36.1	37.3	37.0	33.3	36.4	35.1	33.9	39.2	49.4	39.2	37.9	33.1
In edible products . . . . .	do . . . . .	309.7	25.0	25.5	23.6	23.0	29.5	23.2	23.4	26.2	34.1	27.4	24.7	24.1
Baking and frying fats . . . . .	do . . . . .	283.6	23.4	24.1	22.3	21.6	28.2	21.3	21.1	23.4	31.4	24.4	21.4	21.0
In inedible products . . . . .	do . . . . .	138.2	11.1	11.8	13.4	10.3	6.9	11.9	10.5	13.0	15.3	11.8	13.2	9.0
Lubricants . . . . .	do . . . . .	16.9	1.0	2.4	1.4	1.1	1.0	1.4	1.3	1.3	1.1	1.1	1.6	2.2
Other inedible products . . . . .	do . . . . .	121.3	10.1	9.4	12.0	9.2	5.9	10.5	9.2	11.7	14.2	10.7	11.6	6.8
Stocks . . . . .	do . . . . .	18.9	18.9	18.8	20.1	22.7	20.7	30.5	23.7	23.2	21.5	28.8	25.8	38.6
<b>EDIBLE TALLOW</b>														
Production . . . . .	Mil lb . . . . .	1,519.6	113.5	107.5	117.6	113.4	121.2	133.7	130.0	146.6	130.5	131.7	133.6	140.3
Consumption:														
In end products <sup>2</sup> . . . . .	do . . . . .	521.0	39.6	40.4	49.2	41.1	41.6	42.8	48.0	40.7	45.9	52.0	37.3	42.4
In edible products . . . . .	do . . . . .	327.1	26.6	27.1	31.7	26.0	24.8	25.7	30.8	23.9	29.7	29.1	24.5	27.2
Baking and frying fats . . . . .	do . . . . .	320.1	26.0	26.5	31.1	25.3	24.2	25.1	30.1	23.2	29.2	28.5	23.9	27.0
In inedible products . . . . .	do . . . . .	193.9	13.0	13.3	17.5	15.1	16.8	17.1	17.2	16.8	16.2	22.9	12.8	15.2
Stocks . . . . .	do . . . . .	33.3	33.3	32.8	32.2	34.1	35.0	40.1	43.1	49.7	51.0	44.0	47.9	35.9
<b>COCONUT OIL</b>														
Production:														
Refined oil <sup>1</sup> . . . . .	Mil lb . . . . .	394.6	28.3	15.1	33.6	25.7	13.1	27.6	42.5	44.2	46.1	40.0	38.6	39.8
Consumption:														
Crude in refining . . . . .	do . . . . .	414.9	29.7	15.9	35.3	27.2	13.9	28.9	44.5	46.6	48.6	42.3	40.5	41.5
In end products <sup>2</sup> . . . . .	do . . . . .	639.5	47.9	49.2	49.6	45.0	47.9	55.1	54.6	68.6	60.2	60.1	54.3	47.0
In edible products . . . . .	do . . . . .	191.2	8.2	10.8	10.8	10.4	8.6	20.0	19.8	28.7	20.2	20.6	17.2	15.9
In inedible products . . . . .	do . . . . .	448.3	39.7	38.4	38.8	34.6	39.3	35.1	34.8	39.9	40.0	39.5	37.1	31.1
Soap . . . . .	do . . . . .	81.8	6.9	6.7	8.4	7.4	7.9	3.6	5.9	7.5	7.4	7.1	7.8	5.2
Resins and plastics . . . . .	do . . . . .	2.6	0.2	0.3	0.3	0.2	0.3	0.2	0.2	0.2	0.2	0.1	0.1	0.3
Stocks:														
Crude oil . . . . .	do . . . . .	69.9	69.9	34.4	42.6	38.6	61.4	67.0	104.6	110.5	101.3	127.3	120.0	146.3
Refined oil <sup>2</sup> . . . . .	do . . . . .	56.0	56.0	30.7	36.0	45.4	52.5	49.7	66.9	65.4	72.3	90.3	80.4	82.8

See footnotes at end of table.

Table 14. Production, Consumption, Shipments and Transfers, and Stocks of Major Crude and Refined Animal and Vegetable Fats and Oils: 1996—Con.

Product description	Unit of measure	Total	Dec.	Nov.	Oct.	Sept.	Aug.	July	June	May	April	March	Feb.	Jan.
<b>VEGETABLE OIL FOOTS</b>														
Production . . . . .	Mil lb . . . . .	271.9	23.2	23.8	23.4	24.0	23.7	22.2	23.0	23.0	20.1	23.1	21.9	20.5
Consumption:														
In end products <sup>2</sup> . . . . .	...do . . . . .	86.8	8.4	5.2	7.1	6.3	7.3	7.4	7.1	8.8	7.8	7.2	7.0	7.2
In inedible products . . . . .	...do . . . . .	86.8	8.4	5.2	7.1	6.3	7.3	7.4	7.1	8.8	7.8	7.2	7.0	7.2
Feed . . . . .	...do . . . . .	74.5	7.6	4.2	6.2	5.4	6.2	6.1	6.1	7.6	6.7	6.1	6.0	6.3
Other inedible products . . . . .	...do . . . . .	12.3	0.8	1.0	0.9	0.9	1.1	1.3	1.0	1.2	1.1	1.1	1.0	0.9
Stocks . . . . .	...do . . . . .	8.4	8.4	10.2	7.2	8.4	6.5	7.6	8.2	7.2	8.1	9.9	8.4	8.3
<b>CASTOR OIL</b>														
Production . . . . .	Mil lb . . . . .	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
Consumption:														
In end products <sup>2</sup> . . . . .	...do . . . . .	59.6	4.6	4.5	3.9	3.8	4.3	5.4	5.5	5.9	3.4	5.5	7.0	5.8
In inedible products . . . . .	...do . . . . .	59.6	4.6	4.5	3.9	3.8	4.3	5.4	5.5	5.9	3.4	5.5	7.0	5.8
Resins and plastics . . . . .	...do . . . . .	1.3	0.1	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Lubricants . . . . .	...do . . . . .	2.0	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.1	0.2	0.1	0.1
Other inedible products . . . . .	...do . . . . .	45.8	2.9	3.2	2.9	3.2	3.6	4.9	4.8	4.5	2.2	4.3	5.4	3.9
Stocks . . . . .	...do . . . . .	31.8	31.8	41.0	38.8	23.8	25.5	37.8	43.9	55.7	36.8	29.7	37.2	45.7
<b>TALL OIL</b>														
Production:														
Crude oil . . . . .	Mil lb . . . . .	1,481.0	119.5	118.9	124.2	117.8	129.9	125.5	125.3	125.3	113.9	131.9	128.3	120.5
Refined oil <sup>3</sup> . . . . .	...do . . . . .	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Consumption:														
Crude in refining . . . . .	...do . . . . .	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
In end products <sup>2</sup> . . . . .	...do . . . . .	1,179.4	98.8	101.3	111.5	94.9	100.7	85.4	96.6	100.5	104.1	89.2	103.3	93.1
In inedible products . . . . .	...do . . . . .	1,179.4	98.8	101.3	111.5	94.9	100.7	85.4	96.6	100.5	104.1	89.2	103.3	93.1
Resins and plastics . . . . .	...do . . . . .	18.6	1.4	1.6	1.4	1.4	1.8	1.8	1.8	1.5	1.6	1.6	1.5	1.2
Lubricants . . . . .	...do . . . . .	6.6	0.3	0.5	0.6	0.5	0.6	0.5	0.4	0.6	0.7	0.6	0.7	0.6
Fatty acids . . . . .	...do . . . . .	930.3	79.2	82.3	87.3	70.6	83.8	62.2	71.6	81.8	80.6	73.6	80.6	76.7
Stocks: <sup>3</sup>														
Crude oil . . . . .	...do . . . . .	182.4	182.4	167.4	192.1	172.3	147.3	138.7	130.5	127.0	131.8	145.9	120.3	105.7
Refined oil . . . . .	...do . . . . .	8.9	8.9	7.5	7.0	8.3	7.2	6.1	6.0	8.5	10.4	8.5	9.7	7.9
<b>INEDIBLE TALLOW AND GREASE</b>														
Production . . . . .	Mil lb . . . . .	6,376.1	503.8	504.3	549.5	498.7	509.7	540.8	511.3	589	550	534.1	527.5	557.4
Inedible tallow . . . . .	...do . . . . .	3,566.3	280.9	280.3	297.2	279.1	274.8	297.0	283.5	330.3	310.4	307.0	302.3	323.5
Grease . . . . .	...do . . . . .	2,762.6	219.0	219.9	248.2	215.7	231.1	240.3	223.6	254.6	235.9	222.9	221.8	229.6
Inedible tallow and grease, n.s.k. . . . .	...do . . . . .	47.2	3.9	4.1	4.1	3.9	3.8	3.5	4.2	4.1	3.7	4.2	3.4	4.3
Consumption:														
In end products <sup>2</sup> . . . . .	...do . . . . .	3,288.7	271.2	263.0	275.4	272.3	294.9	292.3	265.1	298.5	282.0	268.3	256.7	249.0
In inedible products . . . . .	...do . . . . .	3,288.7	271.2	263.0	275.4	272.3	294.9	292.3	265.1	298.5	282.0	268.3	256.7	249.0
Soap . . . . .	...do . . . . .	245.2	17.4	20.5	25.1	21.3	22.6	12.6	20.5	22.3	20.6	21.3	21.1	19.9
Feed . . . . .	...do . . . . .	2,252.8	179.1	175.8	186.9	180.7	200.6	214.0	174.0	207.6	196.0	184.2	175.0	178.9
Lubricants . . . . .	...do . . . . .	89.2	6.6	6.7	10.3	7.2	7.6	7.6	7.0	7.4	6.8	7.4	7.1	7.5
Fatty acids . . . . .	...do . . . . .	629.4	61.6	55.3	48.9	57.0	58.2	52.6	57.6	55.7	51.5	49.0	46.8	35.2
Other inedible products . . . . .	...do . . . . .	72.1	6.5	4.7	4.2	6.1	5.9	5.5	6.0	5.5	7.1	6.4	6.7	7.5
Stocks:														
Inedible tallow . . . . .	...do . . . . .	170.1	170.1	161.5	171.1	162.0	194.5	175.7	203.3	223.2	219.0	274.1	276.4	306.4
Grease . . . . .	...do . . . . .	91.6	91.6	104.7	104.4	95.1	88.1	93.1	98.7	96.0	113.1	120.7	114.7	93.6
Inedible tallow and grease, n.s.k. . . . .	...do . . . . .	4.5	4.5	4.2	4.2	3.5	3.1	3.5	3.9	3.9	3.8	5.4	7.6	6.7
<b>PALM OIL</b>														
Production:														
Refined oil <sup>1</sup> . . . . .	Mil lb . . . . .	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Consumption:														
Crude refining . . . . .	...do . . . . .	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
In end products <sup>2</sup> . . . . .	...do . . . . .	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
In edible products . . . . .	...do . . . . .	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
In inedible products . . . . .	...do . . . . .	99.2	6.8	7.3	10.1	10.2	7.8	8.7	8.2	8.3	7.7	8.7	8.3	7.1
Stocks:														
Crude oil . . . . .	...do . . . . .	8.7	8.7	8.7	8.2	7.8	7.5	12.7	16.3	13.6	12.2	15.0	10.4	10.5
Refined oil . . . . .	...do . . . . .	62.2	62.2	36.3	32.8	23.1	25.8	32.1	35.7	37.3	44.8	48.6	36.4	39.9

See footnotes at end of table.

Table 14. **Production, Consumption, Shipments and Transfers, and Stocks of Major Crude and Refined Animal and Vegetable Fats and Oils: 1996—Con.**

Product description	Unit of measure	Total	Dec.	Nov.	Oct.	Sept.	Aug.	July	June	May	April	March	Feb.	Jan.
<b>PALM KERNEL OIL</b>														
Production:														
Refined oil <sup>1</sup> . . . . .	Mil lb . . . . .	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Consumption:														
Crude refining . . . . .	. . .do . . . . .	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
In end products <sup>2</sup> . . . . .	. . .do . . . . .	209.4	17.3	14.5	16.5	20.8	18.8	15.5	17.9	18.0	17.0	20.6	16.4	16.1
In edible products . . . . .	. . .do . . . . .	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
In inedible products . . . . .	. . .do . . . . .	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Stocks . . . . .	. . .do . . . . .	51.8	51.8	51.8	38.8	21.8	32.0	56.6	49.6	70.0	76.8	78.2	71.8	58.3
<b>TUNG OIL</b>														
Consumption:														
In end products <sup>2</sup> . . . . .	Mil lb . . . . .	21.3	2.0	1.9	2.0	1.4	2.0	2.2	1.8	1.5	1.7	1.7	1.4	1.7
In inedible products . . . . .	. . .do . . . . .	21.3	2.0	1.9	2.0	1.4	2.0	2.2	1.8	1.5	1.7	1.7	1.4	1.7
Paint and varnish . . . . .	. . .do . . . . .	2.6	0.2	0.2	0.2	0.2	0.2	0.4	0.2	0.2	0.2	0.2	0.2	0.2
Resins and plastics . . . . .	. . .do . . . . .	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Other inedible products . . . . .	. . .do . . . . .	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Stocks . . . . .	. . .do . . . . .	2.4	2.4	2.8	2.5	2.5	2.7	2.4	2.6	2.5	2.4	3.0	2.2	1.6
<b>FISH OIL</b>														
Consumption:														
In end products <sup>2</sup> . . . . .	Mil lb . . . . .	5.3	0.3	0.3	0.3	0.2	0.7	0.4	0.5	0.9	0.5	0.7	0.3	0.2
In inedible products . . . . .	. . .do . . . . .	5.3	0.3	0.3	0.3	0.2	0.7	0.4	0.5	0.9	0.5	0.7	0.3	0.2
Resins and plastics . . . . .	. . .do . . . . .	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Lubricants . . . . .	. . .do . . . . .	0.6	(Z)	(Z)	(Z)	(Z)	(Z)	(Z)	(Z)	(Z)	(Z)	(Z)	(Z)	(Z)
<b>OTHER OILS</b>														
Consumption:														
In end products <sup>2</sup> . . . . .	Mil. lb . . . . .	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
In edible products . . . . .	. . .do . . . . .	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
In inedible products . . . . .	. . .do . . . . .	32.7	1.8	2.0	3.9	4.5	2.6	2.7	2.6	2.1	4.5	2.2	1.4	2.4
Stocks . . . . .	. . .do . . . . .	1.2	1.2	1.4	2.2	2.6	2.6	2.5	1.4	2.1	1.7	2.5	2.4	1.6

D Withheld to avoid disclosing data for individual companies. NA Not available. n.s.k. Not specified by kind. Z Less than one-half of 1 percent.

<sup>1</sup>Production of refined oils covers only once-refined oils. Degummed soybean oil is reported as crude oil.

<sup>2</sup>Includes hydrogenated fats (vegetable and animal) and other fats and oils in process (for example, refined cottonseed including stocks of stearin).

<sup>3</sup>Production of refined tall oil and distilled tall oil containing less than 90-percent free fatty acids, not including resin acids.

Note: Detail may not add to total because of independent rounding.

Table 15. Net Receipts, Crushings, and Stocks of Cottonseed and Soybeans at Oil Mills by Selected States: 1996

[Thousands of short tons]

State	Total	Dec.	Nov.	Oct.	Sept.	Aug.	July	June	May	April	March	Feb.	Jan.
<b>COTTONSEED</b>													
Receipts at mills . . . . .	3,752.0	673.2	1,085.0	1,328.1	335.3	96.8	'8.7	(0.5)	(53.2)	'82.7	'34.1	66.1	'95.7
Crushed or used . . . . .	3,779.5	352.6	355.1	331.7	'225.0	229.2	215.0	228.5	330.8	354.4	381.4	373.5	402.3
Stocks <sup>1</sup> . . . . .	2,541.8	2,541.8	2,221.2	1,491.3	494.9	384.6	517.0	723.3	952.3	1,336.3	1,608.0	1,955.3	2,262.7
<b>Arkansas</b>													
Crushed or used . . . . .	552.5	46.0	46.6	47.6	(D)	(D)	(D)	48.6	53.2	50.5	56.7	54.0	58.9
Stocks <sup>1</sup> . . . . .	369.3	369.3	392.2	328.9	(D)	(D)	66.0	135.0	199.0	267.9	320.4	343.9	367.4
<b>Pacific and Mountain states</b>													
Crushed or used . . . . .	364.5	(D)	(D)	(D)	(D)	(D)	(D)	35.8	42.2	34.7	42.6	45.2	45.5
Stocks <sup>1</sup> . . . . .	231.4	231.4	181.7	90.9	(D)	(D)	(D)	49.8	79.6	125.2	167.7	214.1	267.5
<b>Mississippi</b>													
Crushed or used . . . . .	532.2	(D)	(D)	(D)	42.2	(D)	32.5	(D)	51.8	54.4	51.2	45.3	54.5
Stocks <sup>1</sup> . . . . .	294.5	294.5	323.1	305.6	(D)	19.5	33.7	(D)	78.8	166.8	172.2	'214.6	'251.1
<b>Texas</b>													
Crushed or used . . . . .	1,368.6	135.5	127.0	115.9	101.4	99.3	(D)	(D)	102.3	126.3	137.5	142.1	150.4
Stocks <sup>1</sup> . . . . .	1,043.8	1,043.8	719.4	325.6	213.9	231.4	(D)	(D)	338.9	441.9	571.2	714.3	852.5
<b>SOYBEAN</b>													
Receipts at mills . . . . .	41,345.9	3,803.7	4,481.0	6,142.5	2,508.0	2,669.1	2,965.1	2,562.5	2,838.7	3,171.0	3,109.7	3,301.3	3,793.3
Crushed or used . . . . .	41,763.8	4,143.4	3,993.2	3,810.2	3,027.2	3,171.7	3,355.8	3,223.8	3,189.9	3,364.2	3,464.7	3,335.9	3,683.8
Stocks <sup>1</sup> . . . . .	3,181.2	3,181.2	3,520.9	3,033.1	700.8	1,220.0	1,722.6	2,113.3	2,774.6	3,125.8	3,319.0	3,674.0	3,708.6
<b>Arkansas</b>													
Receipts at mills . . . . .	1,532.5	157.4	(D)	(D)	60.6	80.0	92.5	(D)	66.5	93.6	101.6	104.9	(D)
Crushed or used . . . . .	(D)	158.0	144.4	137.4	111.1	133.1	137.2	(D)	75.9	129.8	106.5	111.8	124.3
Stocks <sup>1</sup> . . . . .	(D)	(D)	(D)	166.6	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
<b>Georgia</b>													
Receipts at mills . . . . .	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Crushed or used . . . . .	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Stocks <sup>1</sup> . . . . .	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
<b>Illinois</b>													
Receipts at mills . . . . .	6,955.3	618.3	577.0	1,220.0	394.4	483.6	525.5	430.4	474.8	426.6	504.6	542.6	757.5
Crushed or used . . . . .	7,101.3	717.4	682.9	667.3	482.3	544.7	566.8	541.7	578.1	558.4	567.9	553.9	639.9
Stocks <sup>1</sup> . . . . .	441.9	441.9	541.0	646.9	94.2	182.1	243.2	284.5	395.8	499.1	630.9	694.2	705.5
<b>Indiana</b>													
Receipts at mills . . . . .	2,645.4	259.3	327.0	539.7	139.4	151.9	161.3	114.5	163.8	195.5	156.8	214.8	221.4
Crushed or used . . . . .	2,554.4	266.9	258.5	224.7	196.1	165.2	207.2	173.5	223.9	202.5	210.9	207.6	217.4
Stocks <sup>1</sup> . . . . .	391.5	391.5	399.1	330.6	(D)	72.3	85.6	131.5	190.5	250.6	257.6	311.7	304.5
<b>Iowa</b>													
Receipts at mills . . . . .	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Crushed or used . . . . .	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Stocks <sup>1</sup> . . . . .	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
<b>Kansas</b>													
Receipts at mills . . . . .	1,707.7	(D)	144.7	266.0	(D)	120.2	106.1	99.0	(D)	(D)	(D)	132.9	183.0
Crushed or used . . . . .	1,659.0	170.9	171.4	159.1	83.8	145.4	142.4	133.6	(D)	(D)	(D)	140.2	154.8
Stocks <sup>1</sup> . . . . .	147.4	147.4	(D)	(D)	(D)	56.7	81.9	118.2	152.8	137.5	115.8	119.6	126.9
<b>Minnesota</b>													
Receipts at mills . . . . .	2,886.2	265.8	192.4	359.3	(D)	196.8	269.4	(D)	235.5	228.2	(D)	267.3	218.9
Crushed or used . . . . .	2,929.6	254.0	261.6	263.2	213.0	258.2	244.3	213.3	247.0	229.9	253.2	240.3	251.6
Stocks <sup>1</sup> . . . . .	(D)	(D)	(D)	(D)	(D)	60.2	121.6	96.5	(D)	(D)	(D)	111.4	84.4
<b>Missouri</b>													
Receipts at mills . . . . .	2,458.4	214.1	228.2	354.1	170.1	210.2	193.8	202.4	136.4	222.1	123.9	194.4	208.7
Crushed or used . . . . .	2,520.9	247.2	235.4	247.4	225.2	224.0	177.3	191.2	182.1	197.3	195.2	190.1	208.5
Stocks <sup>1</sup> . . . . .	103.7	103.7	136.8	144.0	37.3	92.4	106.2	89.7	78.5	124.2	99.4	170.7	166.4
<b>Ohio</b>													
Receipts at mills . . . . .	(D)	305.1	299.6	(D)	221.7	259.2	302.7	192.5	176.7	295.0	(D)	227.8	(D)
Crushed or used . . . . .	3,265.6	304.7	286.5	294.0	250.3	270.2	288.3	251.9	225.6	270.4	282.4	268.7	272.6
Stocks <sup>1</sup> . . . . .	(D)	(D)	(D)	(D)	20.2	48.8	59.8	45.4	104.8	153.7	129.1	(D)	(D)
<b>South Carolina</b>													
Receipts at mills . . . . .	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Crushed or used . . . . .	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Stocks <sup>1</sup> . . . . .	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)

D Withheld to avoid disclosing data for individual companies.

'Revised by 5 percent or more from previously published data.

<sup>1</sup>Calculated at end of period.

Table 16. Production and Stocks of Cottonseed and Soybeans by Selected States: 1996

State	Unit of measure	Total	Dec.	Nov.	Oct.	Sept.	Aug.	July	June	May	April	March	Feb.	Jan.
<b>COTTONSEED</b>														
Production:														
Crude oil	Mil lb	1,219.8	115.9	114.8	98.9	71.7	72.4	78.4	74.7	103.5	111.6	125.6	121.4	130.9
Cake and meal	Thou s tons	1,714.8	158.2	161.5	146.1	102.7	104.4	105.3	104.4	150.1	160.2	168.3	169.8	183.8
Hulls	do	1,014.9	101.0	98.7	85.0	64.6	63.8	59.2	58.6	82.9	97.4	102.4	97.4	103.9
Linters <sup>1</sup>	1,000 bales	1,035.5	94.8	95.6	90.2	63.9	64.7	66.2	61.5	88.5	95.3	103.0	101.5	110.3
Stocks:														
Crude oil	Mil lb	25.1	25.1	28.5	23.3	31.2	24.0	38.7	40.8	40.5	45.6	41.5	37.2	21.1
Cake and meal	Thou s tons	32.4	32.4	45.2	46.5	51.9	54.0	55.2	57.3	56.5	44.8	30.7	20.7	15.6
Hulls	do	23.9	23.9	26.3	26.0	28.6	30.7	36.1	40.2	42.1	34.5	30.3	28.8	26.2
Linters <sup>1</sup>	1,000 bales	76.1	76.1	64.6	62.9	55.3	52.2	54.2	61.7	61.8	67.3	58.4	50.2	43.4
<b>Arkansas</b>														
Production:														
Crude oil	Mil lb	167.8	13.6	13.2	14.5	(D)	(D)	(D)	14.9	16.4	15.8	17.1	16.2	18.7
Cake and meal	Thou s tons	245.5	20.1	20.3	21.3	(D)	(D)	(D)	21.7	23.5	22.6	24.6	24.0	26.1
Hulls	do	(D)	13.0	13.5	12.6	6.4	(D)	12.1	13.0	14.7	12.9	15.2	14.2	14.6
Linters <sup>1</sup>	1,000 bales	167.3	13.1	13.8	14.4	(D)	(D)	(D)	14.9	15.9	15.6	17.0	16.5	18.8
Stocks:														
Crude oil	Mil lb	(D)	(D)	3.6	(D)	(D)	2.9	(D)	6.4	4.8	5.8	8.5	9.4	4.0
Cake and meal	Thou s tons	2.4	2.4	3.3	3.0	3.3	5.5	(D)	(D)	2.4	2.2	3.6	1.4	1.4
Hulls	do	(D)	(D)	(D)	2.5	(D)	(D)	(D)	(D)	5.0	(D)	2.2	2.7	2.4
Linters <sup>1</sup>	1,000 bales	(D)	(D)	(D)	15.0	(D)	(D)	(D)	(D)	5.0	5.6	5.6	3.8	4.0
<b>California</b>														
Production:														
Crude oil	Mil lb	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Cake and meal	Thou s tons	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Hulls	do	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Linters <sup>1</sup>	1,000 bales	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Stocks:														
Crude oil	Mil lb	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Cake and meal	Thou s tons	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Hulls	do	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Linters <sup>1</sup>	1,000 bales	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
<b>Mississippi</b>														
Production:														
Crude oil	Mil lb	161.9	14.4	14.0	16.6	12.0	(D)	(D)	(D)	14.6	15.0	14.6	13.1	15.7
Cake and meal	Thou s tons	248.6	21.9	20.9	24.8	18.3	(D)	(D)	(D)	22.9	23.5	23.1	20.3	24.2
Hulls	do	145.5	14.4	(D)	15.3	10.7	(D)	(D)	(D)	12.5	12.5	12.2	11.6	13.4
Linters <sup>1</sup>	1,000 bales	167.1	15.4	14.6	17.0	12.1	(D)	(D)	(D)	15.2	15.1	15.7	14.4	15.6
Stocks:														
Crude oil	Mil lb	3.4	3.4	2.1	3.2	3.5	4.6	13.0	(D)	(D)	(D)	(D)	(D)	(D)
Cake and meal	Thou s tons	1.8	1.8	1.7	(D)	(D)	(D)	(D)	(D)	(D)	(D)	2.0	(D)	0.7
Hulls	do	1.3	1.3	1.3	2.8	3.1	0.9	(D)	1.1	2.5	1.8	0.8	0.4	(D)
Linters <sup>1</sup>	1,000 bales	2.3	2.3	1.7	2.5	(D)	(D)	(D)	(D)	1.6	1.6	1.8	1.4	(D)
<b>Texas</b>														
Production:														
Crude oil	Mil lb	(D)	49.2	45.6	33.8	33.3	31.6	(D)	20.7	32.6	41.0	51.7	48.4	51.2
Cake and meal	Thou s tons	616.8	61.3	57.5	51.7	46.6	45.8	28.5	27.6	45.6	58.4	60.7	63.7	69.4
Hulls	do	369.7	37.9	32.8	29.2	28.4	24.1	19.1	14.5	29.6	38.3	39.4	37.1	39.3
Linters <sup>1</sup>	1,000 bales	346.1	33.9	30.6	29.4	26.9	28.8	15.6	14.2	24.2	30.6	35.2	35.7	41.0
Stocks:														
Crude oil	Mil lb	9.3	9.3	11.5	7.1	8.6	7.6	7.5	5.5	8.2	10.4	9.0	8.2	8.3
Cake and meal	Thou s tons	13.5	13.5	19.2	29.1	29.6	23.6	(D)	(D)	9.8	9.8	7.8	4.7	4.0
Hulls	do	6.6	6.6	(D)	10.5	13.8	8.7	9.5	(D)	9.1	8.1	7.3	6.7	(D)
Linters <sup>1</sup>	1,000 bales	20.7	20.7	17.9	15.0	14.9	15.2	(D)	(D)	24.5	31.9	28.7	24.9	(D)
<b>SOYBEAN</b>														
Production:														
Crude oil	Mil lb	15,447.6	1,472.7	1,429.7	1,400.6	1,143.1	1,172.6	1,262.8	1,220.9	1,197.0	1,259.3	1,291.9	1,235.8	1,361.2
Cake and meal	Thou s tons	33,224.4	3,272.1	3,159.9	3,001.0	2,417.4	2,521.6	2,664.7	2,573.7	2,542.4	2,692.1	2,765.6	2,660.5	2,953.4
Stocks:														
Crude oil	Mil lb	914.9	914.9	851.4	783.0	713.7	774.6	848.9	785.0	696.4	746.2	688.8	668.1	680.5
Cake and meal	Thou s tons	254.4	254.4	291.8	200.2	212.5	218.3	298.8	406.2	306.9	382.1	369.3	229.9	302.2
<b>Arkansas</b>														
Production:														
Crude oil	Mil lb	(D)	56.5	51.9	50.7	40.1	49.0	49.3	(D)	28.5	46.9	39.4	40.4	44.6
Cake and meal	Thou s tons	(D)	123.8	114.8	107.1	85.9	106.3	109.7	(D)	60.8	103.8	85.7	89.6	99.9

See footnotes at end of table.

Table 16. Production and Stocks of Cottonseed and Soybeans by Selected States: 1996—Con.

State	Unit of measure	Total	Dec.	Nov.	Oct.	Sept.	Aug.	July	June	May	April	March	Feb.	Jan.
<b>SOYBEAN—Con.</b>														
Arkansas—Con.														
Stocks:														
Crude oil	Mil lb.	23.6	23.6	27.7	(D)	(D)	20.3	27.1	29.2	27.7	31.3	25.9	25.4	30.7
Cake and meal	Thou s tons	(D)	(D)	(D)	(D)	9.6	(D)	(D)	13.5	(D)	22.9	5.8	8.8	10.7
<b>Georgia</b>														
Production:														
Crude oil	Mil lb.	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Cake and meal	Thou s tons	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Stocks:														
Crude oil	Mil lb.	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Cake and meal	Thou s tons	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
<b>Illinois</b>														
Production:														
Crude oil	Mil lb.	2,640.6	257.8	247.3	251.3	186.7	185.1	215.8	204.4	220.4	211.4	212.8	207.0	240.6
Cake and meal	Thou s tons	5,600.0	562.3	540.4	526.7	387.4	427.7	442.2	428.5	457.9	441.7	438.9	438.0	508.3
Stocks:														
Crude oil	Mil lb.	241.5	241.5	213.5	216.2	208.0	201.7	189.3	184.0	190.8	178.1	181.2	136.4	133.1
Cake and meal	Mil s tons	46.4	46.4	68.6	34.8	41.0	42.4	72.5	(D)	125.0	158.0	115.0	74.7	132.8
<b>Indiana</b>														
Production:														
Crude oil	Mil lb.	930.8	93.0	89.6	80.5	71.6	61.4	77.1	64.9	83.2	75.4	77.8	76.0	80.3
Cake and meal	Thou s tons	2,050.8	208.7	203.3	175.0	154.5	128.9	165.8	139.2	179.2	162.3	180.4	166.4	187.1
Stocks:														
Crude oil	Mil lb.	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	53.6	(D)	(D)	(D)
Cake and meal	Thou s tons	16.6	16.6	18.4	7.0	10.6	10.0	(D)	(D)	(D)	(D)	(D)	(D)	14.9
<b>Iowa</b>														
Production:														
Crude oil	Mil lb.	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Cake and meal	Thou s tons	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Stocks:														
Crude oil	Mil lb.	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Cake and meal	Thou s tons	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
<b>Kansas</b>														
Production:														
Crude oil	Mil lb.	627.9	63.2	63.0	59.8	32.4	55.3	54.7	51.1	(D)	(D)	(D)	52.8	58.1
Cake and meal	Thou s tons	1,325.9	135.1	133.7	125.0	69.3	117.7	114.7	106.9	(D)	(D)	(D)	112.8	125.2
Stocks:														
Crude oil	Mil lb.	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Cake and meal	Thou s tons	4.1	4.1	12.1	6.1	(D)	7.8	6.8	11.8	5.8	10.1	12.4	6.0	7.4
<b>Minnesota</b>														
Production:														
Crude oil	Mil lb.	1,090.7	91.9	95.0	97.6	81.7	95.6	92.6	82.3	91.8	84.7	94.6	90.5	92.4
Cake and meal	Thou s tons	2,346.2	203.2	209.6	209.1	171.9	207.3	195.5	172.7	197.6	183.9	202.5	192.1	200.8
Stocks:														
Crude oil	Mil lb.	90.3	90.3	88.4	94.5	82.4	80.3	(D)	(D)	(D)	(D)	(D)	(D)	57.7
Cake and meal	Thou s tons	6.0	6.0	14.4	7.0	10.2	13.3	11.9	20.3	9.8	9.0	(D)	(D)	(D)
<b>Missouri</b>														
Production:														
Crude oil	Mil lb.	932.6	88.1	83.6	89.7	85.2	84.0	66.1	77.8	67.5	74.2	72.5	69.3	74.6
Cake and meal	Thou s tons	2,024.2	196.6	188.5	194.6	180.6	179.4	142.3	155.6	146.5	159.6	158.6	152.7	169.2
Stocks:														
Crude oil	Mil lb.	(D)	(D)	79.1	87.2	56.6	48.7	(D)	(D)	(D)	(D)	65.6	97.2	(D)
Cake and meal	Thou s tons	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
<b>Ohio</b>														
Production:														
Crude oil	Mil lb.	1,159.1	102.9	97.0	103.1	89.4	99.2	104.0	91.0	81.0	96.7	101.4	96.1	97.3
Cake and meal	Thou s tons	2,606.8	241.6	225.3	228.7	197.1	214.7	231.0	201.7	182.0	221.3	228.3	216.2	218.9
Stocks:														
Crude oil	Mil lb.	(D)	(D)	(D)	(D)	21.1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Cake and meal	Thou s tons	(D)	(D)	(D)	(D)	10.2	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
<b>South Carolina</b>														
Production:														
Crude oil	Mil lb.	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Cake and meal	Thou s tons	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Stocks:														
Crude oil	Mil lb.	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Cake and meal	Thou s tons	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)

D Withheld to avoid disclosing data for individual companies.

\*Thousands of bales: Linter bales vary in weight according to kind of cut: First cut, 626 lb.; second cut, 634 lb.; and mill run, 622 lb.

Table 17. Production and Stocks of Fat and Oil Products: 1996

[Millions of pounds]

Product description	Total	Dec.	Nov.	Oct.	Sep.	Aug.	July	June	May	April	March	Feb.	Jan.
<b>Baking and frying fats:</b>													
<b>Vegetable oil:</b>													
Production .....	5,326.6	444.9	457.4	476.3	436.1	512.6	425.1	424.8	454.4	432.6	456.3	402.3	403.8
Stocks <sup>1</sup> .....	76.1	76.1	100.7	90.5	101.9	102.7	80.6	86.8	75.5	81.0	87.6	77.1	83.9
<b>Animal fats or blends:</b>													
Production .....	602.7	'51.3	'51.9	'54.5	'47.5	'46.6	'43.3	'48.5	'51.4	'59.4	'54.8	'46.5	'47.0
Stocks <sup>1</sup> .....	4.7	4.7	6.1	5.8	7.3	6.8	6.2	6.8	7.8	6.8	7.0	7.0	7.5
<b>Soybean salad and cooking oils:</b>													
Production .....	5,488.0	508.5	488.9	514.2	469.1	495.5	437.6	414.6	455.9	445.0	430.5	398.7	429.5
Stocks <sup>1</sup> .....	83.9	83.9	87.1	58.8	54.0	66.4	63.4	63.8	70.4	57.2	63.2	60.9	74.8
<b>Other salad and cooking oils:</b>													
Production .....	1,153.0	'98.3	'95.1	'95.7	105.4	94.9	88.2	105.8	98.4	95.2	'97.5	'89.2	'89.3
Stocks <sup>1</sup> .....	45.7	45.7	28.0	32.5	32.2	30.7	31.4	38.4	31.6	30.1	30.4	32.4	30.8
<b>Margarine:</b>													
Production .....	2,480.2	222.3	223.8	239.8	213.8	207.4	170.5	181.1	192.4	192.5	218.6	202.2	215.8
Stocks <sup>1</sup> .....	43.9	43.9	55.0	57.6	44.7	44.6	42.3	46.0	47.8	51.0	64.3	77.6	68.7
<b>Glycerine crude:</b>													
Production .....	332.3	29.5	28.4	30.5	25.4	23.7	23.0	29.8	29.7	29.8	33.8	22.1	26.6
Used in refining .....	332.4	29.5	30.5	28.1	26.5	26.3	25.6	29.9	28.6	28.3	27.5	24.5	27.1
Stocks <sup>1</sup> .....	57.1	57.1	57.5	51.7	50.8	53.7	56.6	53.5	50.7	45.4	40.3	34.8	39.3
<b>Glycerine refined:</b>													
Production .....	332.9	29.4	30.4	28.0	26.4	26.2	25.6	29.8	28.5	29.8	27.4	24.4	27.0
Stocks <sup>1</sup> .....	13.4	13.4	12.0	13.3	15.4	18.4	22.0	24.0	22.6	45.4	19.9	20.2	19.1
<b>Fatty acids:</b>													
Production .....	1,702.8	147.0	136.7	144.8	129.7	150.0	143.0	145.5	149.7	144.2	147.0	140.7	124.5
Stocks <sup>1</sup> .....	87.2	87.2	83.6	98.4	88.1	87.8	102.6	109.1	118.6	115.3	109.2	124.5	115.7
<b>Meat meal and tannage:</b>													
Production .....	5,744.4	478.5	462.6	502.2	453.6	471.1	484.3	464.6	533.0	479.3	469.7	457.9	487.6
Meat and bone meal ..	4,380.7	368.0	351.6	383.4	352.4	363.1	369.6	343.8	406.6	363.9	358.7	348.8	370.8
Dry rendered tannage ..	1,279.3	103.5	104.2	112.3	94.3	100.4	107.1	113.2	120.0	108.8	103.8	102.0	109.7
Meat and bone meal, n.s.k. ....	84.4	7.0	6.8	6.5	6.9	7.6	7.6	7.6	6.4	6.6	7.2	7.1	7.1
Stocks <sup>1</sup> :													
Meat and bone meal ..	47.0	47.0	51.5	52.0	47.4	51.6	53.9	54.7	46.2	46.3	47.3	52.6	55.9
Dry rendered tannage ..	11.7	11.7	11.6	10.4	9.7	9.1	9.1	8.8	8.2	9.7	11.1	10.0	11.2
<b>All other products:</b>													
Production .....	2,120.5	'163.7	'160.0	'183.7	'168.6	'181.6	'179.5	'181.5	'183.1	'176.9	'177.5	'180.1	'184.3
Stocks <sup>1</sup> .....	17.3	'17.3	17.3	18.5	17.9	17.9	20.0	22.0	22.5	22.2	20.8	19.5	19.2

n.s.k. Not specified by kind. 'Revised by 5 percent or more from previously published data.

<sup>1</sup>Includes only stocks located at producer plants and warehouses. Information on stocks held by consumers is not collected.

Note: Detail may not add to total because of independent rounding.

Table 18a. Selected Fats and Oils Consumed in End Products: 1996

[Millions of pounds]

Product description	Total all fats and oils	Cotton-seed	Soybean	Corn	Peanut	Safflower seed	Coconut	Linseed	Sunflower	Tall	
<b>Total</b> .....	<b>20,847.1</b>	<b>525.6</b>	<b>12,322.3</b>	<b>590.0</b>	<b>137.4</b>	<b>(D)</b>	<b>639.5</b>	<b>98.6</b>	<b>90.0</b>	<b>1,179.4</b>	
Consumption in edible products .....	14,828.9	512.9	12,017.1	589.9	136.5	(D)	191.2	-	(D)	-	
Baking and frying fats .....	5,934.6	236.6	4,690.0	80.1	-	-	(D)	-	(D)	-	
Salad or cooking oil .....	6,717.4	242.0	5,507.5	432.5	(D)	(D)	-	-	-	-	
Margarine .....	1,816.2	(D)	1,694.2	77.3	-	-	-	-	-	-	
Other edible products .....	360.7	(D)	125.4	-	(D)	(D)	(D)	-	-	-	
Consumption in inedible products .....	6,018.2	12.7	305.2	0.1	0.9	0.8	448.3	98.6	(D)	1,179.4	
Soap .....	468.9	-	(D)	-	-	-	81.8	-	-	(D)	
Paint and varnish .....	86.6	-	50.5	-	(D)	(D)	(D)	18.3	(D)	(D)	
Feed .....	2,429.5	-	(D)	-	-	-	-	-	-	-	
Resins and plastics .....	206.1	(D)	121.1	-	(D)	(D)	2.6	47.4	-	18.6	
Lubricants .....	124.5	(D)	-	-	-	-	(D)	-	-	6.6	
Fatty acids .....	1,920.7	-	(D)	-	-	-	(D)	(D)	(D)	930.3	
Other inedible products .....	781.9	(D)	98.0	0.1	(D)	(D)	(D)	(D)	(D)	(D)	
	Castor	Tung	Palm	Palm kernel	Fish	Lard <sup>1</sup>	Edible tallow <sup>1</sup>	Inedible tallow	Veg-etable oil foots	Rape-seed	Other fats and oils
<b>Total</b> .....	<b>59.6</b>	<b>21.3</b>	<b>(D)</b>	<b>209.4</b>	<b>5.3</b>	<b>447.9</b>	<b>521.0</b>	<b>3,288.7</b>	<b>86.8</b>	<b>(D)</b>	<b>(D)</b>
Consumption in edible products .....	-	-	(D)	(D)	-	309.7	327.1	-	-	317.9	(D)
Baking and frying fats .....	-	-	(D)	-	-	283.6	320.1	-	-	(D)	-
Salad or cooking oil .....	-	-	-	-	-	-	-	-	-	209.0	(D)
Margarine <sup>1</sup> .....	-	-	-	-	-	(D)	(D)	-	-	(D)	-
Other edible products .....	-	-	(D)	(D)	-	(D)	(D)	-	-	-	(D)
Consumption in inedible products .....	59.6	21.3	99.2	(D)	5.3	138.2	193.9	3,288.7	86.8	(D)	32.7
Soap .....	(D)	-	(D)	-	-	-	-	245.2	-	-	-
Paint and varnish .....	(D)	2.6	-	-	(D)	-	-	-	-	-	(D)
Feed .....	-	-	-	-	-	-	(D)	2,252.8	74.5	-	(D)
Resins and plastics .....	1.3	(D)	-	(D)	(D)	-	-	-	-	-	(D)
Lubricants .....	2.0	-	-	-	0.6	16.9	-	89.2	-	-	(D)
Fatty acids .....	-	-	-	-	-	-	(D)	629.4	-	(D)	(D)
Other inedible products .....	45.8	(D)	(D)	(D)	(D)	121.3	(D)	72.1	12.3	-	(D)

- Represents zero. D Withheld to avoid disclosing data for individual companies.

<sup>1</sup>Includes 27.7 million pounds of lard and edible tallow consumed in margarine for 1996.



Table 18b. **Total Consumption in Edible and Inedible Products: 1996**

[Millions of pounds]

Product description	Total	Dec.	Nov.	Oct.	Sep.	Aug.	July	June	May	April	March	Feb.	Jan.
<b>Consumption in edible products<sup>1</sup></b> .....	14,828.9	1,324.2	1,313.5	1,328.9	1,223.1	1,277.2	1,176.8	1,151.5	1,230.3	1,200.6	1,234.8	1,212.3	1,155.7
Baking or frying fats.....	5,934.6	477.4	480.0	543.4	454.2	551.0	499.3	464.6	497.2	482.9	502.4	540.2	442.0
Salad or cooking oil.....	6,717.4	659.2	645.3	581.6	581.0	546.5	530.1	523.2	556.1	541.8	534.8	493.5	524.3
Margarine.....	1,816.2	162.7	163.5	175.6	156.5	151.9	124.8	132.6	140.9	141.0	160.2	148.2	158.3
Other edible products <sup>2</sup> ..	360.7	24.9	24.7	28.3	31.4	27.8	22.6	31.1	36.1	34.9	37.4	30.4	31.1
<b>Consumption in inedible products<sup>1</sup></b> .....	6,018.2	492.2	482.1	522.2	495.0	524.4	509.9	489.6	540.6	523.9	497.7	483.5	457.1
Soap.....	468.9	32.8	36.0	45.9	41.0	41.2	33.1	34.0	38.6	37.6	38.3	44.9	45.5
Paint and varnish.....	86.6	6.1	6.8	6.6	7.4	8.3	6.4	7.7	7.4	7.3	8.5	6.9	7.2
Feed.....	2,429.5	194.6	190.3	205.7	196.0	211.3	227.2	190.4	222.5	210.9	200.6	188.1	191.9
Resins and plastics.....	206.1	12.9	12.8	15.8	16.6	23.0	20.7	19.1	20.9	17.1	17.5	14.9	14.8
Lubricants.....	124.5	8.8	9.8	12.6	9.9	10.3	10.6	9.7	10.7	10.0	10.4	10.2	11.5
Fatty acids.....	1,920.7	160.1	163.2	160.3	155.0	167.6	151.6	158.1	175.4	172.1	161.5	159.7	136.1
Other inedible products..	781.9	76.9	63.2	75.3	69.1	62.7	60.3	70.6	65.1	68.9	60.9	58.8	50.1

<sup>1</sup>Revised by 5 percent or more from previously published data.<sup>1</sup>Includes hydrogenated fats (vegetable and animal) and other fats and oils in process.<sup>2</sup>Includes confectioner's fats.

Note: Detail may not add to total because of independent rounding.

Table 19. **Shipments, Exports, Imports, and Apparent Consumption of Animal and Vegetable Fats and Oils: 1996**

[Quantity in millions of kilograms]

Product description	Manufacturers' production	Exports of domestic merchandise <sup>1</sup>	Percent exports to manufacturers' production	Imports for consumption <sup>2</sup>	Apparent consumption <sup>3</sup>
<b>Cottonseed:</b>					
Crude .....	553.3	5.1	-	-	548.2
Refined.....	397.3	54.5	0.1	-	342.8
<b>Soybean:</b>					
Crude .....	7,007.0	417.8	0.1	26.3	6,589.2
Refined.....	5,567.5	31.3	-	-	5,536.2
Corn oil (crude and refined) .....	1,426.2	211.8	0.1	1.2	1,214.7
<b>Peanut:</b>					
Crude .....	159.0	34.1	0.2	1.3	124.9
Refined.....	59.5	6.0	-	0.3	53.5
Edible tallow .....	689.3	102.0	0.1	2.4	589.7
Inedible tallow .....	1,617.7	894.7	0.6	15.8	738.8

- Represents zero.

<sup>1</sup>Source: Bureau of the Census report EM 545, *U.S. Exports*.<sup>2</sup>Source: Bureau of the Census report IM 146, *U.S. Imports for Consumption*.<sup>3</sup>Apparent consumption represents new domestic supply and is derived by subtracting exports from sum of manufacturers' shipments plus imports.

Note: For comparison of SIC-based codes with Schedule B export numbers and HTSUSA import numbers, see "Contact for Data Users" at end of this subsection.

Table 20a. **Supply and Distribution of Total Cottonseed Oil, Soybean Oil, Corn Oil, and Palm Oil: 1996**

[Millions of pounds]

Supply and distribution	Cottonseed oil	Soybean oil	Corn oil	Palm oil
Beginning stocks .....	94.9	1,408.9	196.4	43.0
Production (crude) .....	1,219.8	15,447.6	2,187.5	(X)
Imports .....	-	58.0	2.6	276.5
<b>A. Total supply (+) .....</b>	<b>1,314.7</b>	<b>16,914.5</b>	<b>2,386.5</b>	<b>319.5</b>
Ending stocks .....	106.0	2,027.1	154.3	70.9
Production of foots <sup>1</sup> .....	26.5	387.9	59.7	(D)
Exports <sup>2</sup> .....	131.4	990.1	466.9	16.8
Domestic consumption <sup>3</sup> .....	525.6	12,322.3	(D)	(D)
<b>B. Total distribution (-) .....</b>	<b>789.5</b>	<b>15,727.4</b>	<b>(D)</b>	<b>(D)</b>
Statistical discrepancy (A-B) <sup>4</sup> .....	525.2	1,187.1	(D)	(D)
Discrepancy as a percent of total supply .....	39.9	7.0	(D)	(D)

- Represents zero. D Withheld to avoid disclosing data for individual companies. X Not applicable.

<sup>1</sup>Represents difference between crude oil consumed in refining and refined oil production.

<sup>2</sup>Represents crude and once-refined oil only; excludes exports of fully refined oil.

<sup>3</sup>Consumption of once-refined oils plus direct consumption of crude in end products.

<sup>4</sup>Represents difference between several elements of supply and distribution due to timing of production and stock reported, goods in transit, etc.

Table 20b. **Supply and Distribution of Selected Fats and Oils: 1996**

[Millions of pounds]

Supply and distribution	Cottonseed		Soybean		Inedible tallow and grease
	Crude	Once-refined <sup>1</sup>	Crude	Once-refined <sup>1</sup>	
Beginning stocks .....	29.0	65.9	1,154.3	254.6	372.8
Production .....	1,219.8	875.8	15,447.6	12,274.1	6,376.1
Imports .....	-	-	58.0	-	34.8
<b>A. Total supply (+) .....</b>	<b>1,248.8</b>	<b>941.7</b>	<b>16,659.9</b>	<b>12,528.7</b>	<b>6,783.7</b>
Ending stocks .....	35.0	71.0	1,805.1	222.0	266.2
Exports .....	11.2	120.1	921.1	69.0	1,972.4
Reported domestic consumption .....	902.3	525.6	12,662.0	12,322.3	3,288.7
<b>B. Total distribution (-) .....</b>	<b>948.5</b>	<b>716.7</b>	<b>15,388.2</b>	<b>12,613.3</b>	<b>5,527.3</b>
Statistical discrepancy (A-B) <sup>2</sup> .....	300.3	225.0	1,271.7	(84.6)	1,256.4
Discrepancy as a percent of total supply .....	24.0	23.9	7.6	(0.7)	18.5

- Represents zero.

<sup>1</sup>Includes once-refined oil consumed in making salad oil, some of which is subsequently exported.

<sup>2</sup>Represents difference between several elements of supply and distribution due to timing of production and stock reports, goods in transit, etc.

## HISTORICAL NOTE

Previously, the surveys M20J (Fats and Oils—Oilseed Crushings) and M20K (Fats and Oils—Production, Consumption, and Stocks) were published separately on an annual basis. Prior to 1991, data were collected on a monthly crop year basis starting from September 1 and ending on August 31. In 1991, data were collected on a quarterly calendar year basis starting on January 1 and ending on December 31. Currently, data are collected on a monthly calendar year basis starting from January 1 and ending on December 31.

Data on fats and oils have been collected by the Bureau of the Census since 1919. Historical data may be obtained from the Current Industrial Reports (called Facts for Industry before 1959) available at your local Federal Depository Library. Historical data are also available on microfiche; contact Customer Services, 301-457-4100.

## CONTACT FOR DATA USERS

For additional information about these data, contact Nat Shelton 301-457-4643.

## Chapter 2. Textiles, Apparel, and Footwear

### GENERAL INFORMATION

This chapter of the Manufacturing Profiles document contains data for textiles, apparel, and footwear. In this chapter data are provided that cover most of the major segments of the textile industry. Data on selected finished products such as shirts, pants, carpet, or towels, and data on the various stages of production are also included.

The first "step" in making most textile products is to make yarn. Staple yarn is a bunch of fibers twisted and spun together into a long continuous strand. Staple fiber is the term used to identify lengths of fibers which require spinning and twisting in the manufacture of yarn. Staple fibers are either natural fibers or manmade fibers cut to a specific length. The Current Industrial Report entitled MA22F, Yarn Production, collects data on the quantity of yarn produced.

There are many different spinning systems used to make yarn from staple fibers. The three most common spinning systems are the cotton system, the woolen system, and the worsted system. Data are compiled on fiber staples consumed on these three systems in the following Current Industrial Reports: M22P, Consumption on the Cotton System and Stocks, and MQ22D, Consumption on the Woolen and Worsted Systems.

The next phase of the textile manufacturing process is fabric formation. Most fabrics are either woven or knitted. Current Industrial Reports have two series that collect these data, MQ22T, Broadwoven Fabrics, and MA22K, Knit Fabrics.

The last major phase is to cut the fabrics and then sew the pieces together into garments or other textile products. The Current Industrial Reports have a report entitled MQ23A, Apparel, which provides data for most major garment categories. The series also has data on MA22Q, Carpet and Rugs, MA23D, Gloves and Mittens, and the MQ23X, Sheets, Pillowcases, and Towels.

### EXPLANATION OF TERMS

**Blends and mixtures.** Fabrics made from more than one fiber are classified in the same way as other fabrics, i.e., according to whether the fabrics are chiefly cotton, wool, or manmade fiber. For example, fabrics which are 55 percent cotton and 45 percent rayon are classified in the cotton section; fabrics which are 40 percent cotton, 30 percent

rayon, and 30 percent acetate are classified in the manmade fibers section. Blends and mixtures which are by weight 50 percent natural fiber and 50 percent manmade fiber are classified as manmade fibers fabrics.

**Canton flannel.** Fabrics woven with four-harness warps face twill with heavy, soft filling yarn, and a medium count warp. A long nap is raised on the back.

**Commission.** Includes fabrics made from yarns owned by others.

**Cotton fabrics.** Includes fabrics that are wholly or chiefly, by weight, made of cotton.

**Cotton system.** This term originally referred to the equipment and machinery used in the process of manufacturing cotton fiber into yarn. The cotton spinning system is now also used extensively for manmade fiber staple and cotton/manmade fiber blends. It includes the general operations of opening, picking, carding, drawing, roving, and ring or open end spinning.

**Denim, all other.** Includes sport denims and all other denim not included in blue denim.

**Denim, blue.** Fabrics of 3- or 4-thread twill, including broken twill, warp faced (the warp yarns which are dyed blue and the weft yarns that are unbleached, bleached, dyed gray or colored a lighter shade of blue than that of the warp yarns).

#### Distribution Channels:

*Branded retail.* Sales of company brands including premium goods, drop (closeouts), and seconds sold to domestic consumers through all types of retailers.

*Private ticket retail.* Sales with retail identification with or without a manufacturer's corporate identification, but not with a manufacturer's brand name.

*Other (institutional).* Includes domestic distribution only and includes all Federal and state contract business commercial accounts (e.g., hotels) which are sold on a contract basis, and shipments to dealers who are involved in resale to the institutional trade.

**Duck.** Fabrics weighing more than 5 ounces per square yard (chiefly manmade fabrics) or 5.9 ounces per square yard (chiefly cotton fabrics), with average yarn number of 15 or lower, napped or not; and a plain weave where the warp or filling or both, consist of multiple (folded) or cabled yarns.

**Filament yarn fabrics.** Includes all fabrics that contain 85 percent or more filament yarns.

**Flat fabrics.** Fabrics containing yarns having less than 12 turns per inch.

**For sale.** Products which are produced for the purpose of selling them to other companies.

### **Garments, Men's and Boys':**

*Tailored uniform suits.* Includes military, guards, band, police, fire, etc. Nontailored work-type suits such as delivery drivers and gas station attendants are included under work clothing and washable service apparel.

*Trios.* Includes tailored suits with a matching and contrasting pair of pants.

*Tailored suit type sport coats and jackets.* Includes only tailored separate suit-type coats, including tailored uniform and separate formal jackets.

*Overcoats and top coats.* Includes only tailored items, including uniform, reversible zipper-lined, fingertip, and wool water-repellent coats. Excludes raincoats.

*Raincoats.* Includes waterproof outercoats and water-repellent coats of cotton and manmade fibers, including uniforms. Wool and chiefly wool water-repellent coats and capes are included with overcoats and top coats.

*Heavy nontailored outer jackets, including uniform.* Includes lumberjacks and mackinaws. Excludes ski jackets.

*Light nontailored outer jackets, including uniform.* Includes golf-type zip front and snorkel jackets for outdoor outerwear.

*Separate vests, including uniform.* Includes vests that are not part of suits. Excludes sweater vests.

*Separate dress and sport trousers, including uniform.* Includes all pants except jeans, jean-cut casuals, dungarees, and work pants.

*Jeans and dungarees.* Includes all pants of jean-type construction which are made from denim fabrics. Excludes waistband overalls.

*Jean-cut casual slacks.* Includes all pants of jean-type construction made from fabrics other than denim, to be worn as sportswear (e.g., corduroy).

*Dress and business shirts.* Includes open front shirts designed primarily for dress or business wear, usually with a collar band. Sleeve length may or may not be sized in inches. Neck may be sized or feature a convertible collar and may include shirts sized S-M-L-XL.

*Work pants, excluding jeans and dungarees.* Includes utility trousers in a sturdy fabric designed for hard wear, and work pants with closed-seam construction and a

waistband in the same fabric as the shell. Also includes waistband overalls.

*Work shirts.* Includes open front or pullover shirts in sturdy fabrics, designed for work and ease of movement.

*Washable service apparel.* Includes nontailored washable work apparel designed for use by waiters, gas station attendants, hospital staff, and other uniformed service workers.

*Overall and work jackets.* Includes utility jackets in sturdy fabrics, designed for hard work and ease of movement, usually with closed seam construction.

*Team sports uniform.* Clothing designed to be worn as a uniform in team athletic games such as baseball, football, soccer, and hockey.

### **Garments, Women's, Misses', and Junior's:**

*Suits.* Includes tailored suits and uniforms but excludes pantsuits, jumpsuits, and coordinate suit sets that can be purchased as separate pieces, e.g., shirt, vest, blouse, and pants. Excludes nurses', maids', and medical uniforms which are included in washable service apparel.

*Pantsuits.* Includes jumpsuits and pantsuits sold as a unit. Excludes coordinates which are sold as separates.

*Dresses.* Includes suit type dresses, formal, work, house, etc.

*Coats and capes.* Includes toppers, car coats, suburban coats, plastic coats, reversible coats, and wool water-repellent coats, but excludes raincoats.

*Jeans and dungarees.* Includes all pants of jean-type construction that are made from denim fabrics.

*Slacks, including jean-cut casuals.* Includes all pants other than denim jeans, e.g., tailored pants and pants with an elastic waistband.

**Ginghams, plaids, and checks.** Yarn-dyed fabrics composed of two or more colors in the warp and two or more colors in the filling.

**Girls'.** Includes subteen and teenage girls', usually sizes 7 through 16. Also includes little girls' sizes 4 through 6x and toddler girls' sizes 2T through 4T.

**High tenacity yarn fabrics.** Fabrics made from yarns having a tenacity, expressed in centinewtons per tex (cN/tex) greater than 60 cN/tex for multiple (folded) or cabled yarns of nylon or polyester; or 27 cN/tex for multiple (folded), cabled, or singles yarns of viscose rayon.

**Infants'.** Includes all garments, sizes 0-24 months.

**Kitchen accessories.** Includes items such as terry cloth aprons, pot holders, dish cloths, and toaster covers.

**Lawns, voiles, and batistes.** Fabrics of plain weave weighing not more than 5 ounces per square yard (chiefly cotton fabrics) consisting of more than 85 warp ends and filling picks per square inch, of square construction, and of average yarn number 41 or higher, napped or not napped.

**Little boys'.** Includes little boys' sizes 4 through 7 and toddler boys' sizes 2T through 4T.

**Manmade fiber fabrics.** Includes fabrics that are wholly or chiefly, by weight, made of manmade fibers.

**Men's and junior boys'.** Includes all men's sizes and junior boys', preps' (cadets), and students' sizes. These usually include boys', junior boys', and preps' sizes 6-20, chest 22-36 and waist 23-30; and students' sizes, chest 35-42 and waist 28-36.

**Oxfords.** Fabrics weighing not more than 5 ounces per square yard (chiefly manmade fabrics) or 5.9 ounces per square yard (chiefly cotton fabrics), napped, or not. They are woven as a plain weave fabrics except that two or more warp ends are woven as one (taped warp). Oxford cloth is not to be classified as plain weave fabrics.

**Plain weave fabrics.** A fabric construction in which each yarn of the weft passes alternately over and under successive yarns of the warp and each yarn of the warp passes alternately over and under successive yarns of the weft.

**Poplin and broadcloth.** Fabrics of plain weave, not of square construction, whether or not napped. These fabrics do not include the following: fabrics weighing not more than 5.9 ounces per square yard, containing 85 or less warp ends and filling picks per square inch; or fabrics weighing more than 5.9 ounces per square yard, with average yarn number of 15 or lower.

**Print cloth.** Fabrics of plain weave, weighing not more than 5 ounces per square yard (chiefly manmade fabrics) or 5.9 ounces per square yard (chiefly cotton fabrics) with average yarn numbers of 26-40; consisting of more than 85 single yarns per square inch; and with square construction, whether or not of yarns of different colors (yarn dyed), and whether or not napped.

**Sateens.** Fabrics woven with a satin weave, whether or not napped, in which the surface of the cloth consists almost entirely of warp or filling floats; that is, in the repeat of a weave pattern, each yarn of one system passes over several yarns of the other system before interlacing.

**Sheeting.** Fabrics of plain weave, whether or not napped, of the following types: (1) Fabrics weighing not more than 5 ounces per square yard (chiefly manmade fabrics) or 5.9 ounces per square yard (chiefly cotton fabrics), of square construction containing more than 85 warp end and filling picks per square inch, with average yarn number of 40 or lower, but not including print cloth. (2) Fabrics weighing more than 5 ounces per square yard (chiefly manmade fabrics) or 5.9 ounces per square yard (chiefly cotton fabrics), but not including fabrics of which the warp or

filling, or both, consist of multiple (folded) or cabled yarns, with average yarn number of 15 or lower or fabrics with average yarn number of 16 or higher, not of square construction.

**Sheet sets.** Packages of at least two sheets and one pillowcase which may contain additional sheets, pillowcases, or other items.

**Shirting, jacquard or dobby.** Fabrics weighing not more than 5 ounces per square yard (chiefly manmade fiber) or 5.9 ounces per square yard (chiefly cotton fiber), whether or not napped, or woven wholly or in part with jacquard or dobby attachment.

**Spun/filament combinations.** Includes fabrics that are combinations of spun and filament yarn where neither the spun or the filament yarns exceed 85 percent.

**Spun yarn fabrics.** Includes all fabrics that contain 85 percent or more spun yarns.

**Stripes.** Yarn-dyed fabrics composed of any number of colors in the warp but only one color in the filling.

**Table damask.** Fabrics, whether or not napped, woven wholly or in part with jacquard or dobby attachment and characterized by elaborate decorative designs, usually of floral patterns. The designs are reversible and are formed by warpface satin weave. Table damask is generally all white, although it is sometimes made with colored stripes or in solid pastel shades.

**Taped warp duck.** Fabrics weighing more than 5 ounces per square yard (chiefly manmade fabrics) or 5.9 ounces per square yard (chiefly cotton fabrics), with average yarn number of 15 or lower, whether or not napped. The fabrics have a plain weave, except that two or more warp ends are woven as one (tape warp) whether or not they contain multiple (folded) or cabled yarns.

**Textured yarns.** Yarns produced by looping, bulking, curling, or twisting to enhance the volume or elasticity. They include yarns made by the false twist principle, the conventional twist method (twist and detwist procedures), the stuffer crimp method, and the filament loop method. Yarns that are thrown only are excluded.

**Tobacco, cheese, and bandage cloth.** Fabrics of plain weave, weighing not more than 5 ounces per square yard (chiefly manmade fabrics) or 5.9 ounces per square yard (chiefly cotton fabrics) consisting of 85 or less warp ends and filling picks per square inch, whether or not napped.

**Towel blanks.** Includes towels sold for further processing elsewhere. The figure reported for finished terry woven towels includes towel blanks; thus, both sets of data are not additive.

**Twill weave fabrics.** Fabrics in which the warp and filling yarns are interlaced in such a manner as to produce a diagonal or bias effect on the face of the fabrics.

### Types of Finish

*Solids (sheets).* Includes solid color sheets with attached hems or piping.

*Fancies.* Towels include jacquards, mixed color or pattern weaves, prints, embroidered, and attached or embellished hems. Excludes solid color, white dobby, and white cam. Sheets include prints and solids with embroidery, lace, or other embellishments, except attached hems or piping.

**Women's, misses' and junior's.** Includes all women's, misses' and junior's sizes.

**Woolen system.** Refers to the machinery and processes used to produce yarn from shorter wools and manmade fiber. The fibers are carded two or three times, and then go directly to the spinning frame. The system is used widely to produce both machine and hand knitting yarns, as well as weaving yarns where softness and bulk are desired.

**Wool fabrics.** Includes fabrics that are wholly or chiefly, by weight, made of wool, reprocessed wool, or reused wool.

**Wool, reprocessed wool, and reused wool.** These terms are used in accordance with the definitions in the Wool Products Labeling Act of 1939.

**Wool tops.** Figures on top production include only first combings and exclude recombed materials. Mixed tops are classified according to chief fiber content.

**Worsted system.** Refers to the machinery and process used to manufacture yarn from medium to long wools, alpaca, and mohair, as well as manmade fibers and blends. In the worsted system, the short fibers or noils are removed by combing in order to produce a compact yarn. The three basic worsted spinning systems are Bradford, French, and American.

**Yarn dyed.** Fabrics woven from yarns that have been dyed.

### TEXTILE MACHINERY IN PLACE

There are data for three basic types of machinery in this chapter: (1) cotton system spindles, (2) weaving machines, and (3) knitting machines. Generally, the information collected is the number of machines in place and the number of hours operated during the period.

"Machines in place" are the number of machines that are in producing positions at the end of the survey period, regardless of whether they are actually operating. In the case of spindles, the data are for the number of spindles in place, not the number of spinning frames.

Where it is available, the hours of operation refer to the number of hours the equipment was actually in use during the survey period.

The information shown on spinning equipment is for cotton system spinning machinery only. This type of information is not collected for woolen, worsted, or other spinning systems.

These data are compiled from information collected on our MA22K, Knit Fabrics Production; M22P, Consumptions on the Cotton System and Stocks; and MQ22T, Broadwoven Fabrics, Gray, surveys.

Table A. Textile Machinery in Place: End of Year 1996

Product description	Machines in place
Total looms	71,666
Shuttle type looms	9,200
Single shuttle cam looms	6,371
Single shuttle dobby looms	1,189
Multiple shuttle box or head motion looms	1,019
Double shuttle pile and plush, and jacquard looms	621
Shuttleless looms and weaving machines	62,466
Single filling insertion capability	36,261
Air jet looms	16,226
Water jet looms	4,921
Projectile looms	12,582
Rapier looms	2,532
Multiple filling insertion capability	25,432
Air jet looms	(D)
Water jet looms	(D)
Projectile looms	7,633
Rapier looms	12,403
Pile and plush looms	773
Cotton system spindles in place	5,879
Active, spinning 100 percent cotton fibers	2,556
Ring spindles	2,048
Air jet position	-
Open end position (rotors)	508
Active, spinning 100 percent manmade fibers	920
Ring spindles	886
Air jet position	(D)
Open end position (rotors)	(D)
Active, spinning cotton/manmade blends	1,925
Ring spindles	1,527
Air jet position	(D)
Open end position (rotors)	(D)
Knitting machines	18,501
Warp knitting machines (over 12 inches in length)	4,871
Pile fabrics	1,498
Elastic fabrics	729
All other warp knit fabrics	2,644
Warp knitting machines (12 inches or less in length)	592
Elastic fabrics	(D)
All other warp knit fabrics	(D)
Weft knitting machines (over 12 inches in length)	13,630
Pile fabrics	414
Elastic fabrics	209
Single circular knit	9,280
Double knit and interlock	1,866
Rib, other than double knit and interlock	1,861
Weft knitting machines (12 inches or less in length)	513
Elastic fabrics	(D)
All other weft knit fabrics	(D)
Knitting garment lengths, trimmings, and collars	2,522
Knit garment lengths, made on sweater-strip, V-bed strip, and full-fashioned machines	1,321
Knit trimmings and collars	1,201

- Represents zero. D Withheld to avoid disclosing data for individual companies.

Table B. Textile Machines in Place and Hours Operated by Quarter: 1996

[Looms in thousands of hours units. Spindles in millions of hours units]

Product description	Hours, year-to-date	First quarter		Second quarter		Third quarter		Fourth quarter	
		Machines	Hours	Machines	Hours	Machines	Hours	Machines	Hours
Total looms .....	514,792	76,274	133,148	73,722	133,617	73,090	125,153	71,666	122,874
Shuttle type looms .....	60,515	11,932	18,119	10,561	16,463	10,023	14,371	9,200	11,562
Single shuttle cam looms .....	43,942	8,361	13,281	7,169	11,991	6,827	10,522	6,371	8,148
Single shuttle dobby looms .....	7,805	1,884	2,587	1,695	2,211	1,507	1,663	1,189	1,344
Multiple shuttle box or head motion looms .....	5,802	1,021	1,469	1,021	1,458	1,016	1,438	1,019	1,437
Double shuttle pile and plush, and jacquard looms .....	2,966	666	782	676	803	673	748	621	633
Shuttleless looms and weaving machines .....	454,277	64,342	115,029	63,161	117,154	63,067	110,782	62,466	111,312
Single filling insertion capability .....	275,137	36,867	68,711	36,550	71,210	36,342	66,928	36,261	68,288
Air jet looms .....	125,910	16,108	31,190	16,066	32,735	15,981	30,278	16,226	31,707
Water jet looms .....	36,683	5,104	9,049	5,075	9,678	5,073	8,557	4,921	9,399
Projectile looms .....	95,975	12,777	23,822	12,751	24,609	12,719	24,183	12,582	23,361
Rapier looms .....	16,569	2,878	4,650	2,658	4,188	2,569	3,910	2,532	3,821
Multiple filling insertion capability .....	175,211	26,654	45,361	25,849	44,962	25,958	42,835	25,432	42,053
Air jet looms .....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Water jet looms .....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Projectile looms .....	54,793	7,789	13,997	7,745	14,131	7,717	13,323	7,633	13,342
Rapier looms .....	77,333	13,409	20,503	12,763	19,795	12,876	18,947	12,403	18,088
Pile and plush looms .....	3,929	821	957	762	982	767	1,019	773	971
Cotton system spindles in place .....	37,781	6,417	9,773	6,272	9,818	6,019	9,212	5,879	8,978
Active, spinning 100 percent cotton fibers .....	18,438	2,677	4,693	2,674	4,770	2,533	4,498	2,556	4,477
Ring spindles .....	14,510	2,162	3,681	2,183	3,775	2,033	3,554	2,048	3,500
Air jet position .....	(D)	-	-	-	-	-	-	-	-
Open end position (rotors) .....	(D)	515	(D)	491	995	500	944	508	977
Active, spinning 100 percent manmade fibers .....	6,051	1,039	1,530	1,033	1,639	965	1,446	920	1,436
Ring spindles .....	5,806	1,005	1,475	994	1,570	931	1,380	886	1,381
Air jet position .....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Open end position (rotors) .....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Active, spinning cotton/manmade blends .....	13,292	2,231	3,550	2,030	3,409	2,035	3,268	1,925	3,065
Ring spindles .....	10,128	1,839	2,787	1,615	2,592	1,637	2,461	1,527	2,288
Air jet position .....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Open end position (rotors) .....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)

- Represents zero. D Withheld to avoid disclosing data for individual companies.

## STAPLE FIBER CONSUMPTION

Staple fiber is the term used to identify lengths of fiber that require spinning and twisting in the manufacture of yarn. They are either natural fibers or manufactured fibers that are cut to a specific length. They are generally an inch to an inch and a half long.

This chapter contains information on the amount of fiber consumed on the cotton, woolen, and worsted spinning systems. These terms refer to the group of machinery used in the manufacture of spun yarn. Producing a yarn is the first step in the manufacture of textile products.

Although the vast majority of staple fiber is spun on the three systems for which data is collected, there is a small amount of fiber consumed on other spinning systems. There is also a small amount of staple fiber consumed without spinning, in processes such as felting. Neither the amount spun on other systems nor the amount consumed by other means are included in these data.

Since these data are for staple fiber consumption, they should account for nearly all of the cotton fiber and wool (or other fine animal hair) consumed in domestic manufacturing, but only a portion of the manufactured fibers such as rayon, acrylic, nylon, and polyester.

In the case of cotton in addition to information on the consumption of cotton fiber, information is provided on the consumption of cotton linters. Linters are the short fibers that adhere to the cotton seeds after the first ginning. These are removed from the cotton seed by a separate process and are used in the manufacture of some types of rayon and by the chemicals and paper industries.

The data on fiber consumption are collected in two surveys: MQ22D, Consumption on the Woolen System and Worsted Combing and M22P, Consumption on the Cotton System and Stocks. In all cases, the information in this chapter is presented for the consumption of a specific type of fiber. Additional information is presented depending on the fiber.



## CONSUMPTION ON THE COTTON SYSTEM (M22P)

### INTRODUCTION

The tables in this subsection present data on the fiber consumed in cotton system spinning. Cotton system spinning is a process of manufacturing cotton fiber into yarn. It includes the general operations of opening, picking, carding, drawing, roving, and spinning. In making combed yarns, three steps are added. The system is also used extensively for spinning manufactured fibers and blends.

The data in these tables are collected using two questionnaires; the M22P, Consumption on the Cotton System and Stocks, and the M22N, Cotton and Raw Linters in Public Storage. Much of the data shown reflect the interest in cotton as an important agricultural and export commodity.

The fiber data in these tables are shown in two basic units of measure, running bales and pounds. Bale weights do vary, but they average around slightly over 500 pounds for cotton and from 610 to 620 pounds for linters. Data for stocks in public storage are collected only in bales, and data for manufactured fiber are collected only in pounds.

### EXPLANATION OF TERMS

See explanation of terms at the beginning of this chapter.

**Table 1. Summary of Daily Averages of Cotton and Manmade Fibers Consumed on the Cotton System, Spindle Hours Operated, and End-of-Month Stocks, Including Stocks Held at Public Warehouses: 1996**

[Cotton in running bales. Manmade fibers in thousand pounds. Spindle hours operated in millions]

Month	Daily average consumption						Stocks		Daily average spindle hours operated
	Cotton			Manmade fibers			Cotton <sup>2</sup>	Manmade fiber staple	
	Total	Upland	Long staple <sup>1</sup>	Total	Cellulosic	Non-cellulosic			
<b>NOT SEASONALLY ADJUSTED</b>									
December.....	34,301	33,993	308	4,872	458	4,414	11,830	51,870	124
November.....	40,805	40,424	381	5,685	735	4,950	10,612	49,992	145
October.....	41,467	41,077	390	5,844	722	5,122	7,193	48,021	149
September.....	41,103	40,731	372	5,683	599	5,084	2,586	49,608	143
August.....	42,353	41,930	423	6,060	712	5,348	1,945	52,319	149
July.....	36,573	36,213	360	5,292	638	4,654	2,495	51,400	133
June.....	41,610	41,162	448	6,001	875	5,126	3,192	56,524	151
May.....	41,589	41,196	393	5,818	831	4,987	4,038	56,688	149
April.....	40,911	40,486	425	5,485	808	4,677	5,013	59,590	153
March.....	41,561	41,129	432	5,751	911	4,840	6,017	57,878	156
February.....	39,741	39,316	425	5,486	837	4,649	7,318	63,230	153
January.....	37,590	37,158	432	5,075	706	4,369	8,940	69,870	141
<b>SEASONALLY ADJUSTED</b>									
December.....	40,671	40,363	308	5,882	562	5,320	6,876	51,870	151
November.....	41,142	40,761	381	5,856	682	5,174	6,607	49,992	145
October.....	40,089	39,699	390	5,751	671	5,080	6,931	48,021	143
September.....	40,192	39,820	372	5,655	603	5,052	6,257	49,608	143
August.....	40,136	39,713	423	5,758	698	5,060	6,214	52,319	143
July.....	40,151	39,791	360	5,764	765	4,999	6,128	51,400	148
June.....	40,996	40,548	448	5,728	874	4,854	5,955	56,524	147
May.....	39,998	39,605	393	5,426	799	4,627	5,642	56,688	142
April.....	39,842	39,417	425	5,272	761	4,511	5,417	59,590	147
March.....	39,952	39,520	432	5,457	894	4,563	5,070	57,878	149
February.....	38,516	38,091	425	5,300	814	4,486	5,006	63,230	145
January.....	37,963	37,531	432	5,206	707	4,499	5,041	69,870	144

<sup>1</sup>Long staple cotton includes American-Pima, Egyptian, Sudanese, and all other foreign cotton.

<sup>2</sup>Cotton in 1,000 running bales.

Table 2. **Supply and Distribution of Cotton 1995/1996 Crop Year**

[Number of bales]

Supply and distribution	Cotton
<b>SUPPLY</b>	
Stocks, July 29, 1995 .....	2,607,625
In consuming establishments .....	712,667
In public storage and at compresses .....	1,744,958
Elsewhere .....	150,000
Net imports .....	390,955
Total imports for consumption .....	390,955
Less: Re-exports .....	-
Ginnings, crop year of 1995 during crop year 1995 to 1996 .....	17,451,850
Total ginnings, crop year of 1995 .....	17,468,500
Less: Ginnings prior to August 1, 1995 .....	16,650
Ginnings, prior to August 1, 1996, crop year of 1995 .....	48,150
Aggregate supply .....	20,498,580
<b>DISTRIBUTION</b>	
Total exports .....	7,276,700
Consumption, July 30, 1995, to July 27, 1996 .....	10,216,495
Cotton lost or destroyed .....	25,000
Stocks, July 27, 1996 <sup>1</sup> .....	2,694,565
In consuming establishments .....	610,210
In public storage .....	1,884,355
Elsewhere (partially estimated) <sup>2</sup> .....	200,000
Aggregate distribution .....	20,212,760
Excess of reported supply over distribution .....	285,820

- Represents zero.

<sup>1</sup>Cotton "carry-over" in the United States as of August 1, 1996, is 2,694,565 bales. Linters are not included in this "carry-over." In addition to stocks of cotton in warehouses and in consuming establishments, these data include a partially estimated count of cotton held elsewhere.

<sup>2</sup>Includes cotton in transit to ports, warehouses, consuming establishments, and Canada; on docks, on shipboard but not cleared, and other port stocks not in warehouses or consuming establishments; and on farms, in merchant sheds, and in other private storage.

Table 3. Consumption of Domestic and Foreign Cotton by Staple Length by Month: 1996

Month	Domestic and foreign cotton	American Upland and foreign cotton	American upland					Foreign cotton	Extra long staple <sup>1</sup>
			American upland	Staples less than 1 inch	1 inch and 1-1/32 inch staples	1-1/16 inch and 1-1/32 inch staples	Staples larger than 1-1/32 inch		
Number of running bales									
<b>Total, year ending December 28, 1996.....</b>	<b>10,384,944</b>	<b>10,281,333</b>	<b>9,805,548</b>	<b>146,640</b>	<b>1,808,567</b>	<b>7,541,040</b>	<b>309,301</b>	<b>475,785</b>	<b>103,611</b>
December.....	857,523	849,813	816,501	9,144	138,800	641,360	27,197	33,312	7,710
November.....	816,095	808,484	767,604	7,686	130,529	603,673	25,716	40,880	7,611
October.....	829,329	821,536	740,187	10,508	127,889	577,217	24,573	81,349	7,793
September.....	1,027,578	1,018,276	846,504	12,248	162,411	642,185	29,660	171,772	9,302
August.....	847,059	838,597	743,065	12,397	149,292	555,346	26,030	95,532	8,462
July.....	731,449	724,254	694,295	11,979	127,765	533,408	21,143	29,959	7,195
June.....	1,040,256	1,029,045	1,020,961	15,157	192,252	783,845	29,707	8,084	11,211
May.....	831,781	823,918	818,442	13,569	154,305	627,745	22,823	5,476	7,863
April.....	818,222	809,715	803,681	13,773	152,608	614,290	23,010	6,034	8,507
March.....	1,039,034	1,028,222	1,025,761	15,785	190,896	788,775	30,305	2,461	10,812
February.....	794,813	786,311	785,663	12,527	138,022	610,966	24,148	648	8,502
January.....	751,805	743,162	742,884	11,867	143,798	562,230	24,989	278	8,643
1,000 pounds									
<b>Total, year ending December 28, 1996.....</b>	<b>5,145,010</b>	<b>5,093,095</b>	<b>4,864,307</b>	<b>72,771</b>	<b>896,172</b>	<b>3,741,250</b>	<b>154,114</b>	<b>228,788</b>	<b>51,915</b>
December.....	425,160	421,205	405,127	4,554	69,032	318,029	13,512	16,078	3,955
November.....	404,413	400,689	380,814	3,814	64,736	299,570	12,694	19,875	3,724
October.....	409,426	405,523	366,455	5,219	63,261	285,732	12,243	39,068	3,903
September.....	507,067	502,417	419,977	6,075	80,334	318,767	14,801	82,440	4,650
August.....	418,275	414,045	368,192	6,134	73,811	275,294	12,953	45,853	4,230
July.....	362,080	358,474	344,468	5,933	63,168	264,741	10,626	14,006	3,606
June.....	516,241	510,621	506,608	7,512	94,866	389,422	14,808	4,013	5,620
May.....	413,005	409,057	406,318	6,725	76,556	311,658	11,379	2,739	3,948
April.....	406,021	401,745	398,728	6,833	75,668	304,755	11,472	3,017	4,276
March.....	515,972	510,547	509,311	7,838	94,683	391,686	15,104	1,236	5,425
February.....	394,391	390,136	389,812	6,223	68,510	303,018	12,061	324	4,255
January.....	372,959	368,636	368,497	5,911	71,547	278,578	12,461	139	4,323

<sup>1</sup>Includes American-Pima, Sea Island and domestic raw cotton other than American Upland.

Table 4. Consumption of Domestic and Foreign Cotton by State: 1996

Month	Domestic and foreign total	Cotton growing states									All other states
		Total	Alabama	Georgia	North Carolina	South Carolina	Tennessee	Texas	Virginia	Other	
Number of running bales											
<b>Total, year ending December 28, 1996 . . .</b>	<b>10,384,944</b>	<b>10,372,413</b>	<b>1,430,717</b>	<b>1,937,786</b>	<b>4,492,260</b>	<b>1,817,103</b>	<b>138,944</b>	<b>161,127</b>	<b>252,690</b>	<b>141,786</b>	<b>12,531</b>
December . . . . .	857,523	855,550	127,235	163,651	359,545	147,743	11,268	11,002	23,629	11,477	1,973
November . . . . .	816,095	815,587	106,724	155,813	351,331	146,732	9,944	13,493	20,075	11,475	508
October . . . . .	829,329	828,031	113,980	158,992	350,456	147,801	11,357	13,353	21,141	10,951	1,298
September . . . . .	1,027,578	1,026,527	139,313	193,677	446,918	176,732	13,015	16,426	25,518	14,928	1,051
August . . . . .	847,059	846,285	120,968	160,365	360,623	147,355	11,047	12,722	21,811	11,394	774
July . . . . .	731,449	729,641	95,003	130,685	326,478	127,475	10,399	10,354	19,975	9,272	1,808
June . . . . .	1,040,256	1,039,412	144,924	196,527	446,440	181,743	14,156	17,468	24,231	13,923	844
May . . . . .	831,781	830,381	111,604	158,102	360,494	145,849	10,887	13,132	19,091	11,222	1,400
April . . . . .	818,222	817,737	110,082	150,195	362,111	141,242	10,925	13,008	19,001	11,173	485
March . . . . .	1,039,034	1,037,593	148,178	189,946	458,232	172,623	15,350	15,958	23,155	14,151	1,441
February . . . . .	794,813	794,442	108,270	139,923	350,034	143,564	10,364	13,588	17,587	11,112	371
January . . . . .	751,805	751,227	104,436	139,910	319,598	138,244	10,232	10,623	17,476	10,708	578
1,000 pounds											
<b>Total, year ending December 28, 1996 . . .</b>	<b>5,145,010</b>	<b>5,138,752</b>	<b>708,192</b>	<b>959,164</b>	<b>2,225,054</b>	<b>901,744</b>	<b>69,327</b>	<b>79,701</b>	<b>125,055</b>	<b>70,515</b>	<b>6,258</b>
December . . . . .	425,160	424,176	63,061	80,938	178,434	73,305	5,617	5,423	11,701	5,697	984
November . . . . .	404,413	404,160	52,829	77,036	174,097	72,883	4,961	6,715	9,961	5,678	253
October . . . . .	409,426	408,778	56,433	78,432	173,013	72,799	5,655	6,629	10,374	5,443	648
September . . . . .	507,067	506,542	68,927	95,659	219,833	87,566	6,493	8,143	12,482	7,439	525
August . . . . .	418,275	417,887	59,896	79,140	177,591	73,005	5,515	6,292	10,728	5,720	388
July . . . . .	362,080	361,176	47,062	64,717	161,137	63,387	5,209	5,126	9,894	4,644	904
June . . . . .	516,241	515,819	71,869	97,400	221,518	90,351	7,064	8,646	12,030	6,941	422
May . . . . .	413,005	412,306	55,307	78,312	179,272	72,414	5,430	6,482	9,495	5,594	699
April . . . . .	406,021	405,779	54,425	74,509	179,869	70,152	5,431	6,420	9,447	5,526	242
March . . . . .	515,972	515,253	73,327	94,364	227,712	85,776	7,644	7,875	11,526	7,029	719
February . . . . .	394,391	394,206	53,537	69,383	173,816	71,346	5,153	6,709	8,745	5,517	185
January . . . . .	372,959	372,670	51,519	69,274	158,762	68,760	5,155	5,241	8,672	5,287	289

Table 5. Stocks of Cotton Held in Consuming Establishments and in Public Warehouses: 1996

[Number of bales]

Month	Total <sup>1</sup>	In consuming establishments					In warehouses and compresses		
		Domestic and foreign cotton	American upland and foreign cotton			Extra long staple <sup>2</sup>	Total	American upland <sup>3</sup>	Extra long staple <sup>2</sup>
			Total	American upland	Foreign cotton				
December	11,829,968	558,096	556,513	544,435	12,078	1,583	11,271,872	11,095,072	176,800
November	10,612,035	557,825	556,260	538,234	18,026	1,565	10,054,210	9,896,668	157,542
October	7,192,936	573,402	571,224	533,702	37,522	2,178	6,619,534	6,528,261	91,273
September	2,585,897	531,545	528,326	481,622	46,704	3,219	2,054,352	2,001,442	52,910
August	1,944,586	580,803	577,814	523,762	54,052	2,989	1,363,783	1,315,286	48,497
July	2,494,565	610,210	606,965	579,789	27,176	3,245	1,884,355	1,827,552	56,803
June	3,191,807	608,987	605,860	593,801	12,059	3,127	2,582,820	2,518,961	63,859
May	4,037,501	638,256	635,754	634,234	1,520	2,502	3,399,245	3,321,741	77,504
April	5,013,001	640,183	637,624	637,624	-	2,559	4,372,818	4,283,765	89,053
March	6,016,837	620,736	617,811	617,811	-	2,925	5,396,101	5,295,154	100,947
February	7,317,838	628,708	626,030	626,030	-	2,678	6,689,130	6,552,743	136,387
January	8,940,737	617,901	615,974	615,974	-	1,927	8,322,836	8,161,475	161,361

- Represents zero.

<sup>1</sup>Excludes cotton in transit to ports, warehouses, consuming establishments, and Canada; on docks, on shipboard but not cleared, and other port stocks not in warehouses or consuming establishments; and on farms, in merchant sheds, and in other private storage.

<sup>2</sup>Includes foreign cotton, American-Pima, Sea Island, and other domestic cotton.

<sup>3</sup>Includes Egyptian, Sudanese, and other foreign cotton (other than foreign cotton held in bond awaiting opening of quota or held for transshipments to other countries).

Table 6. Stocks of Cotton Held by Consuming Establishments by State: 1996

Month	Domestic and foreign total	Cotton growing states									
		Total	Alabama	Georgia	North Carolina	South Carolina	Tennessee	Texas	Virginia	Other	All other states
Number of running bales											
December	558,096	557,624	135,944	87,080	186,357	106,968	11,712	11,777	10,758	7,028	472
November	557,825	557,491	147,337	72,067	204,857	91,882	11,380	12,215	11,795	5,958	334
October	573,402	572,880	138,611	78,271	219,057	96,611	9,046	13,645	11,905	5,734	522
September	531,545	531,173	127,174	81,217	181,331	97,489	12,254	13,048	12,726	5,934	372
August	580,803	580,163	125,549	89,243	204,079	108,394	15,690	17,277	13,116	6,815	640
July	610,210	609,897	138,013	85,342	211,109	119,641	17,799	16,635	13,732	7,626	313
June	608,987	608,137	132,429	86,422	213,336	119,140	18,597	(D)	(D)	7,660	850
May	638,256	637,990	157,396	89,549	211,160	128,938	16,952	(D)	(D)	7,358	266
April	640,183	639,535	159,754	98,414	219,888	111,607	15,410	(D)	(D)	7,421	648
March	620,736	620,345	152,496	96,862	216,750	113,447	11,592	(D)	(D)	7,065	391
February	628,708	628,261	156,076	92,452	222,012	118,702	10,311	(D)	(D)	6,545	447
January	617,901	617,435	154,840	81,817	212,132	129,485	9,411	(D)	(D)	7,047	466
1,000 pounds											
December	276,920	276,684	67,290	43,145	92,598	53,095	5,814	5,944	5,313	3,485	236
November	276,761	276,594	72,920	35,790	101,748	45,530	5,651	6,159	5,851	2,945	167
October	283,648	283,387	68,633	38,792	108,020	47,820	4,491	6,889	5,896	2,846	261
September	263,631	263,445	63,689	40,066	89,253	48,434	6,086	6,605	6,369	2,943	186
August	287,372	287,052	62,015	44,144	100,855	53,646	7,801	8,685	6,491	3,415	320
July	301,238	301,082	68,177	42,414	103,481	59,135	8,852	8,383	6,835	3,805	156
June	301,915	301,490	65,390	42,751	105,878	59,054	9,246	(D)	(D)	3,845	425
May	316,571	316,438	77,710	44,410	104,777	64,095	8,413	(D)	(D)	3,671	133
April	317,544	317,220	78,867	48,812	109,314	55,327	7,638	(D)	(D)	3,705	324
March	307,806	307,610	75,187	48,077	107,875	56,304	5,747	(D)	(D)	3,510	196
February	312,031	311,808	77,282	45,798	110,484	58,880	5,104	(D)	(D)	3,245	223
January	306,361	306,128	76,221	40,577	105,822	64,113	4,673	(D)	(D)	3,491	233

D Withheld to avoid disclosing data for individual companies.

Table 7. Stocks of Cotton Held in Public Storage and at Compresses by State: 1996

[Number of bales]

States	December	November	October	September	August	July	June	May	April	March	February	January
<b>Total . . . . .</b>	<b>11,271,872</b>	<b>10,054,210</b>	<b>6,619,534</b>	<b>2,054,352</b>	<b>1,363,783</b>	<b>1,884,355</b>	<b>2,582,820</b>	<b>3,399,245</b>	<b>4,372,818</b>	<b>5,396,101</b>	<b>6,689,130</b>	<b>8,322,836</b>
Alabama . . . . .	480,519	443,888	307,713	71,593	34,381	46,490	56,755	83,211	119,603	158,697	197,954	253,027
Arizona and New Mexico . . . . .	593,276	534,803	304,267	130,934	120,067	194,613	240,044	284,757	324,343	372,308	430,325	534,298
Arkansas . . . . .	926,724	989,526	778,387	147,194	34,847	75,038	128,089	186,471	262,612	370,813	512,315	693,909
California . . . . .	1,545,538	1,279,139	639,045	107,576	177,584	293,084	396,398	523,044	656,299	812,983	1,008,323	1,226,094
Florida and Georgia . . . . .	975,790	845,146	469,813	133,734	51,789	85,980	140,588	220,877	350,119	475,069	599,766	720,515
Louisiana . . . . .	1,015,489	1,118,304	971,521	264,619	63,219	129,888	208,580	306,821	396,361	472,711	591,904	775,732
Mississippi . . . . .	1,195,027	1,347,410	1,243,561	373,909	52,185	136,338	239,988	339,265	454,055	552,017	696,972	890,059
Missouri . . . . .	255,843	263,827	186,554	31,337	4,214	7,728	13,854	23,452	38,820	62,196	122,720	194,756
North Carolina . . . . .	528,058	420,884	227,182	115,086	123,064	134,483	164,901	226,628	294,856	322,176	347,733	357,839
Oklahoma and Texas . . . . .	2,963,428	2,000,120	848,684	468,745	575,164	540,183	629,317	754,976	943,702	1,193,770	1,533,433	1,988,071
South Carolina . . . . .	180,371	180,336	124,821	49,142	29,706	42,517	53,829	63,050	83,429	100,584	120,458	135,784
Tennessee . . . . .	611,809	630,827	517,986	160,483	97,563	198,013	310,477	386,693	448,619	502,777	527,227	552,752
Other States . . . . .	-	-	-	-	-	-	-	-	-	-	-	-

- Represents zero.

Table 8. Consumption of Manmade Fiber Staple: 1996

[Thousands of pounds]

Month	Total	Rayon and/or acetate	Total noncellulosic	Nylon	Acrylic and modacrylic	Polyester	Other manmade fiber staple
<b>Total, year ending December 28, 1996 . . . . .</b>	<b>1,452,590</b>	<b>190,845</b>	<b>1,261,745</b>	<b>32,665</b>	<b>102,831</b>	<b>1,116,088</b>	<b>10,161</b>
December . . . . .	121,819	11,462	110,357	2,276	8,053	98,859	1,169
November . . . . .	113,700	14,696	99,004	1,550	7,178	89,164	1,112
October . . . . .	116,875	14,434	102,441	1,950	6,808	92,472	1,211
September . . . . .	142,073	14,971	127,102	2,841	9,448	113,634	1,179
August . . . . .	121,205	14,238	106,967	2,776	8,616	94,519	1,056
July . . . . .	105,835	12,754	93,081	1,731	8,153	82,586	611
June . . . . .	150,025	21,871	128,154	3,952	11,927	111,453	822
May . . . . .	116,374	16,627	99,747	3,395	9,557	86,290	505
April . . . . .	109,700	16,169	93,531	2,636	8,334	82,056	505
March . . . . .	143,761	22,763	120,998	3,317	10,373	106,633	675
February . . . . .	109,721	16,735	92,986	2,960	7,633	81,675	718
January . . . . .	101,502	14,125	87,377	3,281	6,751	76,747	598

Table 9. Stocks of Manmade Fiber Staple: 1996

[Thousands of pounds]

Month	Total <sup>1</sup>	Rayon and/or acetate	Total noncellulosic	Nylon	Acrylic and modacrylic	Polyester	Other manmade fiber staple
December . . . . .	51,870	8,931	42,939	562	4,879	36,993	505
November . . . . .	49,992	9,219	40,773	642	4,823	34,603	705
October . . . . .	48,021	8,873	39,148	632	4,721	33,240	555
September . . . . .	49,608	9,588	40,020	649	4,624	34,250	497
August . . . . .	52,319	12,091	40,228	447	4,967	34,146	668
July . . . . .	51,400	11,740	39,660	383	5,151	33,803	323
June . . . . .	56,524	11,159	45,365	435	5,931	38,658	341
May . . . . .	56,688	11,054	45,634	692	4,836	39,746	360
April . . . . .	59,590	11,501	48,089	813	5,175	41,775	326
March . . . . .	57,878	10,704	47,174	816	4,621	41,314	423
February . . . . .	63,230	10,933	52,297	551	3,975	47,327	444
January . . . . .	69,870	11,533	58,337	542	4,817	52,525	453

<sup>1</sup>Stocks are only for mills with cotton system spindles.

Table 10. Cotton System Spindles in Place and Active by Type of Fiber Spun: 1996

[In thousands]

State and type	December	November	October	September	August	July	June	May	April	March	February	January
Spindles in place:												
United States .....	5,879	5,978	6,052	6,019	6,214	6,232	6,272	6,237	6,344	6,417	6,433	6,520
By state:												
Alabama .....	568	569	569	565	588	584	587	585	588	590	592	589
Georgia .....	603	600	600	598	613	611	609	604	609	608	631	633
North Carolina .....	2,311	2,325	2,329	2,330	2,456	2,471	2,482	2,435	2,499	2,480	2,496	2,573
South Carolina .....	1,881	1,968	2,040	2,059	2,076	2,085	2,109	2,126	2,151	2,247	2,216	2,217
Tennessee .....	225	226	226	215	228	227	232	234	244	239	245	255
Texas .....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Virginia .....	208	207	207	170	170	170	170	169	169	169	169	169
Other states .....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
By type:												
Ring spindles .....	4,903	5,008	5,078	5,046	5,239	5,257	5,300	5,262	5,366	5,439	5,455	5,547
Air jet position .....	84	76	77	73	73	73	73	73	73	73	76	68
Open-end position (i.e., rotors) .....	892	894	897	900	902	902	899	902	905	905	902	905
Active, 100 percent cotton:												
United States .....	2,556	2,589	2,572	2,533	2,632	2,664	2,674	2,634	2,645	2,677	2,678	2,768
By state:												
Alabama .....	276	272	270	269	294	290	300	303	301	308	314	300
Georgia .....	261	275	277	276	295	296	295	294	293	290	281	294
North Carolina .....	1,062	1,064	1,053	1,049	1,092	1,104	1,119	1,083	1,103	1,126	1,124	1,168
South Carolina .....	670	691	674	682	692	721	713	715	693	706	715	725
Tennessee .....	147	148	160	153	167	160	162	160	162	155	147	176
Texas .....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Virginia .....	93	94	94	58	55	57	48	43	46	45	48	55
Other states .....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
By type:												
Ring spindles .....	2,048	2,073	2,061	2,033	2,153	2,170	2,183	2,140	2,142	2,162	2,166	2,268
Air jet position .....	-	-	-	-	-	-	-	-	-	-	(D)	(D)
Open-end position (i.e., rotors) .....	508	516	511	500	479	494	491	494	503	515	(D)	(D)
Active, 100 percent man-made fibers:												
United States .....	920	973	967	965	986	986	1,033	980	1,016	1,039	1,003	1,008
By state:												
Alabama .....	22	22	21	21	21	22	21	21	21	21	21	22
Georgia .....	70	69	70	70	70	70	70	70	70	70	73	73
North Carolina .....	585	601	605	604	617	617	618	594	623	613	619	621
South Carolina .....	215	253	246	242	253	250	294	269	276	307	267	264
Tennessee .....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Texas .....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Virginia .....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Other states .....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
By type:												
Ring spindles .....	886	939	934	931	949	948	994	941	980	1,005	970	975
Air jet position .....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Open-end position (i.e., rotors) .....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Active, other fibers and blends:												
United States .....	1,925	1,899	2,022	2,035	2,056	2,010	2,030	2,088	2,116	2,231	2,276	2,278
By state:												
Alabama .....	233	238	241	238	236	225	229	225	225	227	232	228
Georgia .....	225	209	208	204	203	201	200	196	201	204	211	217
North Carolina .....	478	475	480	487	487	483	503	504	511	585	620	625
South Carolina .....	868	862	984	1,009	1,011	993	995	1,037	1,071	1,103	1,099	1,114
Tennessee .....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Texas .....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Virginia .....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Other states .....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
By type:												
Ring spindles .....	1,527	1,511	1,628	1,637	1,641	1,605	1,615	1,677	1,712	1,839	1,879	1,883
Air jet position .....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	72	64
Open-end position (i.e., rotors) .....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	325	331

- Represents zero. D Withheld to avoid disclosing data for individual companies.

Table 11. Cotton System Spindle Hours by Type of Fiber Spun: 1996

[In thousands]

State and type	December	November	October	September	August	July	June	May	April	March	February	January
Spindle hours:												
United states .....	3,101	2,906	2,971	3,568	2,980	2,664	3,775	2,980	3,063	3,894	3,053	2,826
By state:												
Alabama .....	326	308	306	362	318	285	368	297	292	385	292	275
Georgia .....	348	301	301	391	327	257	408	305	378	376	305	281
North Carolina .....	1,188	1,144	1,158	1,373	1,119	1,044	1,460	1,142	1,167	1,505	1,199	1,114
South Carolina .....	972	917	944	1,192	1,001	886	1,259	1,037	1,027	1,340	1,042	969
Tennessee .....	128	116	130	131	118	106	155	122	121	181	129	111
Texas .....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Virginia .....	101	81	83	75	62	51	84	49	50	66	51	45
Other states .....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
By type:												
Ring spindles .....	2,463	2,328	2,378	2,849	2,399	2,147	3,055	2,394	2,488	3,164	2,480	2,299
Air jet position .....	61	48	58	67	48	40	55	42	42	54	43	34
Open-end position (i.e., rotors) .....	577	530	535	652	533	477	665	544	533	676	530	493
100 percent cotton:												
United States .....	1,538	1,472	1,467	1,739	1,470	1,289	1,809	1,445	1,516	1,850	1,449	1,394
By state:												
Alabama .....	171	162	157	185	170	154	192	168	161	206	153	151
Georgia .....	172	158	157	193	179	133	222	162	237	190	149	146
North Carolina .....	636	613	604	740	598	545	732	591	613	814	636	605
South Carolina .....	385	386	377	453	387	346	468	402	379	472	385	370
Tennessee .....	76	73	93	96	86	69	120	81	83	103	74	74
Texas .....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Virginia .....	66	52	52	35	28	21	45	20	21	30	24	23
Other states .....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
By type:												
Ring spindles .....	1,200	1,153	1,147	1,360	1,169	1,025	1,439	1,131	1,205	1,443	1,139	1,099
Air jet position .....	-	-	-	-	-	-	-	-	-	-	(D)	(D)
Open-end position (i.e., rotors) .....	338	319	320	379	301	264	370	314	311	407	(D)	(D)
100 percent manmade fibers:												
United States .....	459	487	490	553	452	441	645	493	501	619	486	425
By state:												
Alabama .....	6	7	6	6	7	6	7	5	6	7	5	5
Georgia .....	43	31	35	48	38	33	49	38	39	49	39	36
North Carolina .....	289	306	314	345	274	289	408	306	308	367	296	257
South Carolina .....	98	115	119	134	119	97	162	130	132	177	132	112
Tennessee .....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Texas .....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Virginia .....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Other states .....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
By type:												
Ring spindles .....	438	470	473	529	431	420	616	472	482	597	469	409
Air jet position .....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Open-end position (i.e., rotors) .....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Other fibers and blends:												
United States .....	1,104	947	1,014	1,276	1,058	934	1,321	1,042	1,046	1,425	1,118	1,007
By state:												
Alabama .....	149	139	143	171	141	125	169	124	125	172	134	119
Georgia .....	133	112	109	150	110	91	137	105	102	137	117	99
North Carolina .....	263	225	240	288	247	210	320	245	246	324	267	252
South Carolina .....	489	416	448	605	495	443	629	505	516	691	525	487
Tennessee .....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Texas .....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Virginia .....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Other states .....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
By type:												
Ring spindles .....	825	705	758	960	799	702	1,000	791	801	1,124	872	791
Air jet position .....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	42	33
Open-end position (i.e., rotors) .....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	204	183

- Represents zero. D Withheld to avoid disclosing data for individual companies.



Table 12. Consumption, Stocks, and Spindle Activity on the Cotton System by Industry Groups: 1996

Product description	Unit of measure	Total	December	November	October	September	August	July	June	May	April	March	February	January
All industries total:														
Domestic and foreign cotton:														
Consumption . . . . .	Bales . . . . .	10,384,944	857,523	816,095	829,329	1,027,578	847,059	731,449	1,040,256	831,781	818,222	1,039,034	794,813	751,805
Stocks . . . . .	. . . do . . . . .	(NA)	558,096	557,825	573,402	531,545	580,803	610,210	608,987	638,256	640,183	620,736	628,708	617,901
Manmade fiber staple:														
Consumption . . . . .	1,000 lb . . . . .	1,452,590	121,819	113,700	116,875	142,073	121,205	105,835	150,025	116,374	109,700	143,761	109,721	101,502
Stocks . . . . .	. . . do . . . . .	(NA)	51,870	49,992	48,021	49,608	52,319	51,400	56,524	56,688	59,590	57,878	63,230	69,870
Cellulosic:														
Consumption . . . . .	. . . do . . . . .	190,845	11,462	14,696	14,434	14,971	14,238	12,754	21,871	16,627	16,169	22,763	16,735	14,125
Stocks . . . . .	. . . do . . . . .	(NA)	8,931	9,219	8,873	9,588	12,091	11,740	11,159	11,054	11,501	10,704	10,933	11,533
Noncellulosic:														
Consumption . . . . .	. . . do . . . . .	1,261,745	110,357	99,004	102,441	127,102	106,967	93,081	128,154	99,747	93,531	120,998	92,986	87,377
Stocks . . . . .	. . . do . . . . .	(NA)	42,939	40,773	39,148	40,020	40,228	39,660	45,365	45,634	48,089	47,174	52,297	58,337
Spindle activity:														
Spindles in place . . . . .	1,000 . . . . .	(NA)	5,879	5,978	6,052	6,019	6,214	6,232	6,272	6,237	6,344	6,417	6,433	6,520
Active spindles . . . . .	. . . do . . . . .	(NA)	5,401	5,461	5,561	5,533	5,674	5,660	5,737	5,702	5,777	5,947	5,957	6,054
Hours operated . . . . .	Millions . . . . .	37,781	3,101	2,906	2,971	3,568	2,980	2,664	3,775	2,980	3,063	3,894	3,053	2,826
Weaving mills (SIC 221, 222, 223, and 224):														
Domestic and foreign cotton:														
Consumption . . . . .	Bales . . . . .	5,913,425	481,184	455,502	467,447	590,648	487,813	409,669	598,505	476,536	466,310	592,043	447,271	440,497
Stocks . . . . .	. . . do . . . . .	(NA)	356,683	337,568	350,506	331,708	364,042	389,502	387,700	417,453	414,853	403,861	404,024	400,852
Manmade fiber staple:														
Consumption . . . . .	1,000 lb . . . . .	860,630	70,082	66,576	67,633	84,745	71,433	61,151	87,411	68,151	65,976	89,106	66,291	62,075
Stocks . . . . .	. . . do . . . . .	(NA)	27,188	24,643	25,703	25,580	27,010	26,381	29,811	29,882	31,377	31,385	36,560	40,392
Cellulosic:														
Consumption . . . . .	. . . do . . . . .	115,503	6,844	9,252	8,477	9,444	8,792	7,451	13,003	9,930	9,747	14,310	9,884	8,369
Stocks . . . . .	. . . do . . . . .	(NA)	3,322	3,629	3,880	3,982	5,571	5,442	4,505	4,987	4,386	4,296	4,700	4,961
Noncellulosic:														
Consumption . . . . .	. . . do . . . . .	745,127	63,238	57,324	59,156	75,301	62,641	53,700	74,408	58,221	56,229	74,796	56,407	53,706
Stocks . . . . .	. . . do . . . . .	(NA)	23,866	21,014	21,823	21,598	21,439	20,939	25,306	24,895	26,991	27,089	31,860	35,431
Spindle activity:														
Spindles in place . . . . .	1,000 . . . . .	(NA)	3,430	3,499	3,573	3,584	3,699	3,713	3,746	3,699	3,789	3,836	3,863	3,895
Active spindles . . . . .	. . . do . . . . .	(NA)	3,038	3,068	3,170	3,189	3,310	3,289	3,325	3,296	3,374	3,521	3,573	3,595
Hours operated . . . . .	Millions . . . . .	21,638	1,731	1,609	1,643	2,044	1,721	1,565	2,193	1,710	1,723	2,252	1,788	1,659
Yarn and thread mills (SIC 228):														
Domestic and foreign cotton:														
Consumption . . . . .	Bales . . . . .	4,236,386	360,734	344,864	344,196	416,085	338,600	304,647	418,087	334,883	331,838	421,384	328,107	292,961
Stocks . . . . .	. . . do . . . . .	(NA)	187,776	207,570	210,758	186,831	200,589	202,338	201,998	201,985	208,572	201,146	211,066	205,750
Manmade fiber staple:														
Consumption . . . . .	1,000 lb . . . . .	439,825	39,406	34,501	36,529	42,350	36,910	32,960	47,356	36,150	32,343	40,407	31,666	29,247
Stocks . . . . .	. . . do . . . . .	(NA)	17,731	18,357	16,153	17,190	18,080	17,968	18,928	18,842	20,204	18,801	18,500	20,190
Cellulosic:														
Consumption . . . . .	. . . do . . . . .	53,187	3,260	3,865	4,486	3,634	3,699	3,579	6,277	4,782	4,619	6,132	4,924	3,930
Stocks . . . . .	. . . do . . . . .	(NA)	4,957	4,865	4,312	4,425	5,671	5,435	5,552	4,903	5,954	5,473	5,217	5,323
Noncellulosic:														
Consumption . . . . .	. . . do . . . . .	386,638	36,146	30,636	32,043	38,716	33,211	29,381	41,079	31,368	27,724	34,275	26,742	25,317
Stocks . . . . .	. . . do . . . . .	(NA)	12,774	13,492	11,841	12,765	12,409	12,533	13,376	13,939	14,250	13,328	13,283	14,867
Spindle activity:														
Spindles in place . . . . .	1,000 . . . . .	(NA)	2,243	2,272	2,273	2,230	2,246	2,250	2,251	2,241	2,251	2,276	2,266	2,318
Active spindles . . . . .	. . . do . . . . .	(NA)	2,198	2,224	2,229	2,181	2,162	2,167	2,210	2,174	2,176	2,197	2,154	2,226
Hours operated . . . . .	Millions . . . . .	15,024	1,292	1,222	1,248	1,428	1,169	1,021	1,474	1,167	1,238	1,518	1,165	1,082
All other industry groups:														
Domestic and foreign cotton:														
Consumption . . . . .	Bales . . . . .	235,133	15,605	15,729	17,686	20,845	20,646	17,133	23,664	20,362	20,074	25,607	19,435	18,347
Stocks . . . . .	. . . do . . . . .	(NA)	13,637	12,687	12,138	13,006	16,172	18,370	19,289	18,818	16,758	15,729	13,618	11,299
Manmade fiber staple:														
Consumption . . . . .	1,000 lb . . . . .	152,135	12,331	12,623	12,713	14,978	12,862	11,724	15,258	12,073	11,381	14,248	11,764	10,180
Stocks . . . . .	. . . do . . . . .	(NA)	6,951	6,992	6,165	6,838	7,229	7,051	7,785	7,964	8,009	7,692	8,170	9,288
Cellulosic:														
Consumption . . . . .	. . . do . . . . .	22,155	1,358	1,579	1,471	1,893	1,747	1,724	2,591	1,915	1,803	2,321	1,927	1,826
Stocks . . . . .	. . . do . . . . .	(NA)	652	725	681	1,181	849	863	1,102	1,164	1,161	935	1,016	1,249
Noncellulosic:														
Consumption . . . . .	. . . do . . . . .	129,980	10,973	11,044	11,242	13,085	11,115	10,000	12,667	10,158	9,578	11,927	9,837	8,354
Stocks . . . . .	. . . do . . . . .	(NA)	6,299	6,267	5,484	5,657	6,380	6,188	6,683	6,800	6,848	6,757	7,154	8,039
Spindle activity:														
Spindles in place . . . . .	1,000 . . . . .	(NA)	206	207	206	205	269	269	267	297	304	305	304	307
Active spindles . . . . .	. . . do . . . . .	(NA)	165	169	162	163	202	204	202	232	227	229	230	233
Hours operated . . . . .	Millions . . . . .	1,119	78	75	80	96	90	78	108	103	102	124	100	85

NA Not available.

Table 13. Consumption of Linters by Type of Consumer: 1996

[Number of running bales]

Month	Total	Bleachers	Other consumers		
			Total	Pacific and Mountain states	All other states
<b>Total, year ending December 28, 1996.....</b>	<b>739,524</b>	<b>697,440</b>	<b>42,084</b>	<b>16,616</b>	<b>25,468</b>
December.....	59,219	55,831	3,388	1,284	2,104
November.....	59,188	55,817	3,371	1,361	2,010
October.....	43,994	40,721	3,273	1,342	1,931
September.....	70,473	65,957	4,516	1,711	2,805
August.....	59,882	56,499	3,383	1,379	2,004
July.....	46,170	42,574	3,596	1,365	2,231
June.....	75,507	71,384	4,123	1,598	2,525
May.....	65,582	62,201	3,381	1,289	2,092
April.....	60,608	57,235	3,373	1,331	2,042
March.....	74,916	71,272	3,644	1,432	2,212
February.....	62,178	59,076	3,102	1,298	1,804
January.....	61,807	58,873	2,934	1,226	1,708

Table 14. Stocks of Linters by Type of Establishment: 1996

[Number of running bales]

Month	All establishments	Bleachers	Other consumers			Public storage and compresses	Oil mills <sup>1</sup>
			Total	Pacific and Mountain states	All other states		
December.....	255,232	173,879	(D)	(D)	(D)	(D)	76,091
November.....	240,637	170,554	(D)	(D)	(D)	(D)	63,821
October.....	235,743	168,129	(D)	(D)	(D)	(D)	61,762
September.....	207,309	148,080	(D)	(D)	(D)	(D)	54,316
August.....	218,711	160,221	(D)	(D)	(D)	(D)	52,056
July.....	238,907	176,288	(D)	(D)	(D)	(D)	54,174
June.....	246,266	172,925	(D)	(D)	(D)	(D)	61,656
May.....	258,953	186,287	(D)	(D)	(D)	(D)	61,543
April.....	266,159	188,859	(D)	(D)	(D)	(D)	66,733
March.....	251,552	184,938	(D)	(D)	(D)	(D)	58,288
February.....	231,533	174,630	(D)	(D)	(D)	(D)	50,227
January.....	220,462	171,506	(D)	(D)	(D)	(D)	43,832

D Withheld to avoid disclosing data for individual companies.

<sup>1</sup>Oil mill stocks in estimated running bales based on information reported in pounds.**HISTORICAL NOTE**

Data on cotton consumption and stocks have been collected by the Bureau of the Census since 1912. Except for 1991, which was done on a quarterly basis, the entire series is monthly. Historical data may be obtained from Current Industrial Reports (called Facts for Industry before 1959), available at your local Federal Depository Library.

Historical data are also available on microfiche; contact Customer Services, 301-457-4100.

**CONTACT FOR DATA USERS**

For additional information about these data, contact Kristin Williams, 301-457-4698.

## CONSUMPTION ON THE WOOLEN SYSTEM AND WORSTED COMBING (MQ22D)

### INTRODUCTION

These data cover all establishments consuming fibers in woolen spinning and/or producing tops and noils, including commission work on materials owned by others (fibers laid in mixes for commission spinning on the woolen system, and commission top making).

Woolen and worsted spinning systems are frequently studied together since both are used to spin wool. The primary differences between the two systems are that yarns spun on the worsted system are combed in order to remove the short fibers or noils and to make the individual fibers more parallel. This produces a yarn that is more tightly twisted and of finer texture. This yarn is generally used to produce fabric that is more tightly woven, with a smoother finish and with a crisper hand.

Fabrics made from yarns spun on the woolen system are typically characterized by softness or bulk. The fabrics are frequently knitted or woven into plain or twill weaves and are generally subjected to considerable finishing to enhance the texture.

Both of these systems are used to produce yarn of manufactured fibers and blends, as well as wool. For example, while very little carpet yarn is still wool, much of it is spun on the worsted system.

### EXPLANATION OF TERMS

See explanation of terms at the beginning of this chapter.

Table 15. Summary of Fibers Consumed in Woolen Spinning and Worsted Combing: 1992 to 1996

[Thousands of pounds]

Product description	1996	1995	1994	1993	1992
All fibers <sup>1</sup> .....	890,522	953,372	1,035,750	1,008,135	926,035
Raw wool <sup>2 3</sup> .....	123,297	141,966	153,302	156,811	150,838
Apparel class. ....	110,986	129,299	138,563	141,380	136,143
Woolen system .....	51,177	57,300	61,998	67,519	59,478
Worsted combing .....	59,809	71,999	76,565	73,861	76,665
Carpet class. ....	12,311	12,667	14,739	15,431	14,695
Noils, reprocessed and reused wool, and other animal fibers <sup>4</sup> .....	19,091	19,808	18,641	22,728	20,745
Other fibers <sup>1 5</sup> .....	748,134	791,598	863,807	828,596	754,452

<sup>1</sup>Includes manmade fiber top converted from tow without combing.

<sup>2</sup>Data are shown on a scoured basis for greasy wool.

<sup>3</sup>Shorn and pulled wool of the sheep does not include raw wool consumed in cotton system spinning; withheld to avoid disclosing data for individual companies.

<sup>4</sup>Includes mohair, alpaca, vicuna, and other specialty fibers, as well as tops and noils consumed in woolen spinning and mohair consumed in worsted combing. Does not include wool tops consumed in cotton system spinning.

<sup>5</sup>Includes cotton, jute, and other vegetable fibers. Data for product code 22993 62, which were included with "Other fibers" data in previous publications, are now being included in the data for "Noils, reprocessed and reused wool, and other animal fibers."

Note: For 1993, a number of companies were added based on information in the 1992 Census of Manufactures. Data were received from these companies for 1993; therefore, the information shown for years prior to 1993 may not be directly comparable. These changes represent approximately 4.7 percent of the total fibers consumed on the woolen system and worsted combing.

Table 16. Fibers Consumed in Woolen Spinning and Worsted Combing by Quarter: 1996 and 1995

[Thousands of pounds]

Product description	Total	First quarter	Second quarter	Third quarter	Fourth quarter
<b>1996</b>					
All fibers <sup>1</sup> .....	890,522	231,170	228,911	220,266	210,175
Raw wool <sup>2 3</sup> .....	123,297	36,753	33,476	26,865	26,203
Apparel class .....	110,986	33,606	30,816	23,472	23,092
Woolen system .....	51,177	15,817	15,061	10,802	9,497
Worsted combing .....	59,809	17,789	15,755	12,670	13,595
Carpet class <sup>4</sup> .....	12,311	3,147	2,660	3,393	3,111
Noils, reprocessed and reused wool, and other animal fibers <sup>5</sup> .....	19,091	4,769	6,088	4,829	3,405
Other fibers <sup>1</sup> .....	748,134	189,648	189,347	188,572	180,567
Nylon .....	448,585	112,532	115,057	116,591	104,405
Polyester .....	118,105	34,759	27,241	26,898	29,207
Acrylic and modacrylic .....	159,061	36,950	41,456	39,488	41,167
Other fibers <sup>6</sup> .....	22,383	5,407	5,593	5,595	5,788
<b>1995</b>					
All fibers <sup>1</sup> .....	953,372	250,984	243,887	233,981	224,520
Raw wool <sup>2 3</sup> .....	141,966	38,809	38,631	32,995	31,531
Apparel class .....	129,299	36,344	35,455	29,384	28,116
Woolen system .....	57,300	16,575	16,658	11,454	12,613
Worsted combing .....	71,999	19,769	18,797	17,930	15,503
Carpet class <sup>4</sup> .....	12,667	2,465	3,176	3,611	3,415
Noils, reprocessed and reused wool, and other animal fibers <sup>5</sup> .....	19,808	5,987	6,315	4,313	3,193
Other fibers <sup>1</sup> .....	791,598	206,188	198,941	196,673	189,796
Nylon .....	442,944	109,325	110,795	115,314	107,510
Polyester .....	160,372	42,791	39,313	38,127	40,141
Acrylic and modacrylic .....	161,155	46,294	41,554	36,886	36,421
Other fibers <sup>6</sup> .....	27,127	7,778	7,279	6,346	5,724

<sup>1</sup>Includes top converted from manmade fiber tow without combing.

<sup>2</sup>Data are shown on a scoured basis for greasy wool.

<sup>3</sup>Shorn and pulled wool of the sheep does not include raw wool consumed in cotton system spinning.

<sup>4</sup>Data for carpet and rug yarns, tops, noils, reprocessed wool, and other wool, except shorn and pulled, are included with carpet class raw wool in order to avoid disclosing data for individual companies. These data represent less than one-half of 1 percent of "Total carpet class, raw wool."

<sup>5</sup>Includes mohair, alpaca, vicuna, and other specialty fibers, as well as tops and noils consumed in woolen spinning and mohair and other fibers, except wool of the sheep consumed in worsted combing. Does not include wool tops consumed in cotton system spinning, which in 1996 amounted to 2,649 thousand pounds and in 1995 amounted to 3,512 thousand pounds.

<sup>6</sup>Includes cotton, jute, and other vegetable fibers. Data for product code 22993 62, which were included with "Other fibers" data in previous publications, are now being included in the data for "Noils, reprocessed and reused wool, and other animal fibers."

Table 17. Fibers Consumed in Woolen Spinning by Quarter: 1996 and 1995

[Thousands of pounds]

Product code	Product description	Total	First quarter	Second quarter	Third quarter	Fourth quarter
<b>1996</b>						
	Fibers consumed in woolen spinning <sup>1</sup> . . . . .	787,100	202,256	203,577	196,837	184,430
	For yarns (except carpet and rug) . . . . .	264,954	69,530	72,101	63,203	60,120
	Shorn and pulled wool of the sheep (domestic and foreign duty-paid) . . . . .	51,177	15,817	15,061	10,802	9,497
00214 61	60S and finer . . . . .	29,163	7,900	8,484	6,379	6,400
00214 62	Coarser than 60S . . . . .	22,014	7,917	6,577	4,423	3,097
	Other wool . . . . .	13,701	3,539	4,205	3,227	2,730
02299 38	Sheep (tops, noils, etc.) . . . . .	11,661	3,022	3,590	2,723	2,326
00214 71	Other (mohair, alpaca, vicuna, etc.) . . . . .	2,040	517	615	504	404
02294 07	Reprocessed wool and reused wool . . . . .	3,000	672	1,228	903	197
	Other fibers . . . . .	197,076	49,502	51,607	48,271	47,696
02824 14	Nylon . . . . .	11,660	3,352	3,279	3,028	2,001
02824 29	Polyester . . . . .	36,166	11,705	8,154	8,477	7,830
02824 25	Acrylic and modacrylic . . . . .	127,115	29,100	34,643	31,233	32,139
00100 17	All other fibers, including rayon and acetate . . . . .	22,135	5,345	5,531	5,533	5,726
	For carpet and rug yarns . . . . .	522,146	132,726	131,476	133,634	124,310
00214 51	Shorn and pulled wool of the sheep (domestic and foreign duty-paid) <sup>2</sup> . . . . .	(D)	(D)	(D)	(D)	(D)
02299 36	Tops, noils, mohair, reused and reprocessed wool, and other wool (except shorn or pulled) <sup>2</sup> . . . . .	12,311	3,147	2,660	3,393	3,111
	Other fibers . . . . .	509,835	129,579	128,816	130,241	121,199
02824 13	Nylon . . . . .	436,925	109,180	111,778	113,563	102,404
02824 25	Polyester . . . . .	(D)	(D)	(D)	(D)	(D)
02824 24	Acrylic and modacrylic . . . . .	(D)	(D)	(D)	(D)	(D)
00100 14	All other fibers, including rayon and acetate . . . . .	(D)	(D)	(D)	(D)	(D)
<b>1995</b>						
	Fibers consumed in woolen spinning <sup>1</sup> . . . . .	842,006	221,481	214,555	206,164	199,806
	For yarns (except carpet and rug) . . . . .	299,530	85,907	80,234	66,636	66,753
	Shorn and pulled wool of the sheep (domestic and foreign duty-paid) . . . . .	57,300	16,575	16,658	11,454	12,613
00214 61	60S and finer . . . . .	30,211	8,035	9,203	6,276	6,697
00214 62	Coarser than 60S . . . . .	27,089	8,540	7,455	5,178	5,916
	Other wool . . . . .	12,502	3,548	4,175	2,651	2,128
02299 38	Sheep (tops, noils, etc.) . . . . .	10,756	2,962	3,746	2,268	1,780
00214 71	Other (mohair, alpaca, vicuna, etc.) . . . . .	1,746	586	429	383	348
02294 07	Reprocessed wool and reused wool . . . . .	4,836	1,663	1,469	1,193	511
	Other fibers . . . . .	224,892	64,121	57,932	51,338	51,501
02824 14	Nylon . . . . .	20,078	5,931	4,506	4,689	4,952
02824 29	Polyester . . . . .	43,825	10,940	11,295	10,583	11,007
02824 25	Acrylic and modacrylic . . . . .	134,117	39,534	34,914	29,788	29,881
00100 17	All other fibers, including rayon and acetate . . . . .	26,872	7,716	7,217	6,278	5,661
	For carpet and rug yarns . . . . .	542,476	135,574	134,321	139,528	133,053
00214 51	Shorn and pulled wool of the sheep (domestic and foreign duty-paid) <sup>2</sup> . . . . .	(D)	(D)	(D)	(D)	(D)
02299 36	Tops, noils, mohair, reused and reprocessed wool, and other wool (except shorn or pulled) <sup>2</sup> . . . . .	12,667	2,465	3,176	3,611	3,415
	Other fibers . . . . .	529,809	133,109	131,145	135,917	129,638
02824 13	Nylon . . . . .	422,866	103,394	106,289	110,625	102,558
02824 25	Polyester . . . . .	(D)	(D)	(D)	(D)	(D)
02824 24	Acrylic and modacrylic . . . . .	(D)	(D)	(D)	(D)	(D)
00100 14	All other fibers, including rayon and acetate . . . . .	(D)	(D)	(D)	(D)	(D)

D Withheld to avoid disclosing data for individual companies.

<sup>1</sup>Data are shown on a scoured basis for greasy wools.<sup>2</sup>Product codes 00214 51 and 02299 36 are combined to avoid disclosing data for individual companies.

Table 18. **Production of Tops and Noils Combed and Manmade Tow Converted to Top Without Combing by Quarter: 1996 and 1995**

[Thousands of pounds]

Product code	Product description	Total	First quarter	Second quarter	Third quarter	Fourth quarter
	<b>1996</b>					
	Tops and noils combed . . . . .	62,199	18,347	16,410	13,369	14,073
	Top production . . . . .	57,368	16,975	15,104	12,273	13,016
	Wool of the sheep (domestic and foreign duty-paid) . . . . .	(D)	(D)	(D)	(D)	(D)
22993 21	60S and finer . . . . .	42,523	13,540	11,714	8,129	9,140
22993 24	Coarser than 60S . . . . .	(D)	(D)	(D)	(D)	(D)
22993 31	All other fibers, including mohair . . . . .	(D)	(D)	(D)	(D)	(D)
	Noil production . . . . .	4,831	1,372	1,306	1,096	1,057
	Wool of the sheep (domestic and foreign duty-paid) . . . . .	(D)	(D)	(D)	(D)	(D)
22993 51	60S and finer . . . . .	3,534	1,087	1,011	730	706
22993 54	Coarser than 60S . . . . .	(D)	(D)	(D)	(D)	(D)
22993 62	All other fibers, including mohair . . . . .	(D)	(D)	(D)	(D)	(D)
	Manmade tow converted to top without combing . .	41,223	10,567	8,924	10,060	11,672
22993 75	Polyester . . . . .	(D)	(D)	(D)	(D)	(D)
22993 73	Acrylic fibers . . . . .	(D)	(D)	(D)	(D)	(D)
22993 76	Manmade fibers (except polyester or acrylic) . .	(D)	(D)	(D)	(D)	(D)
	<b>1995</b>					
	Tops and noils combed . . . . .	74,469	20,545	19,468	18,399	16,057
	Top production . . . . .	68,022	18,787	17,699	16,708	14,828
	Wool of the sheep (domestic and foreign duty-paid) . . . . .	(D)	(D)	(D)	(D)	(D)
22993 21	60S and finer . . . . .	50,225	14,855	13,369	11,060	10,941
22993 24	Coarser than 60S . . . . .	(D)	(D)	(D)	(D)	(D)
22993 31	All other fibers, including mohair . . . . .	(D)	(D)	(D)	(D)	(D)
	Noil production . . . . .	6,447	1,758	1,769	1,691	1,229
	Wool of the sheep (domestic and foreign duty-paid) . . . . .	(D)	(D)	(D)	(D)	(D)
22993 51	60S and finer . . . . .	4,755	1,387	1,347	1,138	883
22993 54	Coarser than 60S . . . . .	(D)	(D)	(D)	(D)	(D)
22993 62	All other fibers, including mohair . . . . .	(D)	(D)	(D)	(D)	(D)
	Manmade tow converted to top without combing . .	36,897	8,958	9,864	9,418	8,657
22993 75	Polyester . . . . .	(D)	(D)	(D)	(D)	(D)
22993 73	Acrylic fibers . . . . .	(D)	(D)	(D)	(D)	(D)
22993 76	Manmade fibers (except polyester or acrylic) . .	(D)	(D)	(D)	(D)	(D)

D Withheld to avoid disclosing data for individual companies.

**HISTORICAL NOTE**

Data on the consumption of staple fibers on the woolen and worsted systems have been collected by the Bureau of the Census since 1919. Prior to 1990, the survey was conducted on a monthly basis. Beginning in 1991, the survey became quarterly. Historical data may be obtained from Current Industrial Reports available at your

local Federal Depository Library. Historical data are also available on microfiche; contact Customer Services, 301-457-4100.

**CONTACT FOR DATA USERS**

For additional information about these data, contact Kristin Williams, 301-457-4698.

## YARN PRODUCTION (TEXTURED AND SPUN) (MA22F)

### INTRODUCTION

Yarn production is the first stage in the textile manufacturing process. Yarn is a continuous strand of textile fibers and is the basic material that is made into fabrics, thread, twine, or cable. It can be woven, knitted, crocheted, braided, etc.

There are two basic classes of yarn: spun yarn or continuous filament yarn. This subsection of the report provides data on spun yarn and textured filament yarn. Textured yarn has been either bulked, crimped, heat set, or

subjected to some other process intended to give the yarn fullness, stretch, etc. Data are not included that relate to the production of flat filament yarn, which is generally considered to be a chemical manufacturing process.

The data are presented by end use, by fiber, and by spinning system.

### EXPLANATION OF TERMS

See explanation of terms at the beginning of this chapter.

Table 19. Summary of Yarn Production: 1984 to 1996

[Millions of pounds]

Year	Spun yarn			Textured, crimped, or bulked yarn		
	Total	For sale	For own use or commission	Total	For sale	For own use or commission
1996.....	7,898.5	2,940.9	4,957.6	3,847.1	2,228.9	1,618.2
1995.....	8,127.1	<sup>1</sup> 3,022.8	5,104.3	3,781.8	2,294.6	<sup>1</sup> 1,487.2
1994.....	8,145.2	2,818.9	5,326.3	3,947.5	2,294.1	1,653.4
1993.....	7,566.6	2,510.6	5,056.0	3,564.6	2,149.1	1,415.5
1992.....	7,444.6	2,555.3	4,889.3	3,223.8	2,019.1	1,204.7
1991.....	6,875.1	2,332.6	4,542.5	2,999.7	1,996.9	1,002.8
1990.....	6,493.3	2,190.0	4,303.3	2,811.6	1,874.8	936.8
1989.....	6,759.3	2,289.7	4,469.6	2,789.7	1,898.7	891.0
1988.....	6,636.4	2,287.8	4,348.6	2,617.5	1,849.8	767.7
1987.....	6,731.4	2,303.3	4,428.1	2,470.9	1,790.2	680.7
1986.....	6,154.1	2,095.8	4,058.4	2,273.5	1,682.2	591.3
1985.....	5,704.3	1,836.5	3,867.8	2,403.1	1,758.1	645.0
1984.....	5,832.2	1,884.5	3,947.7	2,333.5	1,703.9	629.6

<sup>1</sup>Revised by 5 or more percent from previously published data.

Note: For 1993, a number of companies were added based on information in the 1992 Census of Manufactures. Data were received from these establishments for 1992; therefore, the information shown for years prior to 1992 may not be directly comparable. These changes represent approximately 1.2 percent of the total spun yarn production, and 3.5 percent for textured, crimped, or bulked filament yarn.

Table 20. Summary of Spun Yarn Production by Fiber and End Use of Distribution: 1996 and 1995

[Thousands of pounds]

Principal fiber	1996			1995		
	Total	For sale	For own use or commission	Total	For sale	For own use or commission
<b>Spun yarn</b> .....	<b>7,898,455</b>	<b>2,940,876</b>	<b>4,957,579</b>	<b>8,127,045</b>	<b>'3,022,775</b>	<b>5,104,270</b>
Cotton .....	4,332,407	1,917,780	2,414,627	4,436,501	1,915,381	2,521,120
Carded .....	3,875,508	1,614,071	2,261,437	3,957,841	1,615,668	2,342,173
85 percent or more cotton .....	3,491,685	1,397,802	2,093,883	3,559,290	1,399,918	2,159,372
Other chiefly cotton blends .....	383,823	216,269	167,554	398,551	215,750	182,801
Combed .....	456,899	303,709	153,190	478,660	299,713	178,947
85 percent or more cotton .....	383,563	261,709	121,854	379,128	244,332	134,796
Other chiefly cotton blends .....	73,336	42,000	31,336	99,532	55,381	44,151
Wool and chiefly wool blends .....	112,902	22,456	90,446	128,254	24,649	103,605
Woolen .....	61,361	14,708	46,653	72,526	15,897	56,629
Worsted .....	51,541	7,748	43,793	55,728	8,752	46,976
Cellulosic (rayon, acetate and/or lyocell) <sup>1</sup> .....	169,934	75,343	94,591	206,887	80,393	126,494
85 percent or more rayon, acetate and/or lyocell .....	136,463	58,094	78,369	153,930	62,950	90,980
Other chiefly rayon, acetate and/or lyocell blends .....	33,471	17,249	16,222	52,957	17,443	35,514
Noncellulosic .....	3,283,212	952,297	2,357,915	'3,355,403	'1,002,352	2,353,051
85 percent or more acrylic .....	250,670	178,123	72,547	231,162	159,431	'71,731
Other chiefly acrylic blends:						
Mixed with cotton .....	6,627	(D)	(D)	6,801	(D)	(D)
Mixed with wool .....	692	271	421	1,073	337	736
Mixed with other fibers .....	6,977	(D)	(D)	6,050	(D)	(D)
85 percent or more nylon .....	813,302	106,420	706,882	807,747	128,245	679,502
Other chiefly nylon blends .....	8,127	2,283	5,844	'13,431	2,910	'10,521
85 percent or more polyester .....	436,689	190,941	245,748	'481,122	'241,217	'239,905
Other chiefly polyester blends:						
Mixed with cotton .....	1,373,448	172,722	1,200,726	1,410,441	180,558	1,229,883
Mixed with wool .....	12,940	(D)	(D)	12,021	(D)	(D)
Mixed with other fibers .....	78,291	27,980	50,311	83,585	24,133	59,452
All other manmade fibers <sup>2</sup> .....	295,449	236,889	58,560	'301,970	'257,675	44,295

D Withheld to avoid disclosing data for individual companies. 'Revised by 5 percent or more from previously published data.

<sup>1</sup>Data for rayon, acetate, and lyocell are combined to avoid disclosing data for individual companies.<sup>2</sup>"Silk and other natural fibers" are combined with "All other manmade fibers" to avoid disclosing data for individual companies.



Table 21. Production of Spun Yarn by Fiber and End Use of Distribution: 1996 and 1995

[Thousands of pounds]

Principal fiber	1996			1995		
	Total	For sale	For own use or commission	Total	For sale	For own use or commission
<b>Weaving yarn (except carpet)</b> .....	<b>3,523,987</b>	<b>496,363</b>	<b>3,027,624</b>	<b>3,744,704</b>	<b>477,209</b>	<b>3,267,495</b>
Cotton .....	2,112,543	309,492	1,803,051	2,224,503	'274,238	1,950,265
Carded .....	1,977,066	284,808	1,692,258	2,066,953	'245,606	1,821,347
85 percent or more cotton .....	1,889,899	274,592	1,615,307	1,952,898	'241,377	1,711,521
Other chiefly cotton blends .....	87,167	10,216	76,951	114,055	4,229	109,826
Combed .....	135,477	24,684	110,793	157,550	28,632	128,918
85 percent or more cotton .....	(D)	(D)	(D)	111,532	(D)	(D)
Other chiefly cotton blends .....	(D)	(D)	(D)	46,018	(D)	(D)
Wool and chiefly wool blends .....	89,655	11,781	77,874	102,066	13,839	88,227
Woolen .....	45,829	(D)	(D)	55,661	(D)	(D)
Worsted .....	43,826	(D)	(D)	46,405	(D)	(D)
Cellulosic (rayon, acetate and/or lyocell) <sup>1</sup> .....	144,385	53,117	91,268	'179,763	'55,957	123,806
85 percent or more rayon, acetate and/or lyocell .....	123,753	47,284	76,469	139,462	50,317	89,145
Other chiefly rayon, acetate and/or lyocell blends .....	20,632	5,833	14,799	'40,301	'5,640	34,661
Noncellulosic .....	1,177,404	121,973	1,055,431	1,238,372	'133,175	1,105,197
85 percent or more acrylic .....	60,309	29,497	30,812	54,396	'22,724	31,672
Other chiefly acrylic blends:						
Mixed with cotton .....	2,414	(D)	(D)	2,703	(D)	(D)
Mixed with wool .....	(D)	(D)	(D)	(D)	(D)	(D)
Mixed with other fibers .....	5,221	(D)	(D)	4,808	(D)	(D)
85 percent or more nylon .....	4,323	(D)	(D)	'9,058	(D)	(D)
Other chiefly nylon blends .....	6,823	(D)	(D)	'10,555	(D)	(D)
85 percent or more polyester .....	113,068	49,305	63,763	'135,306	'75,355	'59,951
Other chiefly polyester blends:						
Mixed with cotton .....	867,721	26,895	840,826	906,150	18,348	887,802
Mixed with wool .....	(D)	(D)	(D)	(D)	(D)	(D)
Mixed with other fibers .....	53,121	3,909	49,212	63,495	4,906	58,589
All other manmade fibers <sup>2</sup> .....	51,532	(D)	(D)	40,118	(D)	(D)
<b>Machine knitting yarn (except carpet)</b> ..	<b>2,968,277</b>	<b>1,949,418</b>	<b>1,018,859</b>	<b>2,963,307</b>	<b>1,998,158</b>	<b>965,149</b>
Cotton .....	2,166,875	(D)	(D)	2,160,179	(D)	(D)
Carded .....	(D)	1,296,103	(D)	(D)	1,335,941	(D)
85 percent or more cotton .....	(D)	1,091,796	(D)	(D)	1,125,507	(D)
Other chiefly cotton blends .....	(D)	204,307	(D)	(D)	210,434	(D)
Combed .....	(D)	(D)	(D)	(D)	(D)	(D)
85 percent or more cotton .....	(D)	(D)	(D)	(D)	(D)	(D)
Other chiefly cotton blends .....	(D)	(D)	(D)	53,514	(D)	(D)
Wool and chiefly wool blends .....	8,367	7,556	811	9,262	7,509	1,753
Woolen .....	3,346	(D)	(D)	3,416	(D)	(D)
Worsted .....	5,021	(D)	(D)	5,846	(D)	(D)
Cellulosic (rayon, acetate and/or lyocell) <sup>1</sup> .....	11,358	(D)	(D)	12,064	(D)	(D)
85 percent or more rayon, acetate and/or lyocell .....	10,707	(D)	(D)	11,559	(D)	(D)
Other chiefly rayon, acetate and/or lyocell blends .....	651	(D)	(D)	505	(D)	(D)
Noncellulosic .....	781,677	360,275	421,402	781,802	377,218	'404,584
85 percent or more acrylic .....	142,289	(D)	(D)	131,300	(D)	(D)
Other chiefly acrylic blends:						
Mixed with cotton .....	3,555	3,555	-	3,111	(D)	(D)
Mixed with wool .....	(D)	(D)	(D)	(D)	(D)	(D)
Mixed with other fibers .....	(D)	(D)	(D)	(D)	(D)	(D)
85 percent or more nylon .....	26,322	(D)	(D)	32,662	(D)	(D)
Other chiefly nylon blends .....	(D)	(D)	-	(D)	(D)	-
85 percent or more polyester .....	120,823	91,099	29,724	'134,906	'105,156	29,750
Other chiefly polyester blends:						
Mixed with cotton .....	478,861	129,155	349,706	'471,801	140,103	'331,698
Mixed with wool .....	(D)	(D)	-	(D)	(D)	-
Mixed with other fibers .....	(D)	(D)	-	(D)	(D)	(D)
All other manmade fibers <sup>2</sup> .....	(D)	(D)	(D)	(D)	(D)	(D)

See footnotes at end of table.

Table 21. Production of Spun Yarn by Fiber and End Use of Distribution: 1996 and 1995—Con.

[Thousands of pounds]

Principal fiber	1996			1995		
	Total	For sale	For own use or commission	Total	For sale	For own use or commission
<b>Carpet and rug yarns</b> .....	<b>1,053,832</b>	<b>182,254</b>	<b>871,578</b>	<b>1,042,980</b>	<b>207,667</b>	<b>835,313</b>
Cotton .....	(D)	(D)	(D)	(D)	(D)	(D)
Carded .....	(D)	(D)	-	(D)	(D)	(D)
85 percent or more cotton .....	(D)	(D)	-	(D)	(D)	(D)
Other chiefly cotton blends .....	-	-	-	-	-	-
Combed .....	(D)	-	(D)	(D)	-	(D)
85 percent or more cotton .....	(D)	-	(D)	(D)	-	(D)
Other chiefly cotton blends .....	-	-	-	-	-	-
Wool and chiefly wool blends .....	14,046	(D)	(D)	16,104	(D)	(D)
Woolen .....	(D)	(D)	(D)	(D)	(D)	(D)
Worsted .....	(D)	(D)	(D)	(D)	(D)	(D)
Cellulosic (rayon, acetate and/or lyocell) <sup>1</sup> .....	(D)	(D)	-	(D)	(D)	-
85 percent or more rayon, acetate and/or lyocell .....	-	-	-	-	-	-
Other chiefly rayon, acetate and/or lyocell blends .....	(D)	(D)	-	(D)	(D)	-
Noncellulosic .....	1,024,650	166,365	858,285	1,011,916	190,806	821,110
85 percent or more acrylic .....	20,052	(D)	(D)	18,740	(D)	(D)
Other chiefly acrylic blends:						
Mixed with cotton .....	-	-	-	-	-	-
Mixed with wool .....	-	-	-	-	-	-
Mixed with other fibers .....	-	-	-	-	-	-
85 percent or more nylon .....	782,657	103,107	679,550	766,027	119,254	646,773
Other chiefly nylon blends .....	(D)	(D)	(D)	(D)	(D)	(D)
85 percent or more polyester .....	192,863	(D)	(D)	201,052	(D)	(D)
Other chiefly polyester blends:						
Mixed with cotton .....	(D)	(D)	(D)	(D)	(D)	(D)
Mixed with wool .....	-	-	-	-	-	-
Mixed with other fibers .....	14,806	(D)	(D)	11,964	(D)	(D)
All other manmade fibers <sup>2</sup> .....	11,603	(D)	(D)	9,461	(D)	(D)
<b>Hand knitting yarns</b> .....	<b>31,812</b>	<b>(D)</b>	<b>(D)</b>	<b>31,057</b>	<b>(D)</b>	<b>(D)</b>
Cotton .....	(D)	(D)	-	(D)	(D)	-
Carded .....	(D)	(D)	-	(D)	(D)	-
85 percent or more cotton .....	(D)	(D)	-	(D)	(D)	-
Other chiefly cotton blends .....	(D)	(D)	-	(D)	(D)	-
Combed .....	-	-	-	-	-	-
85 percent or more cotton .....	-	-	-	-	-	-
Other chiefly cotton blends .....	-	-	-	-	-	-
Wool and chiefly wool blends .....	149	149	-	211	211	-
Woolen .....	(D)	(D)	-	(D)	(D)	-
Worsted .....	(D)	(D)	-	(D)	(D)	-
Cellulosic (rayon, acetate and/or lyocell) <sup>1</sup> .....	(D)	(D)	-	(D)	(D)	-
85 percent or more rayon, acetate and/or lyocell .....	-	-	-	-	-	-
Other chiefly rayon, acetate and/or lyocell blends .....	(D)	(D)	-	(D)	(D)	-
Noncellulosic .....	28,862	(D)	(D)	27,300	(D)	(D)
85 percent or more acrylic .....	(D)	(D)	(D)	(D)	(D)	(D)
Other chiefly acrylic blends:						
Mixed with cotton .....	(D)	(D)	-	(D)	(D)	-
Mixed with wool .....	-	-	-	-	-	-
Mixed with other fibers .....	(D)	(D)	-	(D)	(D)	-
85 percent or more nylon .....	-	-	-	-	-	-
Other chiefly nylon blends .....	-	-	-	-	-	-
85 percent or more polyester .....	-	-	-	-	-	-
Other chiefly polyester blends:						
Mixed with cotton .....	-	-	-	-	-	-
Mixed with wool .....	-	-	-	-	-	-
Mixed with other fibers .....	-	-	-	-	-	-
All other manmade fibers <sup>2</sup> .....	(D)	(D)	(D)	(D)	(D)	(D)

See footnotes at end of table.

Table 21. **Production of Spun Yarn by Fiber and End Use of Distribution: 1996 and 1995—Con.**

[Thousands of pounds]

Principal fiber	1996			1995		
	Total	For sale	For own use or commission	Total	For sale	For own use or commission
<b>All other spun yarns. . . . .</b>	<b>320,547</b>	<b>(D)</b>	<b>(D)</b>	<b>'344,997</b>	<b>(D)</b>	<b>(D)</b>
Cotton . . . . .	35,199	20,798	14,401	33,493	21,134	12,359
Carded . . . . .	29,051	(D)	(D)	27,274	(D)	(D)
85 percent or more cotton . . . . .	20,795	(D)	(D)	20,137	(D)	(D)
Other chiefly cotton blends . . . . .	8,256	(D)	(D)	7,137	(D)	(D)
Combed . . . . .	6,148	(D)	(D)	6,219	(D)	(D)
85 percent or more cotton . . . . .	6,148	(D)	(D)	6,219	(D)	(D)
Other chiefly cotton blends . . . . .	-	-	-	-	-	-
Wool and chiefly wool blends . . . . .	685	(D)	(D)	611	(D)	(D)
Woolen . . . . .	(D)	(D)	(D)	(D)	(D)	(D)
Worsted . . . . .	(D)	(D)	-	(D)	(D)	-
Cellulosic (rayon, acetate, and/or lyocell) <sup>1</sup> . . . . .	14,044	(D)	(D)	'14,880	(D)	(D)
85 percent or more rayon, acetate, and/or lyocell . . . . .	2,003	(D)	(D)	2,909	(D)	(D)
Other chiefly rayon, acetate blends, and/or lyocell . . . . .	12,041	(D)	(D)	'11,971	(D)	(D)
Noncellulosic . . . . .	270,619	(D)	(D)	'296,013	(D)	(D)
85 percent or more acrylic . . . . .	(D)	(D)	(D)	(D)	(D)	(D)
Other chiefly acrylic blends:						
Mixed with cotton . . . . .	(D)	(D)	-	(D)	(D)	-
Mixed with wool . . . . .	-	-	-	-	-	-
Mixed with other fibers . . . . .	(D)	(D)	-	(D)	(D)	-
85 percent or more nylon . . . . .	-	-	-	-	-	-
Other chiefly nylon blends . . . . .	-	-	-	-	-	-
85 percent or more polyester . . . . .	9,935	(D)	(D)	'9,858	(D)	(D)
Other chiefly polyester blends:						
Mixed with cotton . . . . .	(D)	(D)	(D)	(D)	(D)	(D)
Mixed with wool . . . . .	-	-	-	-	-	-
Mixed with other fibers . . . . .	(D)	(D)	(D)	(D)	(D)	(D)
All other manmade fibers <sup>2</sup> . . . . .	229,979	(D)	(D)	'249,191	(D)	(D)

- Represents zero.    D Withheld to avoid disclosing data for individual companies.    'Revised by 5 percent or more from previously published data.

<sup>1</sup>Data for rayon, acetate, and lyocell are combined to avoid disclosing data for individual companies.<sup>2</sup>"Silk and other natural fibers" are combined with "All other manmade fibers" to avoid disclosing data for individual companies.

Table 22. Production of Spun Yarn by State: 1996 and 1995

[Thousands of pounds]

State	1996	1995
<b>United States</b> .....	<b>7,898,455</b>	<b>8,127,045</b>
Alabama .....	803,746	736,850
Georgia .....	1,859,425	1,842,982
Kentucky .....	(D)	(D)
Maine .....	47,572	46,412
Massachusetts .....	9,410	<sup>1</sup> 8,937
Mississippi .....	(D)	(D)
North Carolina .....	2,851,701	2,984,036
Pennsylvania .....	10,038	(D)
South Carolina .....	1,638,622	<sup>1</sup> 1,777,786
Tennessee .....	176,380	173,463
Texas .....	102,150	<sup>1</sup> 103,333
Virginia .....	204,919	<sup>1</sup> 183,370
All other states .....	76,933	77,204

D Withheld to avoid disclosing data for individual companies.

<sup>1</sup>Revised by 5 percent or more from previously published data.

Table 23. Production of Spun Yarn by Spinning System and End Use: 1996 and 1995

[Thousands of pounds]

System of spinning	1996			1995		
	Total	For sale	For own use or commission	Total	For sale	For own use or commission
<b>Production, all systems</b> .....	<b>7,898,455</b>	<b>2,940,876</b>	<b>4,957,579</b>	<b>8,127,045</b>	<b><sup>1</sup>3,022,775</b>	<b>5,104,270</b>
Cotton system .....	6,419,096	2,457,470	3,961,626	6,606,129	2,479,681	4,126,448
Weaving (except carpet) .....	3,344,000	457,378	2,886,622	3,535,595	416,920	3,118,675
Machine knitting (except carpet) .....	2,862,860	1,871,596	991,264	2,860,022	1,923,358	936,664
Carpet and rug .....	(D)	66,793	(D)	<sup>1</sup> 111,630	(D)	(D)
Hand knitting .....	(D)	(D)	-	3,553	3,553	-
All other uses .....	87,257	(D)	(D)	<sup>1</sup> 95,329	(D)	(D)
Woolen system .....	194,559	20,228	174,331	197,428	23,939	173,489
Weaving (except carpet) .....	68,194	(D)	(D)	73,540	(D)	(D)
Machine knitting (except carpet) .....	29,806	(D)	(D)	29,767	(D)	(D)
Carpet and rug .....	86,248	5,081	81,167	82,678	<sup>1</sup> 6,508	76,170
Hand knitting .....	(D)	(D)	(D)	(D)	(D)	(D)
All other uses .....	(D)	(D)	(D)	(D)	(D)	(D)
Worsted system .....	956,421	202,085	754,336	977,348	<sup>1</sup> 241,456	735,892
Weaving (except carpet) .....	84,855	11,002	73,853	108,721	30,046	78,675
Machine knitting (except carpet) .....	65,015	(D)	(D)	<sup>1</sup> 63,068	(D)	(D)
Carpet and rug .....	780,973	104,930	676,043	782,744	129,504	653,240
Hand knitting .....	(D)	(D)	-	(D)	(D)	-
All other uses .....	(D)	(D)	(D)	(D)	(D)	(D)
Other systems .....	328,379	261,093	67,286	<sup>1</sup> 346,140	<sup>1</sup> 277,699	<sup>1</sup> 68,441
Weaving (except carpet) .....	(D)	(D)	(D)	(D)	<sup>1</sup> 18,570	(D)
Machine knitting (except carpet) .....	(D)	(D)	-	(D)	(D)	-
Carpet and rug .....	64,441	(D)	(D)	65,928	(D)	(D)
Hand knitting .....	-	-	-	-	-	-
All other uses .....	226,404	226,404	-	<sup>1</sup> 242,914	<sup>1</sup> 242,914	-

- Represents zero.

D Withheld to avoid disclosing data for individual companies.

<sup>1</sup>Revised by 5 percent or more from previously published data.

Table 24. Production of Textured, Crimped, or Bulked Filament Yarns by Fiber and End Use: 1996 and 1995

Product description	1996			1995		
	Total	For sale	For own use or commission	Total	For sale	For own use or commission
All yarn .....	3,847,077	2,228,857	1,618,220	3,781,854	2,294,636	<sup>1</sup> 1,487,218
Nylon .....	2,285,552	1,456,834	828,718	<sup>1</sup> 2,182,140	1,445,182	<sup>1</sup> 736,958
Polyester .....	931,651	636,991	294,660	1,041,019	726,051	314,968
Rayon, acetate and/or lyocell .....	3,835	(D)	(D)	<sup>1</sup> 1,900	(D)	(D)
Other yarns .....	626,039	(D)	(D)	556,795	(D)	(D)
Weaving yarn (except carpet) .....	613,451	339,199	274,252	551,262	294,154	257,108
Nylon .....	96,569	(D)	(D)	92,770	(D)	(D)
Polyester .....	451,075	(D)	(D)	405,850	(D)	(D)
Rayon, acetate and/or lyocell .....	2,788	(D)	(D)	<sup>1</sup> 1,234	(D)	(D)
Other yarns .....	63,019	32,356	30,663	51,408	22,975	28,433
Knitting yarn (except carpet) .....	647,722	589,089	58,633	804,298	706,669	<sup>1</sup> 97,629
Nylon .....	193,491	189,912	3,579	194,673	189,591	5,082
Polyester .....	451,490	(D)	(D)	607,179	(D)	(D)
Rayon, acetate and/or lyocell .....	(D)	(D)	(D)	(D)	(D)	(D)
Other yarns .....	(D)	(D)	-	(D)	(D)	(D)
Carpet and rug yarn .....	2,433,461	1,160,684	1,272,777	<sup>1</sup> 2,278,621	1,159,961	<sup>1</sup> 1,118,660
Nylon .....	1,885,184	1,077,070	808,114	<sup>1</sup> 1,790,949	1,078,529	<sup>1</sup> 712,420
Polyester .....	(D)	(D)	(D)	(D)	(D)	(D)
Rayon, acetate and/or lyocell .....	-	-	-	-	-	-
Other yarns .....	(D)	(D)	(D)	(D)	(D)	(D)
All other uses .....	152,443	139,885	12,558	147,673	133,852	13,821
Nylon .....	110,308	(D)	(D)	103,748	(D)	(D)
Polyester .....	(D)	(D)	(D)	(D)	(D)	(D)
Rayon, acetate and/or lyocell .....	(D)	(D)	(D)	(D)	(D)	(D)
Other yarns .....	(D)	(D)	(D)	(D)	(D)	(D)

- Represents zero.

D Withheld to avoid disclosing data for individual companies.

<sup>1</sup>Revised by 5 percent or more from previously published data.

Table 25. Domestic Production, Imports, and Exports of Yarn: 1996 and 1995

[Quantity in thousands of kilograms. Value in thousands of dollars]

Product description and year	Total production (quantity)	Exports of domestic merchandise <sup>1</sup>		Percent exports to domestic production		Imports for consumption <sup>2</sup>		Apparent consumption <sup>4</sup>		Percent imports to apparent consumption	
		Quantity	Value	Quantity	Value	Quantity	Value <sup>3</sup>	Quantity	Value	Quantity	Value
<b>1996</b>											
<b>Spun yarn.....</b>	<b>3,582,739</b>	<b>80,285</b>	<b>326,634</b>	<b>2.2</b>	<b>(NA)</b>	<b>94,554</b>	<b>442,843</b>	<b>3,597,008</b>	<b>(NA)</b>	<b>2.6</b>	<b>(NA)</b>
Cotton.....	1,965,180	51,917	180,298	2.6	(NA)	43,094	204,374	1,956,357	(NA)	2.2	(NA)
85 percent or more cotton ..	1,757,812	50,027	171,344	2.8	(NA)	37,994	183,408	1,745,779	(NA)	2.2	(NA)
Carded.....	1,583,828	36,734	118,972	2.3	(NA)	22,049	99,997	1,569,143	(NA)	1.4	(NA)
Combed.....	173,984	13,293	52,372	7.6	(NA)	15,945	83,411	176,636	(NA)	9.0	(NA)
Other chiefly cotton blends ..	207,367	1,890	8,954	0.9	(NA)	5,100	20,966	210,577	(NA)	2.4	(NA)
Carded.....	174,102	1,486	6,849	0.9	(NA)	2,015	9,909	174,631	(NA)	1.2	(NA)
Combed.....	33,265	404	2,105	1.2	(NA)	3,085	11,057	35,946	(NA)	8.6	(NA)
Wool spun yarn.....	51,212	492	7,923	1.0	(NA)	4,867	57,561	55,587	(NA)	8.8	(NA)
Woolen.....	27,833	42	441	0.2	(NA)	1,889	14,503	29,680	(NA)	6.4	(NA)
Worsted.....	23,379	450	7,482	1.9	(NA)	2,978	43,058	25,907	(NA)	11.5	(NA)
Manmade spun yarn.....	1,566,347	27,876	138,413	1.8	(NA)	46,593	180,908	1,585,064	(NA)	2.9	(NA)
Cellulosic.....	77,082	6,501	45,197	8.4	(NA)	14,875	58,786	85,456	(NA)	17.4	(NA)
Noncellulosic.....	1,489,265	21,375	93,216	1.4	(NA)	31,718	122,122	1,499,608	(NA)	2.1	(NA)
Polyester.....	862,461	9,428	39,895	1.1	(NA)	6,214	27,278	859,247	(NA)	0.7	(NA)
85 percent or more polyester.....	198,082	3,609	16,567	1.8	(NA)	5,018	22,206	199,491	(NA)	2.5	(NA)
Other chiefly polyester blends.....	664,378	5,819	23,328	0.9	(NA)	1,196	5,072	659,755	(NA)	0.2	(NA)
Acrylic.....	120,189	1,145	5,672	1.0	(NA)	11,329	58,078	130,373	(NA)	8.7	(NA)
85 percent or more acrylic.....	113,704	977	4,634	0.9	(NA)	10,604	53,352	123,331	(NA)	8.6	(NA)
Other chiefly acrylic blends.....	6,485	168	1,038	2.6	(NA)	725	4,726	7,042	(NA)	10.3	(NA)
Nylon.....	372,600	5,056	22,565	1.4	(NA)	499	7,817	368,043	(NA)	0.1	(NA)
All other, including silk and other natural fibers.....	134,016	5,746	25,084	4.3	(NA)	13,676	28,949	141,946	(NA)	9.6	(NA)
<b>Manmade textured, bulked, or crimped filament yarn.....</b>	<b>1,745,034</b>	<b>89,310</b>	<b>290,576</b>	<b>5.1</b>	<b>(NA)</b>	<b>77,976</b>	<b>233,547</b>	<b>1,445,560</b>	<b>(NA)</b>	<b>5.4</b>	<b>(NA)</b>
Polyester.....	422,597	51,261	141,935	12.1	(NA)	14,966	40,815	386,302	(NA)	3.9	(NA)
Nylon.....	1,036,726	31,133	127,592	3.0	(NA)	53,665	164,311	1,059,258	(NA)	5.1	(NA)
Other.....	285,711	6,916	21,049	2.4	(NA)	9,345	28,421	288,140	(NA)	3.2	(NA)
<b>1995</b>											
<b>Spun yarn.....</b>	<b>3,686,428</b>	<b>74,749</b>	<b>300,381</b>	<b>2.0</b>	<b>(NA)</b>	<b>91,543</b>	<b>430,495</b>	<b>3,703,222</b>	<b>(NA)</b>	<b>2.5</b>	<b>(NA)</b>
Cotton.....	2,012,397	43,067	150,003	2.1	(NA)	42,702	209,844	2,012,032	(NA)	2.1	(NA)
85 percent or more cotton ..	1,786,466	41,316	140,206	2.3	(NA)	37,543	188,134	1,782,693	(NA)	2.1	(NA)
Carded.....	1,614,494	29,555	96,543	1.8	(NA)	22,892	106,269	1,607,831	(NA)	1.4	(NA)
Combed.....	171,972	11,761	43,663	6.8	(NA)	14,651	81,865	174,862	(NA)	8.4	(NA)
Other chiefly cotton blends ..	225,930	1,751	9,797	0.8	(NA)	5,159	21,710	229,338	(NA)	2.2	(NA)
Carded.....	180,783	1,426	8,157	0.8	(NA)	1,407	6,977	180,764	(NA)	0.8	(NA)
Combed.....	45,148	325	1,640	0.7	(NA)	3,752	14,733	48,575	(NA)	7.7	(NA)
Wool spun yarn.....	58,176	794	11,769	1.4	(NA)	4,314	53,786	61,696	(NA)	7.0	(NA)
Woolen.....	32,898	91	637	0.3	(NA)	1,273	10,317	34,080	(NA)	3.7	(NA)
Worsted.....	25,278	703	11,132	2.8	(NA)	3,041	43,469	27,616	(NA)	11.0	(NA)
Manmade spun yarn.....	1,615,855	30,888	138,609	1.9	(NA)	44,527	166,865	1,629,494	(NA)	2.7	(NA)
Cellulosic.....	93,844	5,563	38,222	5.9	(NA)	13,225	51,719	101,506	(NA)	13.0	(NA)

See footnotes at end of table.

Table 25. Domestic Production, Imports, and Exports of Yarn: 1996 and 1995—Con.

[Quantity in thousands of kilograms. Value in thousands of dollars]

Product description and year	Total production (quantity)	Exports of domestic merchandise <sup>1</sup>		Percent exports to domestic production		Imports for consumption <sup>2</sup>		Apparent consumption <sup>4</sup>		Percent imports to apparent consumption	
		Quantity	Value	Quantity	Value	Quantity	Value <sup>3</sup>	Quantity	Value	Quantity	Value
<b>1995—Con.</b>											
<b>Spun yarn—Con.</b>											
<b>Manmade spun yarn—Con.</b>											
Noncellulosic.....	1,522,011	25,325	100,387	1.7	(NA)	31,302	115,146	1,527,988	(NA)	2.0	(NA)
Polyester.....	901,380	13,598	47,697	1.5	(NA)	6,124	26,505	893,906	(NA)	0.7	(NA)
85 percent or more polyester.....	218,237	3,227	15,704	1.5	(NA)	5,369	22,836	220,379	(NA)	2.4	(NA)
Other chiefly polyester blends.....	683,143	10,371	31,993	1.5	(NA)	755	3,669	673,527	(NA)	0.1	(NA)
Acrylic.....	111,171	1,141	5,127	1.0	(NA)	10,370	49,671	120,400	(NA)	8.6	(NA)
85 percent or more acrylic.....	104,855	927	3,987	0.9	(NA)	9,595	46,080	113,523	(NA)	8.5	(NA)
Other chiefly acrylic blends.....	6,316	214	1,140	3.4	(NA)	775	3,591	6,877	(NA)	11.3	(NA)
Nylon.....	372,486	4,213	22,040	1.1	(NA)	683	5,954	368,956	(NA)	0.2	(NA)
All other, including silk and other natural fibers.....	136,974	6,373	25,523	4.7	(NA)	14,125	33,016	144,726	(NA)	9.8	(NA)
<b>Manmade textured, bulked, or crimped filament yarn.....</b>	<b>1,715,177</b>	<b>87,436</b>	<b>297,655</b>	<b>5.1</b>	<b>(NA)</b>	<b>61,096</b>	<b>191,138</b>	<b>1,432,813</b>	<b>(NA)</b>	<b>4.3</b>	<b>(NA)</b>
Polyester.....	471,934	54,860	152,960	11.6	(NA)	11,361	33,092	428,435	(NA)	2.7	(NA)
Nylon.....	989,819	28,920	130,930	2.9	(NA)	43,479	138,724	1,004,378	(NA)	4.3	(NA)
Other.....	253,424	3,656	13,765	1.4	(NA)	6,256	19,322	256,024	(NA)	2.4	(NA)

NA Not available.

<sup>1</sup>Source: Bureau of Census report EM 545, *U.S. Exports*.<sup>2</sup>Source: Bureau of Census report IM 145, *U.S. Imports for Consumption*.<sup>3</sup>Dollar value represents c.i.f. (cost, insurance, and freight) value at first port of entry into the United States plus U.S. import duties.<sup>4</sup>Apparent consumption is equal to domestic production plus imports minus exports.

Note: Detail may not add to total because of independent rounding.

## HISTORICAL NOTE

Data on the production of spun, textured, bulked, and crimped yarns have been collected by the Bureau of the Census since 1960. Historical data may be obtained from Current Industrial Reports at your local Federal Depository Library. Historical data are also available on microfiche; contact Customer Services, 301-457-4100. Additional

information (employment, payroll, cost of materials, capital expenditures, inventories, etc.) on these yarns is available in both the census of manufactures and the annual survey of manufactures.

## CONTACT FOR DATA USERS

For additional information about these data, contact Kristin Williams, 301-457-4698.

## FABRICS PRODUCTION

### GENERAL

Although there are a number of ways to manufacture fabrics, the two most common are knitting and weaving. The data collected on fabrics production are for knitted and broadwoven fabrics.

#### Quantity of Knit and Broadwoven Fabrics Produced: 1992 to 1996

[Millions of pounds]

Year	Woven fabrics produced	Knit fabrics produced
1996.....	4,705.7	1,897
1995.....	4,882	2,131
1994.....	4,926	2,212
1993.....	4,825	2,188
1992.....	4,826	2,179

Note: Data for broadwoven fabrics were collected in thousands of square yards. Data shown here in pounds are based upon conversion ratios derived from the MC22T survey, Average Weight and Width of Broadwoven Fabrics, issued February 1993.

The table in the preceding column is a summary of knit fabrics production and broadwoven fabrics production for the last 5 years.

Knitting is a method of constructing fabrics by interlocking a series of loops of one or more yarns. The two main types of machine knitting are weft and warp. Data are presented, by fiber, for both types.

The data for woven fabrics are only for broadwoven fabrics. Broadwoven fabrics are at least 12 inches wide. Although this is the majority of the fabrics produced, it does exclude the narrow fabrics used for items such as seat belts, webbing, bindings, zippers, and labels. At one time, the Current Industrial Report series included narrow fabrics, but that survey was canceled in the late 1980's. The data on broadwoven fabrics are collected by type of weave and type of fiber. The categories for this, as with much of the textile data, are structured to be as compatible as possible with the data collected on imports and exports.

## BROADWOVEN FABRICS (MQ22T)

### INTRODUCTION

The data shown in the following tables were collected in the MQ22T, Broadwoven Fabrics, survey. The survey covers all companies manufacturing broadwoven fabrics (gray) in the United States, except those very small companies (generally with less than five employees) for which census of manufactures data were derived from administrative records.

### EXPLANATION OF TERMS

See explanation of terms and definitions of specific fabrics at the beginning of this chapter.



Table 26. Summary of Production of Broadwoven Gray Fabrics by Type of Fabrics: 1992 to 1996

[Fabrics in millions of square yards. Tire cord in millions of pounds]

Quarter and year	Chiefly cotton fabrics	Manmade fiber fabrics, including silk and manmade/wool blends	Chiefly wool fabrics	Tire cord and tire cord fabrics
<b>1996</b>				
Fourth quarter	1,075.9	2,835.2	32.8	238.7
Third quarter	1,071.7	2,830.1	30.8	239.5
Second quarter	1,108.7	2,954.1	43.6	242.0
First quarter	1,067.0	2,722.3	44.8	251.3
<b>1995</b>				
Fourth quarter	1,093.4	2,769.6	34.3	230.1
Third quarter	1,089.5	2,793.0	35.2	240.0
Second quarter	1,136.8	3,068.4	45.9	245.7
First quarter	1,168.7	3,123.1	46.8	241.8
<b>1994</b>				
Fourth quarter	1,143.1	3,105.6	39.0	231.6
Third quarter	1,130.7	2,897.7	39.4	218.0
Second quarter	1,125.4	2,955.8	51.1	207.4
First quarter	1,073.3	2,960.7	49.1	220.9
<b>1993</b>				
Fourth quarter	1,038.6	2,953.0	42.8	188.8
Third quarter	1,070.9	2,819.4	43.9	196.3
Second quarter	1,143.5	2,925.1	48.9	209.2
First quarter	1,150.1	2,940.2	48.4	203.3
<b>1992</b>				
Fourth quarter	1,143.9	2,893.4	39.5	189.6
Third quarter	1,129.8	2,827.1	43.9	190.3
Second quarter	1,172.1	2,843.7	47.2	192.7
First quarter	1,153.8	2,762.2	45.7	190.3

Table 27. Summary of Production and Loom Assignments of Broadwoven Gray Fabrics: 1996

[Looms operating in numbers. Production in thousands of square yards]

Product code	Product description	Total		First quarter		Second quarter		Third quarter		Fourth quarter	
		Looms operating end of year	Production	Looms operating	Production	Looms operating	Production	Looms operating	Production	Looms operating	Production
2211B 00	Cotton and chiefly cotton fabrics mixed mainly or solely with manmade fibers	20,882	4,323,356	22,115	1,067,022	21,944	1,108,730	20,975	1,071,689	20,882	1,075,915
2211C 00	Plain weaves	8,721	1,862,914	9,453	472,241	9,234	470,392	8,884	455,654	8,721	464,627
2211D 00	Twill weaves	7,279	1,588,658	7,010	374,803	7,274	410,121	7,308	411,293	7,279	392,441
2211D 00	All other weaves (except pile)	2,292	373,717	2,476	96,877	2,428	91,285	2,388	90,927	2,292	94,628
2211E 00	Pile fabrics	2,590	498,067	3,176	123,101	3,008	136,932	2,395	113,815	2,590	124,219
	Chiefly cotton fabrics mixed mainly or solely with other than manmade fibers	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
2221B 00	Manmade fiber and silk gray broadwoven fabrics	42,251	11,341,798	45,543	2,722,318	43,949	2,954,141	43,389	2,830,126	42,251	2,835,213
2221C 00	85 percent or more filament rayon and/or acetate fabrics	3,254	559,091	3,700	131,884	3,473	143,414	3,515	140,901	3,254	142,892
2221C 00	85 percent or more filament fabrics (except rayon and/or acetate)	14,371	5,484,574	14,076	1,242,041	14,270	1,443,105	14,085	1,388,700	14,371	1,410,728
2221D 00	85 percent or more spun yarn fabrics (except wool blends)	17,841	3,787,740	21,038	994,647	19,130	971,092	18,774	924,122	17,841	897,879
2221E 00	Plain weave (except pile)	13,931	3,046,327	15,952	797,612	14,798	786,367	14,715	743,205	13,931	719,143
2221E 00	Twill weave (except pile)	1,713	424,187	2,442	113,302	1,808	102,786	1,667	106,153	1,713	101,946
2221F 00	All other weaves (except pile)	2,197	317,226	2,644	83,733	2,524	81,939	2,392	74,764	2,197	76,790
2221G 00	Spun/filament yarn combinations	5,761	1,411,362	5,878	329,454	6,195	373,959	5,952	351,090	5,761	356,859
2221H 10	Pile fabrics	517	54,144	501	14,135	493	11,470	507	12,999	517	15,540
2221H 2X	All other chiefly manmade fiber fabrics, including chiefly manmade fiber blends with wool	468	44,266	294	9,983	342	10,963	506	12,161	468	11,159
2221H 01	Silk fabrics	39	621	56	174	46	138	50	153	39	156
	Woolen and worsted fabrics	1,829	151,974	2,138	44,776	2,064	43,633	1,860	30,801	1,829	32,764

D Withheld to avoid disclosing data for individual companies. 'Revised by 5 or more percent from previously published data.

Table 28. Summary of Production of Broadwoven Fabrics by Textile Category: 1996

[Thousands of square yards]

Product description	Production				
	Total	First quarter	Second quarter	Third quarter	Fourth quarter
Blue denim .....	852,465	210,212	225,425	220,490	196,338
All other yarn dyed fabrics .....	456,710	122,643	125,425	108,785	99,857
Plain weave .....	87,698	23,234	21,972	22,749	19,743
Twill weave .....	182,491	50,914	58,029	40,446	33,102
All other weave .....	186,521	48,495	45,424	45,590	47,012
Cheesecloth and batistes .....	941,818	240,501	237,667	227,742	235,908
Duck .....	49,282	12,754	13,507	11,692	11,329
Oxfords .....	91,265	22,987	20,576	22,442	25,260
Pile fabrics .....	552,211	137,236	148,402	126,814	139,759
Special weave fabrics .....	353,050	94,408	94,357	82,040	82,245
Other fabrics, chiefly cotton fiber:					
Print cloth .....	226,437	58,358	57,131	53,852	57,096
Poplin and broadcloth .....	24,766	5,693	5,531	5,832	7,710
Sheeting .....	747,901	190,740	191,741	187,222	178,198
Twills .....	564,837	117,111	129,376	153,134	165,216
Sateens .....	34,757	8,076	6,403	9,419	10,859
Other fabrics, chiefly manmade fiber:					
Manmade/wool blends .....	44,283	9,987	10,967	12,170	11,159
85 percent or more filament yarn fabrics:					
Typewriter fabrics .....	(D)	(D)	(D)	(D)	(D)
Other nylon .....	385,947	96,584	104,803	91,638	92,922
Rayon and acetate .....	559,091	131,884	143,414	140,901	142,892
Polyester .....	796,677	183,825	205,071	197,245	210,536
Glass fiber .....	482,471	125,588	122,535	118,331	116,017
All other .....	(D)	(D)	(D)	(D)	(D)
85 percent or more spun yarn fabrics:					
Print cloth .....	618,560	'159,369	'163,998	'145,314	'149,879
Poplin and broadcloth .....	475,635	134,222	120,184	109,581	111,648
Sheeting .....	1,767,253	449,785	451,678	443,902	421,888
Twills and sateens .....	437,510	116,206	106,857	109,364	105,083
Spun/filament combinations (except blue denim):					
Print cloth .....	335,592	'76,105	'81,722	'86,613	'91,152
Poplin and broadcloth .....	468,471	107,763	127,832	114,617	118,259
Sheeting .....	70,299	12,598	19,417	22,939	15,345
Twills and sateens .....	81,881	'20,237	'20,769	'19,534	'21,341
Other .....	448,164	111,233	121,875	105,394	109,662
Wool fabrics .....	151,974	44,776	43,633	30,801	32,764
Silk fabrics .....	621	'174	'138	'153	'156

D Withheld to avoid disclosing data for individual companies.

' Revised by 5 or more percent from previously published data.

Table 29. **Production and Loom Assignment of 85 Percent or More Spun Yarn Fabrics and Spun/Filament Combinations, Chiefly Cotton or Manmade Fibers, Excluding Blends of Wool, Silk, and Chiefly Cotton/Other Vegetable Fibers and Pile Fabrics: 1996**

[Looms operating in numbers. Production in thousands of square yards]

Product code	Product description	Total		First quarter		Second quarter		Third quarter		Fourth quarter	
		Looms operating end of year	Production	Looms operating	Production	Looms operating	Production	Looms operating	Production	Looms operating	Production
2211B 02	Tobacco, cheese, and bandage cloth . . . . .	2,037	1,012,160	2,210	259,608	2,005	256,982	1,861	243,828	2,037	251,742
2221D 03	More than 50 percent cotton . . . . .	1,634	809,259	1,673	202,449	1,584	202,306	1,489	194,923	1,634	209,581
2221D 04	Chiefly spun polyester mixed with cotton . . . . .	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
2221D 05	Chiefly spun rayon and/or acetate . . . . .	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
2221D 05	All other fabrics, 85 percent or more spun yarn . . . . .	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
2211B 05	Spun/filament combinations . . . . .	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
2221G 04	Chiefly cotton . . . . .	-	-	-	-	-	-	-	-	-	-
2221G 04	Chiefly manmade . . . . .	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
2211B 12	Print cloth . . . . .	6,802	1,180,592	7,054	293,832	6,991	302,852	6,947	285,780	6,802	298,128
2221D 13	More than 50 percent cotton . . . . .	2,674	226,440	3,015	58,358	3,011	57,132	2,867	53,853	2,674	57,097
2221D 15	Chiefly spun polyester mixed with cotton . . . . .	2,889	594,921	2,859	154,409	2,696	156,898	2,767	140,040	2,889	143,574
2221D 16	Chiefly spun polyester mixed with rayon . . . . .	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
2221D 18	Chiefly spun rayon and/or acetate . . . . .	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
2221D 18	All other fabrics, 85 percent or more spun yarn . . . . .	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
2211B 14	Spun/filament combinations . . . . .	1,082	335,592	1,051	76,105	1,148	81,722	1,182	86,613	1,082	91,152
2221G 07	Chiefly cotton . . . . .	-	-	-	-	-	-	-	-	-	-
2221G 07	Chiefly manmade . . . . .	1,082	335,592	1,051	76,105	1,148	81,722	1,182	86,613	1,082	91,152
2211B 21	Poplin and broadcloth . . . . .	4,202	1,015,549	5,081	258,866	4,644	265,658	4,523	242,302	4,202	248,723
2211B 25	More than 50 percent cotton . . . . .	180	28,662	153	6,169	156	6,507	164	7,358	180	8,628
2211B 30	Weighing 5.9 ounces or less per square yard. . . . .	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
2211B 21	Carded . . . . .	67	18,347	105	3,865	102	5,194	76	4,003	67	5,285
2211B 25	Combed . . . . .	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
2211B 30	Weighing more than 5.9 ounces per square yard. . . . .	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
2221D 23	Chiefly spun polyester mixed with cotton . . . . .	2,157	451,729	2,862	120,994	2,294	112,019	2,254	108,486	2,157	110,230
2221D 25	Weighing 5.0 ounces or less per square yard. . . . .	2,075	423,962	2,744	114,870	2,167	103,905	2,115	101,708	2,075	103,479
2221D 25	Carded . . . . .	1,342	271,344	2,141	78,636	1,507	67,064	1,433	60,404	1,342	65,240
2221D 25	Combed . . . . .	733	152,618	603	36,234	660	36,841	682	41,304	733	38,239
2221D 27	Weighing more than 5.0 ounces per square yard. . . . .	82	27,767	118	6,124	127	8,114	139	6,778	82	6,751
2221D 31	Carded . . . . .	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
2221D 31	Combed . . . . .	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
2221D 33	Chiefly spun rayon and/or acetate . . . . .	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
2221D 34	All other fabrics, 85 percent or more spun yarn . . . . .	57	13,370	134	3,483	132	3,477	167	4,448	57	1,962
2211B 35	Spun/filament combinations . . . . .	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
2221G 19	Chiefly cotton . . . . .	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
2221G 19	Chiefly manmade . . . . .	1,655	468,471	1,538	107,763	1,777	127,832	1,684	114,617	1,655	118,259

See footnotes at end of table.

Table 29. **Production and Loom Assignment of 85 Percent or More Spun Yarn Fabrics and Spun/Filament Combinations, Chiefly Cotton or Manmade Fibers, Excluding Blends of Wool, Silk, and Chiefly Cotton/Other Vegetable Fibers and Pile Fabrics: 1996—Con.**

[Looms operating in numbers. Production in thousands of square yards]

Product code	Product description	Total		First quarter		Second quarter		Third quarter		Fourth quarter	
		Looms operating end of year	Production	Looms operating	Production	Looms operating	Production	Looms operating	Production	Looms operating	Production
2211B 41	Lawns, voiles, and batistes . . .	172	11,099	150	1,743	153	2,793	177	3,624	172	2,939
	More than 50 percent cotton . . . . .	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
2221D 41	Chiefly spun polyester mixed with cotton . . . . .	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
2221D 44	Chiefly spun rayon and/or acetate . . . . .	-	-	-	-	-	-	-	-	-	-
2221D 42	All other fabrics, 85 percent or more spun yarn . . . . .	-	-	-	-	-	-	-	-	-	-
	Spun/filament combinations . . . . .	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
2211B 43	Chiefly cotton . . . . .	-	-	-	-	-	-	-	-	-	-
2221G 28	Chiefly manmade . . . . .	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
	Duck, including taped warp duck . . . . .	397	55,859	443	14,568	398	15,552	391	13,559	397	12,180
2211B 71	More than 50 percent cotton . . . . .	154	29,090	188	7,936	135	8,052	137	7,052	154	6,050
2221D 89	Chiefly spun polyester mixed with cotton . . . . .	70	6,174	69	1,556	66	1,528	70	1,446	70	1,644
2221D 91	All other fabrics, 85 percent or more spun yarn . . . . .	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
	Spun/filament combinations . . . . .	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
2211B 75	Chiefly cotton . . . . .	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
2221B 77	Chiefly manmade . . . . .	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
	Bedsheeting . . . . .	9,775	1,938,657	10,477	489,432	10,397	499,439	10,292	487,278	9,775	462,508
2211B 45	More than 50 percent cotton . . . . .	2,683	505,376	2,988	127,553	2,939	129,683	2,757	125,818	2,683	122,322
	Chiefly spun polyester mixed with cotton . . . . .	6,778	1,338,645	7,111	341,281	7,048	344,148	7,042	332,883	6,778	320,333
2221D 43	Carded . . . . .	1,948	509,414	2,136	129,880	2,091	134,746	2,093	131,372	1,948	113,416
2221D 45	Combed . . . . .	4,830	829,231	4,975	211,401	4,957	209,402	4,949	201,511	4,830	206,917
2221D 46	Chiefly spun rayon and/or acetate . . . . .	-	-	-	-	-	-	-	-	-	-
2221D 47	All other fabrics, 85 percent or more spun yarn . . . . .	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
	Spun/filament combinations . . . . .	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
2211B 47	Chiefly cotton . . . . .	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
2221G 33	Chiefly manmade . . . . .	156	69,095	180	12,297	249	19,016	303	22,704	156	15,078
	All other sheeting, including osnaburgs . . . . .	2,563	687,814	3,156	175,737	3,025	173,257	3,030	177,261	2,563	161,559
2211B 61	More than 50 percent cotton . . . . .	1,051	223,451	1,110	57,752	1,120	56,473	1,142	57,236	1,051	51,990
	Weighing 5.9 ounces or less per square yard . . . . .	846	146,475	880	37,727	872	39,126	839	35,786	846	33,836
	Weighing more than 5.9 ounces per square yard . . . . .	205	76,976	1230	20,025	248	17,347	303	21,450	205	18,154
2211B 63	Blanketing . . . . .	(D)	(D)	147	12,018	137	11,712	174	12,998	(D)	(D)
2211B 65	All other fabrics . . . . .	(D)	(D)	83	8,007	111	5,635	129	8,452	(D)	(D)

See footnotes at end of table.

Table 29. **Production and Loom Assignment of 85 Percent or More Spun Yarn Fabrics and Spun/Filament Combinations, Chiefly Cotton or Manmade Fibers, Excluding Blends of Wool, Silk, and Chiefly Cotton/Other Vegetable Fibers and Pile Fabrics: 1996—Con.**

[Looms operating in numbers. Production in thousands of square yards]

Product code	Product description	Total		First quarter		Second quarter		Third quarter		Fourth quarter	
		Looms operating end of year	Production	Looms operating	Production	Looms operating	Production	Looms operating	Production	Looms operating	Production
	All other sheeting, including osnaburgs—Con.										
2221D 63	85 percent or more spun polyester . . . . .	151	34,319	140	5,921	141	7,736	199	10,214	151	10,448
2221D 65	Blanketing . . . . .	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
	All other fabrics . . . . .	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
2221D 73	Chiefly spun polyester mixed with cotton . . . . .	698	312,207	1,158	79,240	1,063	80,871	953	79,692	698	72,404
2221D 75	Weighing 5.0 ounces or less per square yard. . . . .	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
	Weighing more than 5.0 ounces per square yard. . . . .	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
2221D 81	Chiefly spun acrylic . . . . .	162	37,963	222	10,511	223	10,348	249	11,386	162	5,718
2221D 83	Blanketing . . . . .	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
2221D 84	All other fabrics . . . . .	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
2221D 85	Chiefly spun rayon and/or acetate . . . . .	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
	All other fabrics, 85 percent or more spun yarn . . . . .	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
	Spun/filament combinations . . . . .	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
2211B 67	Chiefly cotton . . . . .	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
2221G 45	Chiefly manmade . . . . .	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
	Blue denim . . . . .	3,636	852,465	3,538	210,212	3,535	225,425	3,501	220,490	3,636	196,338
	More than 50 percent cotton . . . . .	3,570	833,628	3,449	204,698	3,444	220,486	3,412	215,686	3,570	192,758
2211C 01	Weighing 10.7 ounces or less per square yard. . . . .	349	83,362	472	21,147	379	23,148	328	21,626	349	17,441
2211C 03	Weighing more than 10.7 ounces per square yard . . . . .	3,221	750,266	2,977	183,551	3,065	197,338	3,084	194,060	3,221	175,317
2221E 03	Chiefly spun polyester mixed with cotton . . . . .	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
	Spun/filament combinations . . . . .	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
2211G 05	Chiefly cotton . . . . .	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
2221G 46	Chiefly manmade . . . . .	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
	All other denim . . . . .	764	225,372	1,077	53,168	1,122	68,177	931	53,510	764	50,517
	More than 50 percent cotton . . . . .	749	220,577	1,047	52,009	1,104	66,821	913	52,195	749	49,552
2211C 11	Weighing 10.7 ounces or less per square yard. . . . .	92	19,180	179	7,655	140	5,613	74	2,685	92	3,227
2211C 13	Weighing more than 10.7 ounces per square yard . . . . .	657	201,397	868	44,354	964	61,208	839	49,510	657	46,325
2221E 13	Chiefly spun polyester mixed with cotton . . . . .	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
	Spun/filament combinations . . . . .	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
2211C 15	Chiefly cotton . . . . .	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
2221C 18	Chiefly manmade . . . . .	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
2211C 21	Canton flannels . . . . .	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
	All other twill weaves . . . . .	4,656	989,335	4,840	236,644	4,396	232,732	4,554	257,267	4,656	262,692
	More than 50 percent cotton . . . . .	2,613	499,905	2,054	107,981	2,291	114,010	2,601	134,926	2,613	142,988
2211C 31	Weighing 5.9 ounces or less per square yard. . . . .	705	109,812	682	24,661	718	30,201	721	26,925	705	28,025
2211C 33	Weighing more than 5.9 ounces per square yard. . . . .	1,908	390,093	1,372	83,320	1,573	83,809	1,880	108,001	1,908	114,963
2221E 21	85 percent or more spun polyester . . . . .	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)

See footnotes at end of table.

Table 29. **Production and Loom Assignment of 85 Percent or More Spun Yarn Fabrics and Spun/Filament Combinations, Chiefly Cotton or Manmade Fibers, Excluding Blends of Wool, Silk, and Chiefly Cotton/Other Vegetable Fibers and Pile Fabrics: 1996—Con.**

[Looms operating in numbers. Production in thousands of square yards]

Product code	Product description	Total		First quarter		Second quarter		Third quarter		Fourth quarter	
		Looms operating end of year	Production	Looms operating	Production	Looms operating	Production	Looms operating	Production	Looms operating	Production
2221E 23	All other twill weaves—Con. Chiefly spun polyester mixed with cotton . . . . .	1,201	305,801	1,714	78,946	1,280	72,868	1,194	78,835	1,201	75,152
2221E 25	Weighing 5.0 ounces or less per square yard. . . . .	186	37,982	188	9,965	165	8,162	132	8,145	186	11,710
2221E 26	Weighing more than 5.0 ounces per square yard.	1,015	267,819	1,526	68,981	1,115	64,706	1,062	70,690	1,015	63,442
2221E 27	Chiefly spun rayon and/or acetate . . . . .	207	37,461	373	10,103	249	9,440	243	8,738	207	9,180
	All other fabrics, 85 percent or more spun yarn . . . . .	188	23,893	202	10,227	120	4,885	105	3,804	188	4,977
	Spun/filament combinations . . . . .	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
2211C 35	Chiefly cotton . . . . .	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
2221C 39	Chiefly manmade . . . . .	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
2211D 05	Sateens . . . . .	464	76,324	529	19,538	507	17,772	553	19,202	464	19,812
	More than 50 percent cotton . . . . .	172	34,366	180	8,025	173	6,372	214	9,313	172	10,656
2221F 05	Chiefly spun polyester mixed with cotton . . . . .	97	12,778	91	3,234	83	3,077	95	3,127	97	3,340
2221F 06	Chiefly spun rayon and/or acetate . . . . .	(D)	(D)	91	1,674	71	1,767	(D)	(D)	(D)	(D)
2221F 07	All other fabrics, 85 percent or more spun yarn . . . . .	(D)	(D)	52	986	59	893	(D)	(D)	(D)	(D)
	Spun/filament combinations . . . . .	84	19,841	115	5,619	121	5,663	127	4,593	84	3,966
2211D 07	Chiefly cotton . . . . .	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
2221G 05	Chiefly manmade . . . . .	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
2211D 11	Oxfords . . . . .	847	145,375	915	37,059	904	33,594	834	34,490	847	40,232
	More than 50 percent cotton . . . . .	360	76,252	329	19,161	388	17,331	333	17,880	360	21,880
2221F 11	Chiefly spun polyester mixed with cotton . . . . .	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
2221F 17	All other fabrics, 85 percent or more spun yarn . . . . .	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
	Spun/filament combinations . . . . .	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
2211D 13	Chiefly cotton . . . . .	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
2221G 68	Chiefly manmade . . . . .	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
2211D 31	Birdseye diaper cloth . . . . .	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
2211D 35	Huck and crash toweling . . . . .	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
2211D 45	Table damask . . . . .	302	73,417	303	18,714	282	18,302	333	17,745	302	18,656
	More than 50 percent cotton . . . . .	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
2221F 32	Chiefly spun polyester mixed with cotton . . . . .	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
2221F 37	All other fabrics, 85 percent or more spun yarn . . . . .	-	-	-	-	-	-	-	-	-	-
	Spun/filament combinations . . . . .	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
2211D 07	Chiefly cotton . . . . .	-	-	-	-	-	-	-	-	-	-
2221G 82	Chiefly manmade . . . . .	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
2211D 51	Jacquard and dobby shirting fabrics . . . . .	351	37,732	583	10,208	546	9,943	538	9,479	351	8,102
	More than 50 percent cotton . . . . .	28	4,863	33	1,271	62	1,363	60	1,263	28	966
2221F 41	Chiefly spun polyester mixed with cotton . . . . .	132	6,464	163	1,298	185	1,521	212	1,911	132	1,734

See footnotes at end of table.

Table 29. **Production and Loom Assignment of 85 Percent or More Spun Yarn Fabrics and Spun/Filament Combinations, Chiefly Cotton or Manmade Fibers, Excluding Blends of Wool, Silk, and Chiefly Cotton/Other Vegetable Fibers and Pile Fabrics: 1996—Con.**

[Looms operating in numbers. Production in thousands of square yards]

Product code	Product description	Total		First quarter		Second quarter		Third quarter		Fourth quarter	
		Looms operating end of year	Production	Looms operating	Production	Looms operating	Production	Looms operating	Production	Looms operating	Production
2221F 43	Jacquard and dobby shirting fabrics—Con.										
	All other fabrics, 85 percent or more spun yarn . . . . .	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
	Spun/filament combinations . . . . .	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
2211D 53	Chiefly cotton . . . . .	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
2221G 84	Chiefly manmade . . . . .	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
	All other weaves . . . . .	4,551	685,455	4,933	175,962	4,783	182,793	4,455	160,038	4,551	166,662
	More than 50 percent cotton . . . . .	1,256	182,487	1,387	49,576	1,251	45,947	1,258	43,566	1,256	43,398
2211D 62	Weighing 5.9 ounces or less per square yard. . . . .	161	27,242	171	7,316	186	7,207	185	6,626	161	6,093
2211D 64	Weighing more than 5.9 ounces per square yard. . . . .	1,095	155,245	1,216	42,260	1,065	38,740	1,073	36,940	1,095	37,305
2221F 52	85 percent or more spun polyester . . . . .	83	10,060	130	2,859	104	3,243	86	1,972	83	1,986
	Chiefly spun polyester mixed with cotton . . . . .	437	48,321	'479	'13,555	'467	'12,667	'428	'10,738	'437	'11,361
2221F 54	Weighing 5.0 ounces or less per square yard. . . . .	157	13,844	'149	'7,011	'150	'6,024	'141	'4,759	'157	'5,322
2221F 56	Weighing more than 5.0 ounces per square yard. . . . .	280	34,477	330	'6,544	317	'6,643	287	'5,979	280	'6,039
2221F 58	All other fabrics, 85 percent or more spun yarn . . . . .	633	98,532	'723	'25,597	'709	'26,681	'615	'21,753	'633	'24,501
	Spun/filament combinations . . . . .	2,142	346,055	2,214	84,375	2,252	94,255	2,068	82,009	2,142	85,416
2211D 66	Chiefly cotton . . . . .	165	17,214	111	3,587	130	4,545	157	4,806	'165	'4,276
2221G 87	Chiefly manmade . . . . .	1,977	328,841	2,103	80,788	2,122	89,710	1,911	77,203	1,977	81,140

- Represents zero.      D Withheld to avoid disclosing data for individual companies.      'Revised by 5 or more percent from previously data.

Table 30. Production and Loom Assignment of 85 Percent or More Filament Yarn Fabrics: 1996

[Looms operating in numbers. Production in thousands of square yards]

Product code	Product description	Total		First quarter		Second quarter		Third quarter		Fourth quarter	
		Looms operating end of year	Production	Looms operating	Production	Looms operating	Production	Looms operating	Production	Looms operating	Production
	85 percent or more filament yarn fabrics .....	17,720	6,068,723	17,876	1,380,845	17,865	1,592,005	17,708	1,535,367	17,720	1,560,506
2221B 02	High tenacity yarn fabrics.....	525	98,060	481	'22,904	530	'27,952	454	'24,812	525	22,392
2221C 02	100 percent and chiefly rayon .....	147	16,084	125	4,259	119	4,835	108	3,007	147	3,983
2221C 04	100 percent and chiefly nylon .....	248	52,066	244	'11,086	280	'15,064	237	'14,890	248	11,026
2221C 07	100 percent and chiefly polyester .....	130	29,910	112	7,559	131	8,053	109	6,915	130	7,383
	85 percent or more filament yarn fabrics obtained from strip-like rayon and/or acetate .....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
	85 percent or more acetate or triacetate filament yarn fabrics .....	2,716	511,986	2,979	121,074	2,830	130,802	2,883	130,074	2,716	130,036
	Weighing not more than 5 ounces per square yard ..	2,309	464,947	2,512	108,799	2,430	119,468	2,472	119,149	2,309	117,531
2221B 11	Plain weave .....	1,516	305,881	1,678	69,818	1,550	80,816	1,578	78,065	1,516	77,182
2221B 13	Other weaves .....	793	159,066	834	38,981	880	38,652	894	41,084	793	40,349
	Weighing more than 5 ounces per square yard ..	407	47,039	467	12,275	400	11,334	411	10,925	407	12,505
2221B 15	Plain weave .....	175	22,187	251	6,283	201	4,966	199	5,100	175	5,838
2221B 17	Other weaves .....	232	24,852	216	5,992	199	6,368	212	5,825	232	6,667
	Other chiefly rayon and/or acetate filament yarn fabrics .....	391	31,021	596	6,551	524	'7,777	524	'7,820	'391	'8,873
2221B 32	Weighing not more than 5 ounces per square yard ..	176	11,607	361	2,307	321	3,506	330	4,036	176	1,758
2221B 34	Weighing more than 5 ounces per square yard ..	215	19,414	235	4,244	'203	'4,271	194	'3,784	'215	'7,115
	85 percent or more nylon filament yarn fabrics .....	2,669	403,706	2,818	104,680	2,699	109,126	2,619	92,255	2,669	97,645
2221C 11	Typewriter and other impression fabrics .....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
	Other 85 percent or more nylon filament yarn fabrics .....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
	Weighing not more than 5 ounces per square yard .....	1,907	280,351	1,910	67,673	1,897	75,127	1,874	68,285	1,907	69,266
2221C 14	Flat, nontextured .....	1,670	244,126	1,667	57,934	1,674	65,330	1,641	60,344	1,670	60,518
2221C 16	All other .....	237	36,225	243	9,739	223	9,797	233	7,941	237	8,748
	Weighing more than 5 ounces per square yard .....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
2221C 22	Flat, nontextured .....	88	22,021	137	6,702	119	5,675	99	5,315	88	4,329
2221C 24	All other .....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
	Other chiefly nylon filament fabrics .....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
2221C 32	Weighing not more than 5 ounces per square yard ..	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
2221C 14	Weighing more than 5 ounces per square yard ..	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)

See footnotes at end of table.



Table 30. Production and Loom Assignment of 85 Percent or More Filament Yarn Fabrics: 1996—Con.

[Looms operating in numbers. Production in thousands of square yards]

Product code	Product description	Total		First quarter		Second quarter		Third quarter		Fourth quarter	
		Looms operating end of year	Production	Looms operating	Production	Looms operating	Production	Looms operating	Production	Looms operating	Production
	85 percent or more filament yarn fabrics—Con.										
	85 percent or more polyester filament yarn fabrics . . . . .	4,978	757,423	4,652	174,217	4,862	194,393	4,929	188,126	4,978	200,687
	Textured . . . . .	3,547	565,966	3,270	128,986	3,398	142,363	3,453	143,617	3,547	151,000
	Weighing not more than 5 ounces per square yard <sup>1</sup> . . . . .	1,513	252,998	1,388	58,160	1,535	65,857	1,406	65,270	1,513	63,711
2221C 42	Flat . . . . .	1,025	188,240	942	43,778	1,063	49,132	975	47,700	1,025	47,630
2221C 44	Other . . . . .	488	64,758	446	14,382	472	16,725	431	17,570	488	16,081
2221C 45	Weighing more than 5 ounces per square yard <sup>1</sup> . . . . .	2,034	312,968	1,882	70,826	1,863	76,506	2,047	78,347	2,034	87,289
	Nontextured . . . . .	1,431	191,457	1,382	45,231	1,464	52,030	1,476	44,509	1,431	49,687
2221C 50	Weighing not more than 5 ounces per square yard <sup>1</sup> . . . . .	879	99,327	885	23,768	909	26,110	907	22,420	879	27,029
2221C 55	Weighing more than 5 ounces per square yard <sup>1</sup> . . . . .	552	92,130	497	21,463	555	25,920	569	22,089	552	22,658
2221C 62	Other chiefly polyester filament fabrics . . . . .	128	9,344	100	2,049	124	2,625	126	2,204	128	2,466
	Glass fiber fabrics . . . . .	2,440	482,471	2,483	125,588	2,475	122,535	2,340	118,331	2,440	116,017
2221C 72	Woven roving and screening . . . . .	174	79,400	167	18,304	163	19,325	183	23,278	174	18,493
2221C 74	All other glass fiber fabrics . . . . .	2,266	403,071	2,316	107,284	2,312	103,210	2,157	95,053	2,266	97,524
	All other 85 percent or more filament yarn fabrics, including saran and olefin . . . . .	3,710	3,746,507	3,621	816,324	3,662	990,793	3,683	964,990	3,710	974,400
2221C 80	Carpet backing . . . . .	2,911	3,489,448	2,916	755,872	2,934	923,776	2,887	898,963	2,911	910,837
	Woven synthetic, including olefin . . . . .	2,911	3,489,448	2,916	755,872	2,934	923,776	2,887	898,963	2,911	910,837
2221C 83	Jute and other backing . . . . .	-	-	-	-	-	-	-	-	-	-
2221C 84	All other . . . . .	799	257,059	705	60,452	728	67,017	796	66,027	799	63,563

- Represents zero. D Withheld to avoid disclosing data for individual companies.

¹Revised by 5 or more percent from previously published data.

¹Classified on a finished weight basis.

Table 31. Production and Loom Assignment of Pile Fabrics, Including Yarn Dyed Fabrics: 1996

[Looms operating in numbers. Production in thousands of square yards]

Product code	Product description	Total		First quarter		Second quarter		Third quarter		Fourth quarter	
		Looms operating end of year	Production	Looms operating	Production	Looms operating	Production	Looms operating	Production	Looms operating	Production
	Pile fabrics .....	3,107	552,211	3,677	137,236	3,501	148,402	2,902	126,814	3,107	139,759
	Corduroy .....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
	More than 50 percent cotton .....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
2211E 01	Finewales and pinwales .....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
2211E 03	Midwales .....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
2211E 06	Widewales and other ..	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
2221H 01	Chiefly manmade fiber ...	(D)	(D)	-	-	-	-	-	-	(D)	(D)
	Velvets, plushes, and other pile fabrics .....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
2211E 21	More than 50 percent cotton .....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
2221H 11	Chiefly manmade fiber ...	517	54,110	501	14,135	493	11,470	507	12,999	517	15,506
	Terry cloth and terry toweling .....	1,924	431,564	2,334	104,580	2,342	114,855	1,922	101,847	1,924	110,282
2211E 32	Terry toweling .....	1,899	426,005	2,278	103,023	2,293	113,381	1,891	100,557	1,899	109,044
2211E 34	Terry cloth .....	25	5,559	56	1,557	49	1,474	31	1,290	25	1,238

- Represents zero. D Withheld to avoid disclosing data for individual companies. <sup>1</sup>Revised by 5 or more percent from previously published data.

Table 32. Production and Loom Assignment of Woolen and Worsted Fabrics, Including Chiefly Manmade/Wool Blends and Chiefly Cotton/Wool Blends: 1996

[Looms operating in numbers. Production in thousands of square yards]

Product code	Product description	Total		First quarter		Second quarter		Third quarter		Fourth quarter	
		Looms operating end of year	Production	Looms operating	Production	Looms operating	Production	Looms operating	Production	Looms operating	Production
	Woolen and worsted fabrics, 36 percent or more wool (except felts) <sup>1</sup> ...	1,829	151,974	2,138	44,776	2,064	43,633	1,860	30,801	1,829	32,764
	Apparel fabrics, including government orders .....	1,707	145,104	2,039	42,934	1,962	42,273	1,728	29,074	1,707	30,823
22312 01	Worsted fabrics .....	1,125	94,764	1,380	30,376	1,344	26,372	1,135	18,020	1,125	19,996
	Weighing not more than 5.9 ounces per square yard .....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
22312 02	Weighing more than 5.9 ounces per square yard .....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
22312 21	Woolen fabrics .....	582	50,340	659	12,558	618	15,901	593	11,054	582	10,827
	Weighing not more than 9 ounces per square yard ...	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
22312 23	Weighing more than 9 ounces per square yard .....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
	Nonapparel fabrics, including government orders (except felts) ..	122	6,870	99	<sup>1</sup> 1,842	<sup>1</sup> 102	<sup>1</sup> 1,360	<sup>1</sup> 132	<sup>1</sup> 1,727	<sup>1</sup> 122	<sup>1</sup> 1,941
22312 62	Blanketing, including thermal ...	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
22312 61	Upholstery fabrics .....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
22312 85	All other fabrics .....	17	257	<sup>1</sup> 18	<sup>1</sup> 87	<sup>1</sup> 17	<sup>1</sup> 27	<sup>1</sup> 18	<sup>1</sup> 54	<sup>1</sup> 17	<sup>1</sup> 89
22312 92	Woven felts (thousands of pounds) ..	129	4,403	122	990	128	1,030	131	<sup>1</sup> 1,274	129	<sup>1</sup> 1,109
	Chiefly manmade/wool blend and chiefly cotton/wool blend fabrics ...	468	44,283	294	9,987	342	10,967	507	12,170	468	<sup>1</sup> 11,159

D Withheld to avoid disclosing data for individual companies. <sup>1</sup>Revised by 5 or more percent from previously published data.<sup>1</sup>Includes fabrics 36 percent or more wool or reprocessed wool by weight. 1986 and prior years include fabrics 50 percent or more wool or reprocessed wool by weight.

Table 33. **Production and Loom Assignment of Upholstery Fabrics: 1996**

[Looms operating in numbers. Production in thousands of square yards]

Product code	Product description	Total		First quarter		Second quarter		Third quarter		Fourth quarter	
		Looms operating end of year	Production	Looms operating	Production	Looms operating	Production	Looms operating	Production	Looms operating	Production
	Upholstery fabrics . . . . .	4,401	546,502	4,339	132,743	4,264	135,753	4,335	134,521	4,401	143,485
	85 percent or more spun yarn and spun/filament combinations . . . . .	3,396	439,054	3,430	106,140	3,328	109,009	3,378	108,262	3,396	115,643
2211E 41	Pile woven . . . . .	778	85,326	753	23,181	753	18,189	768	20,459	778	23,497
	All cotton and chiefly cotton . . . . .	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
2221H 41	All manmade and chiefly manmade . . . . .	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
2211X 01	Flat woven . . . . .	2,618	353,728	2,677	82,959	2,575	90,820	2,610	87,803	2,618	92,146
	All cotton and chiefly cotton . . . . .	1,162	145,464	1,123	32,910	1,127	37,739	1,145	36,110	1,162	38,705
	All manmade and chiefly manmade . . . . .	1,456	208,264	1,554	50,049	1,448	53,081	1,465	51,693	1,456	53,441
2221X 01	Olefin . . . . .	541	75,301	540	19,793	494	17,847	583	19,011	541	18,650
2221X 03	All other flat woven manmade fiber fabrics . . . . .	915	132,963	1,014	'30,256	954	'35,234	882	'32,682	915	'34,791
	85 percent or more filament yarn . . . . .	1,005	107,448	909	26,603	936	26,744	957	'26,259	'1,005	'27,842
2221X 01	All polyester and chiefly polyester . . . . .	362	38,165	299	9,341	315	8,640	311	'9,509	362	'10,675
2221X 03	All nylon and chiefly nylon . . . . .	55	1,724	55	291	55	'307	55	'549	55	'577
2221X 05	All olefin and chiefly olefin . . . . .	430	57,485	'428	'14,645	'434	'15,118	'455	'13,685	'430	'14,037
2221X 07	All other filament fiber fabrics . . . . .	158	10,074	'127	'2,326	'132	'2,679	'136	'2,516	'158	'2,553

D Withheld to avoid disclosing data for individual companies. 'Revised by 5 or more percent from previously published data.

Table 34. **Production of Tire Cord and Tire Cord Fabrics: 1996**

[Thousands of pounds]

Product code	Product description	Production				
		Total	First quarter	Second quarter	Third quarter	Fourth quarter
22960 00	Tire cord and tire cord fabrics . . . . .	971,495	251,283	242,027	239,492	238,693
22960 12	Cotton tire cord and tire cord fabrics . . . . .	(D)	(D)	(D)	(D)	(D)
22960 32	Rayon tire cord and tire cord fabrics . . . . .	(D)	(D)	(D)	(D)	(D)
22960 35	Nylon tire cord and tire cord fabrics . . . . .	121,971	30,729	30,206	31,355	29,681
22960 37	Polyester tire cord and tire cord fabrics . . . . .	300,545	78,283	74,549	73,644	74,069
22960 38	Glass tire cord and tire cord fabrics . . . . .	(D)	(D)	(D)	(D)	(D)
22960 45	Steel tire cord . . . . .	534,360	139,032	133,847	130,664	130,817
22960 49	All other tire cord and tire cord fabrics, including chafer . . . . .	13,642	'2,950	3,179	3,596	3,917

D Withheld to avoid disclosing data for individual companies. 'Revised by 5 or more percent from previously published data.

Table 35. Looms in Place and Loom Hours Operated in Broadwoven Fabrics Mills: 1996

[Looms in place in numbers. Loom hours in thousands]

Type of loom	Total		First quarter		Second quarter		Third quarter		Fourth quarter	
	Looms in place Dec. 31, 1996	Loom hours operated	Looms in place	Loom hours operated	Looms in place	Loom hours operated	Looms in place	Loom hours operated	Looms in place	Loom hours operated
<b>Total</b> .....	<b>71,666</b>	<b>514,792</b>	<b>76,274</b>	<b>133,148</b>	<b>73,722</b>	<b>133,617</b>	<b>73,090</b>	<b>125,153</b>	<b>71,666</b>	<b>122,874</b>
Shuttle type looms.....	9,200	60,515	11,932	18,119	10,561	16,463	10,023	14,371	9,200	11,562
Single shuttle cam looms.....	6,371	43,942	8,361	13,281	7,169	11,991	6,827	10,522	6,371	8,148
Single shuttle dobby looms....	1,189	7,805	1,884	2,587	<sup>†</sup> 1,695	2,211	<sup>†</sup> 1,507	<sup>†</sup> 1,663	1,189	<sup>†</sup> 1,344
Multiple shuttle box or head motion looms.....	1,019	5,802	1,021	1,469	1,021	1,458	1,016	1,438	1,019	1,437
Double shuttle pile and plush, and jacquard looms.....	621	2,966	666	782	676	803	673	748	621	633
Shuttleless looms and weaving machines.....	62,466	454,277	64,342	115,029	63,161	117,154	63,067	110,782	62,466	111,312
Single filling insertion capability.....	36,261	275,137	36,867	68,711	36,550	71,210	36,342	66,928	36,261	68,288
Air jet looms.....	16,226	125,910	16,108	31,190	16,066	32,735	15,981	30,278	16,226	31,707
Water jet looms.....	4,921	36,683	5,104	9,049	5,075	9,678	5,073	8,557	4,921	9,399
Projectile looms.....	12,582	95,975	12,777	23,822	12,751	24,609	12,719	24,183	12,582	23,361
Rapier looms.....	2,532	16,569	2,878	4,650	2,658	4,188	2,569	3,910	2,532	3,821
Multiple filling insertion capability.....	25,432	175,211	26,654	45,361	25,849	44,962	25,958	42,835	25,432	42,053
Air jet looms.....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Water jet looms.....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Projectile looms.....	7,633	54,793	7,789	13,997	7,745	14,131	7,717	13,323	7,633	13,342
Rapier looms.....	12,403	77,333	13,409	20,503	12,763	19,795	12,876	18,947	12,403	18,088
Pile and plush looms.....	773	3,929	821	957	<sup>†</sup> 762	982	767	1,019	773	971

D Withheld to avoid disclosing data for individual companies.

<sup>†</sup>Revised by 5 or more percent from previously published data.

Table 36. Production, Exports, Imports, and Apparent Consumption of Broadwoven Fabrics: 1996

[Quantity in thousands of square meters. Value in thousands of dollars]

Product description	Manufacturers' shipments <sup>1</sup> (quantity)	Imports for consumption <sup>2</sup>		Percent imports to manufacturers' shipments (quantity)	Exports of domestic merchandise <sup>4</sup>		Percent exports to manufacturers' shipments (quantity)	Apparent consumption <sup>5</sup>
		Quantity	Value <sup>3</sup>		Quantity	Value		
Cotton fabrics <sup>6</sup> . . . . .	3,614,846	1,326,114	1,638,830	36.7	279,080	659,646	7.7	4,661,880
Cheesecloth and batistes . . . . .	676,773	46,953	31,396	6.9	23,761	51,617	3.5	699,965
Print cloth . . . . .	189,329	267,062	177,385	141.1	9,373	22,652	5.0	447,018
Poplin and broadcloth . . . . .	20,707	134,538	110,331	649.7	22,814	69,900	110.2	132,431
Weighing 5.9 ounces or less per square yard . . . . .	(D)	133,448	105,412	(D)	11,995	37,349	(D)	(D)
Weighing more than 5.9 ounces per square yard . . . . .	(D)	1,090	4,919	(D)	10,819	32,551	(D)	(D)
Duck, including tape warp . . . . .	24,669	106,328	97,839	431.0	8,258	22,691	33.5	122,739
Sheeting . . . . .	625,335	251,002	217,715	40.1	12,265	25,529	2.0	864,072
Twills and sateens . . . . .	501,333	165,588	228,468	33.0	41,220	85,010	8.2	625,701
Oxfords . . . . .	43,479	6,929	15,246	15.9	(NA)	(NA)	(NA)	(NA)
All other constructions . . . . .	162,277	82,822	187,162	51.0	(NA)	(NA)	(NA)	(NA)
Blue denim . . . . .	706,948	175,776	346,245	24.9	108,999	258,965	15.4	773,725
Yarn dyed fabrics . . . . .	247,552	73,067	158,043	29.5	43,663	94,047	17.6	276,956
Pile fabrics (except terry), including yarn dyed . . . . .	55,605	13,515	62,714	24.3	6,658	22,802	12.0	62,462
Terry, including yarn dyed . . . . .	360,839	2,534	6,286	0.7	2,069	6,433	0.6	361,304
Manmade fiber fabrics . . . . .	9,522,420	888,246	1,228,633	9.3	387,704	882,069	4.1	10,022,96
85 percent or more filament yarn fabrics . . . . .	5,074,183	565,070	691,527	11.1	222,760	507,638	4.4	5,416,493
Nylon and polyester high tenacity fabrics . . . . .	68,542	17,779	30,691	25.9	25,457	70,156	37.1	60,864
Rayon high tenacity fabrics . . . . .	13,448	998	1,974	7.4	3,949	10,865	29.4	10,497
Typewriter fabrics . . . . .	(D)	102	141	(D)	(NA)	(NA)	(NA)	(NA)
Rayon or acetate filament yarn fabrics . . . . .	454,019	15,582	88,275	3.4	21,366	45,157	4.7	448,235
Polyester filament yarn fabrics . . . . .	641,110	224,818	388,746	35.1	77,221	133,342	12.0	788,707
Glass fiber fabrics . . . . .	403,404	109,860	54,033	27.2	24,419	58,776	6.1	488,845
Nylon filament yarn fabrics . . . . .	279,165	40,352	57,217	14.5	(NA)	(NA)	(NA)	(NA)
85 percent or more filament yarn obtained from strip . . . . .	(D)	138,515	36,247	(D)	14,485	40,633	(D)	(D)
All other filament yarn fabrics . . . . .	3,132,531	17,064	34,203	0.5	55,863	148,709	1.8	3,093,732
85 percent or more spun yarn fabrics . . . . .	3,231,142	196,281	251,627	6.1	131,613	286,683	4.1	3,295,810
Cheesecloth and batistes <sup>7</sup> . . . . .	110,700	5,587	3,773	5.0	(D)	(D)	(D)	(D)
Poplin and broadcloth <sup>7</sup> . . . . .	(D)	68,231	53,121	(D)	(D)	(D)	(D)	(D)
Poly/cotton blends weighing less than 5.0 ounces per square yard <sup>7</sup> . . . . .	321,941	60,990	39,534	18.9	(D)	(D)	(D)	(D)
Poly/cotton blends weighing more than 5.0 ounces per square yard <sup>7</sup> . . . . .	23,207	906	1,491	3.9	(D)	(D)	(D)	(D)
All other spun yarns <sup>7</sup> . . . . .	(D)	6,335	12,096	(D)	(D)	(D)	(D)	(D)
Print cloth <sup>7</sup> . . . . .	517,191	35,375	24,330	6.8	(D)	(D)	(D)	(D)
Duck <sup>7</sup> . . . . .	(D)	1,820	3,804	(D)	(D)	(D)	(D)	(D)
Sheeting <sup>7</sup> . . . . .	1,477,636	13,854	18,559	0.9	(D)	(D)	(D)	(D)
Poly/cotton blends weighing 5.0 ounces or less per square yard <sup>7</sup> . . . . .	(D)	5,027	4,101	(D)	(D)	(D)	(D)	(D)
Poly/cotton blends weighing more than 5.0 ounces per square yard <sup>7</sup> . . . . .	(D)	137	237	(D)	(D)	(D)	(D)	(D)
All other spun yarn <sup>7</sup> . . . . .	100,482	8,690	14,221	8.6	(D)	(D)	(D)	(D)
Sateens or twills <sup>7</sup> . . . . .	365,811	43,859	44,740	12.0	(D)	(D)	(D)	(D)
Oxfords <sup>7</sup> . . . . .	(D)	7	57	(D)	(D)	(D)	(D)	(D)
All other spun manmade fiber fabrics <sup>7</sup> . . . . .	132,916	15,162	55,694	11.4	(D)	(D)	(D)	(D)
Yarn dyed fabrics <sup>7</sup> . . . . .	134,564	4,799	6,776	3.6	(D)	(D)	(D)	(D)
Pile fabrics <sup>7</sup> . . . . .	45,271	7,587	40,773	16.8	(D)	(D)	(D)	(D)
Spun/filament yarn combinations, including yarn dyed . . . . .	1,180,069	118,668	250,582	10.1	33,331	87,748	2.8	1,265,406
Poplin and broadcloth <sup>7</sup> . . . . .	(D)	40,345	61,842	(D)	(D)	(D)	(D)	(D)
Sheeting <sup>7</sup> . . . . .	58,778	3,270	5,910	5.6	(D)	(D)	(D)	(D)
Print cloth <sup>7</sup> . . . . .	280,595	10,403	13,751	3.7	(D)	(D)	(D)	(D)
Twills and sateens <sup>7</sup> . . . . .	(D)	7,283	28,382	(D)	(D)	(D)	(D)	(D)
All other <sup>7</sup> . . . . .	380,587	57,367	140,697	15.1	(D)	(D)	(D)	(D)
Chiefly manmade/wool blends . . . . .	37,026	8,227	34,897	22.2	(NA)	(NA)	(NA)	(NA)
Silk fabrics . . . . .	519	30,933	311,318	5,957.5	3,404	27,145	655.6	28,048
Wool fabrics . . . . .	127,069	27,112	278,211	21.3	10,681	58,341	8.4	143,500

D Withheld to avoid disclosing data for individual companies. NA Not available.

<sup>1</sup>Represents production of gray broadwoven fabrics; import and export data represent gray as well as finished broadwoven fabrics. For comparison of SIC-based codes with Schedule B export numbers and HTSUSA import numbers, see "Contact for Data Users" at end of this subsection. <sup>2</sup>Source: Bureau of the Census report IM 145, *U.S. Imports for Consumption*. <sup>3</sup>Dollar value represents c.i.f. (cost, insurance, and freight) at first port of entry in the United States plus calculated import duty. <sup>4</sup>Source: Bureau of the Census report EM 545, *U.S. Exports*. <sup>5</sup>Apparent consumption represents new domestic supply and is derived by subtracting exports from total manufacturers' shipments plus imports. <sup>6</sup>Includes all cotton and chiefly cotton mixed with manmade fiber. <sup>7</sup>Individual export data are not available for these products; however, export data are available on a total basis.

Note: Fabrics blends as shown in Current Industrial Reports Series MQ22T are reported based on the chief weight of the fiber; whereas, fabrics blends as shown for imports and exports are based on chief value of fiber.

**HISTORICAL NOTE**

Data on the production of broadwoven fabrics have been collected by the Bureau of the Census since 1943. Historical data may be obtained from Current Industrial Reports (called Facts for Industry prior to 1959) at your local Federal Depository Library. Historical data are also available on microfiche; contact Customer Services, 301-457-4100. Additional information (employment, payroll, cost of materials,

capital expenditures, inventories, etc.) on broadwoven fabrics is available in both the census of manufactures and the annual survey of manufactures.

**CONTACT FOR DATA USERS**

For additional information about these data, contact Kay Hanks, 301-457-4620.

## KNIT FABRICS PRODUCTION (MA22K)

### INTRODUCTION

The data from the MA22K, Knit Fabrics survey, include all firms producing knit fabrics whether for sale, for own use, or on commission. It excludes very small firms (generally those with less than five employees) for which data for the census of manufactures were derived from administrative records.

The data for production includes all knit fabrics off the knitting machine whether as yard goods, circular sweater strips, or full fashioned garment sections. It also includes the production of fabrics that are finished within the same plant and shipped as finished garments. It does not include hosiery.

### EXPLANATION OF TERMS

**For own use.** Includes cloth that is cut, cut and sewn, or further fabricated within the plant knitting the cloth.

**For sale.** Includes knit cloth that is sold to other plants of the same company for finishing, and to other firms or plants not affiliated with the same company.

**On commission.** Includes fabrics made from yarn owned by others.

See additional explanation of terms at the beginning of this chapter.

Table 37. Summary of Knit Fabrics Production: 1986 to 1996

[Millions of pounds]

Year	Total	Warp knit	Weft knit
1996 .....	1,897	337	1,560
1995 .....	2,131	397	1,734
1994 .....	2,212	350	1,861
1993 .....	2,188	323	1,865
1992 .....	2,179	315	1,864
1991 .....	1,963	296	1,667
1990 .....	1,901	269	1,632
1989 .....	1,935	315	1,620
1988 .....	1,662	321	1,341
1987 .....	1,737	328	1,409
1986 .....	1,757	360	1,397

Note: Detail may not add because of independent rounding.

Table 38. Production of Knit Fabrics Off Knitting Machine by Type: 1996 and 1995

[Thousands of pounds]

Product code	Product description	1996		1995	
		Number of knitting machines <sup>1</sup>	Total production	Number of knitting machines <sup>1</sup>	Total production
	Knit fabrics production, excluding narrow knit fabrics and knit garment lengths, trimmings, and collars.....	18,501	1,897,430	19,952	2,130,635
22581 01	Warp knit fabrics yard goods (over 12 inches in width) .	4,871	337,491	4,897	396,808
22581 02	Pile fabrics (raschel and raschel crochet) .....	1,498	101,016	1,839	117,510
22581 03	Long pile fabrics .....	(X)	26,416	(X)	36,779
	All acrylic or modacrylic and chiefly acrylic or modacrylic .....	(X)	(D)	(X)	(D)
22581 04	All polyester and chiefly polyester .....	(X)	24,360	(X)	31,337
22581 05	All other fibers .....	(X)	(D)	(X)	(D)
22581 07	Looped pile fabrics (terry cloth) .....	(X)	47,452	(X)	42,551
22581 08	All cotton and chiefly cotton .....	(X)	(D)	(X)	(D)
22581 09	All manmade and chiefly manmade .....	(X)	26,931	(X)	20,409
22581 13	All other fibers .....	(X)	(D)	(X)	(D)
22581 15	All other pile fabrics (velour, etc.) .....	(X)	27,148	(X)	38,180
22581 16	All cotton and chiefly cotton .....	(X)	(D)	(X)	(D)
22581 17	All manmade and chiefly manmade .....	(X)	26,372	(X)	37,382
22581 19	All other fibers .....	(X)	(D)	(X)	(D)
22581 51	Elastic fabrics (containing by weight 5 percent or more elastomeric yarn or rubber thread) .....	729	34,986	807	38,717
22581 61	All other warp knit fabrics .....	2,644	201,489	2,251	240,581
	By type:				
22581 62	Tricot, simplex and milanese .....	(X)	158,495	(X)	188,568
22581 63	All other .....	(X)	42,994	(X)	52,013
	By fiber:				
22581 71	All cotton and chiefly cotton .....	(X)	19,453	(X)	22,692
22581 72	All wool and chiefly wool .....	(X)	(D)	(X)	(D)
22581 73	All manmade and chiefly manmade .....	(X)	180,406	(X)	217,143
22581 75	All other fibers .....	(X)	(D)	(X)	(D)
22571 01	Weft knit yard goods (over 12 inches in width) .....	13,630	1,559,939	15,055	1,733,827
22571 03	Pile fabrics .....	414	40,369	491	46,678
22571 05	Long pile fabrics, including sliver knit .....	(X)	23,434	(X)	27,546
	All acrylic or modacrylic and chiefly acrylic or modacrylic .....	(X)	12,854	(X)	15,385
22571 04	All polyester and chiefly polyester .....	(X)	(D)	(X)	11,057
22571 06	All other fibers .....	(X)	(D)	(X)	1,104
22571 10	Looped pile fabrics (terry cloth) .....	(X)	12,835	(X)	14,132
22571 14	All cotton and chiefly cotton .....	(X)	8,367	(X)	9,032
22571 16	All manmade and chiefly manmade .....	(X)	4,468	(X)	5,100
22571 19	All other fibers .....	(X)	-	(X)	-
22571 21	All other pile fabrics (velour, etc.) .....	(X)	4,100	(X)	5,000
22571 23	All cotton and chiefly cotton .....	(X)	3,631	(X)	3,611
22571 24	All manmade and chiefly manmade .....	(X)	(D)	(X)	1,389
22571 28	All other fibers .....	(X)	(D)	(X)	-
22571 71	Elastic fabrics (containing by weight 5 percent or more elastomeric yarn or rubber thread) .....	209	27,522	207	27,699
22571 31	Single circular knit (except pile and elastic) .....	9,280	1,193,643	9,877	1,319,559
	By type:				
22571 32	Fleece or flannel .....	(X)	333,271	(X)	373,096
22571 33	Underwear and nightwear .....	(X)	249,744	(X)	267,064
22571 34	All other apparel uses .....	(X)	505,724	(X)	556,752
22571 36	All other uses .....	(X)	104,904	(X)	122,647
	By fiber:				
22571 37	All cotton and chiefly cotton .....	(X)	742,375	(X)	809,306
22571 38	All wool and chiefly wool .....	(X)	1,514	(X)	2,439
22571 55	All nylon and chiefly nylon .....	(X)	5,800	(X)	5,596
22571 56	All polyester and chiefly polyester .....	(X)	180,233	(X)	225,386
22571 39	All manmade and chiefly manmade .....	(X)	260,549	(X)	270,435
22571 40	All other fibers .....	(X)	3,172	(X)	6,397
22571 41	Double knit and interlock .....	1,866	200,712	2,455	237,657
	By fiber:				
22571 51	All cotton and chiefly cotton .....	(X)	67,419	(X)	81,370
22571 52	All wool and chiefly wool .....	(X)	613	(X)	536
22571 53	All manmade and chiefly manmade .....	(X)	116,618	(X)	142,110
22571 54	All other fibers .....	(X)	16,062	(X)	13,641

See footnotes at end of table.



Table 38. Production of Knit Fabrics Off Knitting Machine by Type: 1996 and 1995—Con.

[Thousands of pounds]

Product code	Product description	1996		1995	
		Number of knitting machines <sup>1</sup>	Total production	Number of knitting machines <sup>1</sup>	Total production
	Knit fabrics production, excluding narrow knit fabrics and knit garment lengths, trimmings, and collars—Con. Weft knit yard goods (over 12 inches in width)—Con. Double knit and interlock—Con. By type:				
22571 45	Outerwear apparel, other than shirts .....	(X)	83,182	(X)	84,231
22571 44	Outer shirts, blouses, and tops .....	(X)	74,761	(X)	94,992
22571 47	All other uses .....	(X)	42,769	(X)	58,434
22571 60	Rib other than double knit and interlock .....	1,861	97,693	2,025	<sup>r</sup> 102,234
22571 61	All cotton and chiefly cotton .....	(X)	55,411	(X)	<sup>r</sup> 58,973
22571 62	All wool and chiefly wool .....	(X)	(D)	(X)	2,196
22571 63	All manmade and chiefly manmade .....	(X)	37,460	(X)	<sup>r</sup> 38,076
22571 65	All other fibers .....	(X)	(D)	(X)	2,989
	Narrow knit fabrics production .....	1,105	28,522	1,024	30,578
22581 91	Narrow warp knit yard goods (12 inches and less in width) .....	592	18,740	606	20,583
22581 93	Elastic fabrics .....	(D)	(D)	(D)	(D)
22581 95	All other narrow warp knit fabrics .....	(D)	(D)	(D)	(D)
22571 81	Narrow weft knit fabric yard goods (12 inches or less in width) .....	513	9,782	418	9,995
22571 83	Elastic fabrics .....	(D)	(D)	(D)	(D)
22571 84	All other narrow knit fabrics .....	(D)	(D)	(D)	(D)
	Knit garment lengths, trimmings, and collars <sup>2</sup> .....	2,522	28,207	3,023	27,669
	Knit garment lengths, made on sweater, strip, V-bed, and full-fashioned machines .....	1,321	9,060	1,606	<sup>r</sup> 10,378
	Knit trimmings and collars .....	1,201	19,147	1,417	17,291

- Represents zero. D Withheld to avoid disclosing data for individual companies. <sup>r</sup>Revised by 5 percent or more from previously published data.  
X Not applicable.

<sup>1</sup>Knitting machines operating on last workday of the year.

<sup>2</sup>Quantity produced in thousands of dozens.

Table 39. Production of Knit Fabrics Off Knitting Machine by Method of Distribution: 1996 and 1995

[Thousands of pounds]

Product code	Product description	1996			1995		
		Produced for own use	Produced for sale	Produced on commission	Produced for own use	Produced for sale	Produced on commission
	Knit fabrics production, excluding narrow knit fabrics and knit garment lengths, trimmings, and collars .....	992,568	660,973	243,889	1,089,752	770,972	269,911
22581 01	Warp knit fabrics yard goods (over 12 inches in width) .....	90,924	226,392	20,175	110,269	265,862	<sup>1</sup> 20,677
22581 51	Pile fabrics (raschel and raschel crochet) .....	34,881	60,888	5,247	39,709	72,708	5,093
22581 61	Elastic fabrics (containing by weight 5 percent or more elastomeric yarn or rubber thread) .....	(D)	21,342	(D)	(D)	23,412	(D)
	All other warp knit fabrics .....	(D)	144,162	(D)	(D)	169,742	(D)
	Weft knit fabrics yard goods (over 12 inches in width) .....	901,644	434,581	223,714	979,483	<sup>1</sup> 505,110	249,234
22571 01	Pile fabrics .....	(D)	18,292	(D)	(D)	23,704	(D)
22571 71	Elastic fabrics (containing by weight 5 percent or more elastomeric yarn or rubber thread) .....	(D)	17,147	(D)	(D)	18,326	(D)
22571 31	Single circular knit (except pile and elastic) .....	786,553	299,331	107,759	843,324	<sup>1</sup> 352,483	123,752
22571 41	Double knit and interlock .....	46,736	72,067	81,909	<sup>1</sup> 67,608	<sup>1</sup> 78,485	91,564
22571 60	Rib other than double knit and interlock .....	52,586	27,744	17,363	52,207	<sup>1</sup> 32,112	17,915
22581 91	Narrow knit fabrics production .....	6,505	21,413	604	7,061	22,773	744
	Narrow warp knit fabrics yard goods (12 inches or less in width) .....	5,277	13,163	300	5,639	14,544	400
22581 93	Elastic fabrics .....	(D)	10,122	(D)	(D)	10,704	(D)
22581 95	All other narrow warp knit fabrics .....	(D)	3,041	(D)	(D)	3,840	(D)
22571 81	Narrow weft knit fabrics yard goods (12 inches or less in width) .....	1,228	8,250	304	1,422	8,229	344
22571 83	Elastic fabrics .....	(D)	(D)	(D)	(D)	(D)	(D)
22571 84	All other narrow weft knit fabrics .....	(D)	(D)	(D)	(D)	(D)	(D)
	Knit garment lengths, trimmings, and collars <sup>1</sup> .....	8,777	12,916	6,514	9,071	<sup>1</sup> 12,842	<sup>1</sup> 5,756
	Knit garment lengths, made on sweater, strip, V-bed and full-fashioned machines .....	3,142	3,139	2,779	3,889	<sup>1</sup> 3,935	<sup>1</sup> 2,554
	Knit trimmings and collars .....	5,635	9,777	3,735	5,182	8,907	<sup>1</sup> 3,202

D Withheld to avoid disclosing data for individual companies.

<sup>1</sup>Revised by 5 percent or more from previously published data.<sup>1</sup>Quantity produced in thousands of dozens.

Table 40. Shipments, Exports, Imports, and Apparent Consumption of Knit Fabrics: 1996

[Quantity in thousands of kilograms. Value in thousands of dollars]

Product description	Domestic production (quantity)	Exports of domestic merchandise <sup>1</sup>		Percent exports to manufacturers' shipments (quantity)	Imports for consumption <sup>2</sup>		Percent imports to domestic merchandise (quantity)
		Quantity	Value at port		Quantity	Value <sup>3</sup>	
<b>Total</b> .....	<b>889,481</b>	<b>58,764</b>	<b>495,184</b>	<b>6.6</b>	<b>45,877</b>	<b>454,617</b>	<b>5.2</b>
Pile fabrics .....	64,132	12,644	139,321	19.7	19,961	214,933	31.1
Long pile fabrics .....	22,612	1,348	12,656	6.0	979	10,908	4.3
Looped pile fabrics .....	27,346	4,583	59,845	16.8	6,598	51,751	24.1
Of cotton fibers .....	(D)	16	222	(D)	1,094	8,902	(D)
Of manmade fibers .....	14,243	3,374	54,731	23.7	5,262	38,884	36.9
Of other fibers .....	(D)	1,193	4,892	(D)	242	3,965	(D)
Other pile fabrics .....	14,174	6,713	66,820	47.4	12,384	152,274	87.4
Of cotton fibers .....	(D)	790	4,497	(D)	311	4,367	(D)
Of manmade fibers .....	(D)	3,024	49,406	(D)	11,934	145,017	(D)
Of other fibers .....	(D)	2,899	12,917	(D)	139	2,890	(D)
Elastic fabrics .....	(D)	9,314	88,108	(D)	198	4,007	(D)
12 inches or less in width .....	(D)	7,875	59,647	(D)	15	216	(D)
Over 12 inches in width .....	28,354	1,439	28,461	5.1	183	3,791	0.6
Other warp knit fabrics .....	95,398	3,893	44,250	4.1	5,479	55,102	5.7
Of cotton fibers .....	8,824	855	7,510	9.7	102	989	1.2
Of wool fibers .....	(D)	72	738	(D)	3	73	(D)
Of manmade fibers .....	81,832	2,875	34,646	3.5	5,321	53,036	6.5
Of other fibers .....	(D)	91	1,356	(D)	53	1004	(D)
Other narrow knit fabrics .....	(D)	2,930	30,440	(D)	464	7,101	(D)
Other knit fabrics .....	676,793	29,983	193,065	4.4	19,775	173,474	2.9
Of cotton fibers .....	392,457	15,071	88,548	3.8	11,099	58,378	2.8
Of wool fibers .....	(D)	25	232	(D)	67	2,684	(D)
Of manmade fibers .....	272,459	12,301	80,516	4.5	8,593	111,801	3.2
Double knit or interlock .....	52,898	(NA)	(NA)	(NA)	4,797	58,264	9.1
Other .....	219,561	(NA)	(NA)	(NA)	3,796	53,537	1.7
Of other fibers .....	(D)	2,586	23,769	(D)	16	611	(D)

D Withheld to avoid disclosing data for individual companies. NA Not available.

<sup>1</sup>Source: Bureau of the Census report EM 545, *U.S. Exports*.<sup>2</sup>Source: Bureau of the Census report IM 145, *U.S. Imports for Consumption*.<sup>3</sup>Dollar value represents c.i.f. (cost, insurance, and freight) value at first port of entry in the United States plus import duties.

Note: For comparison of SIC-based codes with Schedule B export numbers and HTSUSA import numbers, see "Contact for Data Users" at end of this subsection.

## HISTORICAL NOTE

Data on the production of knit fabrics have been collected by the Bureau of the Census since 1966. Historical data may be obtained from the Current Industrial Reports available at your local Federal Depository Library. Additional information (employment, payroll, cost of materials, capital expenditures, inventories, etc.) on knit fabrics is

available in both the census of manufactures and the annual survey of manufactures. Historical data are also available on microfiche; contact Customer Services, 301-457-4100.

## CONTACT FOR DATA USERS

For additional information about these data, contact Kay Hanks, 301-457-4620.

## APPAREL (MQ23A)

### INTRODUCTION

The statistics in this subsection represent total U.S. production of most major garments. Hosiery, headwear, neckwear, fur garments, leather garments, and accessories are not included in this survey. Data on the quantity and value of shipments of gloves and mittens are collected separately and shown in separate tables at the end of the apparel section.

The apparel industry is characterized by three types of operations — manufacturers, jobbers, and contractors. The functions of the establishments classified as manufacturers include purchasing materials, cutting and sewing the product within the manufacturers' establishment, and selling the finished product. The functions of the jobber, like those of the manufacturer, involve buying raw materials and marketing the finished product. However, unlike the manufacturer, a jobber has a large part of the actual processing of the product done under contract in an outside factory. Finally, the function of a contractor is to make products in his establishment according to clearly defined specifications, from materials owned by others. A contractor, unlike

the manufacturer or jobber, does not own the finished product and does not become involved in the actual sale of the finished goods.

The purpose of this survey is to provide the total domestic quantity produced and value of shipments for each type of garment. Since collecting this information from all three types of establishments would result in substantial duplication, only manufacturers and jobbers are surveyed.

One other form of manufacturing apparel that is becoming more and more significant is what we refer to as "9802" (formerly 807) production. For "9802" production, a domestic manufacturer or jobber buys fabrics and cuts a garment domestically, and then exports the cut pieces to be sewn. The completed garment is then imported. Under special tariff provisions, duty is paid only on the value added rather than on the whole garment. The quantity and value of these garments are included in the domestic data, as well as in the import and export data.

### EXPLANATION OF TERMS

See explanation of terms at the beginning of this chapter.

Table 41. Summary of Quantity of Production and Value for Apparel: 1996 and 1995

[Quantity in thousands of dozens. Value in millions of dollars]

Product description	Total		Fourth quarter		Third quarter		Second quarter		First quarter	
	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
<b>1996</b>										
Men's and boys' apparel:										
Suits .....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Coats .....	64,473	2,202.7	20,115	677.9	17,918	637.8	13,162	446.3	13,278	440.7
Tops .....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Bottoms .....	625,097	7,963.3	159,543	2,068.6	157,183	2,053.0	157,690	1,973.1	150,681	1,868.6
Underwear and nightwear .....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Other garments .....	72,656	1,038.3	20,142	294.1	19,456	321.4	16,205	218.0	16,853	204.8
Women's and girls' apparel:										
Dresses .....	182,780	4,373.5	36,145	894.6	43,333	1,051.0	50,070	1,166.5	53,232	1,261.4
Coats .....	48,320	1,816.9	10,864	455.2	14,600	600.0	10,345	368.6	12,511	393.1
Tops .....	643,806	4,767.6	153,068	1,173.7	155,704	1,241.8	168,726	1,220.7	166,308	1,131.4
Bottoms .....	565,783	6,180.5	130,598	1,435.7	146,820	1,725.0	137,690	1,484.8	150,675	1,535.0
Underwear and nightwear .....	1,109,294	3,670.1	251,275	925.5	271,600	925.0	303,266	958.2	283,153	861.4
Other garments .....	148,494	1,829.3	36,163	419.2	32,188	414.3	36,234	460.0	43,909	535.8
Infants' apparel:										
Coats and jackets .....	340	7.6	98	1.9	85	1.7	78	2.0	79	2.0
Dresses .....	7,295	65.7	2,074	19.2	1,821	17.3	1,261	10.7	2,139	18.5
Knit shirts .....	16,035	72.1	3,230	14.8	5,725	23.9	4,551	21.9	2,529	11.5
Woven shirts .....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Sweaters .....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Sets .....	14,436	82.0	3,262	21.0	3,663	21.5	3,956	20.2	3,555	19.3
Pants and shorts .....	11,631	55.0	3,153	16.1	3,406	16.6	3,167	13.8	1,905	8.5
Play clothing .....	29,343	196.0	6,811	45.7	7,974	52.7	6,754	46.0	7,804	51.6
Underwear .....	25,791	53.3	6,246	12.6	7,211	16.0	6,172	12.1	6,162	12.6
Nightwear .....	46,456	251.3	11,210	65.1	12,748	77.9	10,513	57.5	11,985	50.8
<b>1995</b>										
Men's and boys' apparel:										
Suits .....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Coats .....	63,736	2,060.7	17,241	542.1	16,117	530.3	14,624	479.1	15,754	509.2
Tops .....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Bottoms .....	661,491	8,054.6	161,474	1,967.0	170,298	2,092.3	171,481	2,067.2	158,238	1,928.1
Underwear and nightwear .....	1,115,618	1,778.6	267,231	468.0	302,812	465.7	298,641	466.7	246,934	378.2
Other garments .....	80,206	1,173.8	18,679	294.1	21,190	389.7	19,314	260.5	21,023	229.5
Women's and girls' apparel:										
Dresses .....	208,072	4,715.8	44,950	1,024.4	49,776	1,120.6	54,629	1,223.7	58,717	1,347.1
Coats .....	52,038	1,888.1	12,654	470.4	15,132	583.3	11,657	423.4	12,595	411.0
Tops .....	627,454	4,703.4	157,254	1,140.0	151,170	1,176.1	148,765	1,131.0	170,265	1,256.3
Bottoms .....	594,592	6,428.2	139,478	1,516.5	154,488	1,733.8	146,942	1,549.2	153,684	1,628.7
Underwear and nightwear .....	1,269,511	4,265.4	295,478	1,065.4	335,849	1,163.7	325,306	1,007.0	312,878	1,029.3
Other garments .....	147,607	1,752.8	34,178	399.0	31,780	368.9	35,897	457.3	45,752	527.6
Infants' apparel:										
Coats and jackets .....	333	8.1	87	2.0	92	2.0	81	1.9	73	2.2
Dresses .....	6,714	66.1	1,710	16.9	1,626	16.4	1,312	12.6	2,066	20.2
Knit shirts .....	16,234	64.5	3,449	13.6	5,842	23.2	3,057	12.2	3,886	15.5
Woven shirts .....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Sweaters .....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Sets .....	10,269	79.3	2,066	14.8	3,193	24.7	2,134	17.7	2,876	22.1
Pants and shorts .....	15,202	72.4	3,752	20.5	4,711	21.3	3,303	15.4	3,436	15.2
Play clothing .....	30,904	203.2	7,674	50.3	7,794	53.3	6,552	41.3	8,884	58.3
Underwear .....	30,149	56.2	6,707	12.5	7,997	16.3	7,828	13.3	7,617	14.1
Nightwear .....	47,810	223.0	10,744	58.8	13,652	74.9	15,333	49.6	8,081	39.7

D Withheld to avoid disclosing data for individual companies.

Table 42. Total Quantity of Production and Value of Shipments of Men's, Junior Boys', and Little Boys' Apparel: 1996 and 1995

[Quantity in thousands of units. Value in millions of dollars]

Product description	Total		Fourth quarter		Third quarter		Second quarter		First quarter	
	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
<b>1996</b>										
Suits .....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Trios .....	6	(NA)	-	(NA)	4	(NA)	1	(NA)	1	(NA)
Coats, jackets, and vests:										
Down and feather filled coats, jackets, and vests .....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Dress and sport coats (tailored) .....	11,268	711.7	2,903	168.3	2,721	178.7	(D)	(D)	(D)	(D)
Heavy nontailored coats and jackets .....	19,523	726.4	6,542	259.5	6,237	236.9	3,670	123.3	3,074	106.7
Lightweight nontailored coats and jackets .....	23,490	468.9	7,627	156.1	6,426	139.5	4,504	92.2	4,933	81.1
Overcoats and top coats .....	971	67.1	313	24.2	231	18.9	204	11.2	223	12.8
Raincoats .....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Separate vests .....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Work jackets .....	4,902	116.5	1,413	34.2	1,137	26.4	1,137	24.4	1,215	31.5
Tops:										
Woven dress and business shirts .....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Woven sport shirts .....	22,833	255.1	6,245	70.2	5,276	60.2	5,688	69.4	5,624	55.3
Work shirts .....	49,464	493.3	14,589	145.0	12,892	136.8	11,389	107.8	10,594	103.7
Knit T-shirts and tank tops made for outerwear .....	916,335	4,174.1	192,427	952.7	198,510	1,014.0	267,070	1,187.6	258,328	1,019.8
Sweatshirts .....	202,158	1,103.6	62,309	302.4	55,949	365.4	43,995	270.5	39,905	165.3
Other knit shirts .....	110,424	848.8	25,004	197.4	28,661	218.6	28,691	219.4	28,068	213.4
Sweaters .....	14,869	214.4	4,489	67.3	4,202	70.6	3,587	44.1	2,591	32.4
Dress and sport trousers .....	113,938	1,947.5	31,827	561.1	31,976	563.2	25,253	410.1	24,882	413.1
Junior boys' dress and sport trousers .....	6,039	(NA)	1,533	(NA)	1,514	(NA)	1,273	(NA)	1,719	(NA)
Jeans .....	265,861	4,065.2	70,341	1,049.6	67,963	1,035.2	69,200	1,079.9	58,357	900.5
Junior boys' jeans .....	30,265	(NA)	6,544	(NA)	8,190	(NA)	9,557	(NA)	5,974	(NA)
Jean-cut casual slacks .....	30,344	299.8	6,718	78.9	9,229	89.9	7,645	71.5	6,752	59.5
Junior boys' jean-cut casual slacks .....	3,322	(NA)	607	(NA)	937	(NA)	1,017	(NA)	761	(NA)
Shorts .....	107,158	756.1	18,975	139.3	19,674	106.3	30,917	218.7	37,592	291.8
Athletic shorts .....	40,950	(NA)	7,430	(NA)	10,121	(NA)	12,097	(NA)	11,292	(NA)
Sweatpants .....	57,440	328.5	19,509	97.0	17,313	131.9	13,268	62.4	7,350	37.2
Workpants .....	50,356	566.2	12,173	142.7	11,028	126.5	11,407	130.5	15,748	166.5
Underwear and nightwear:										
Pajamas and nightwear .....	16,837	110.0	3,289	24.8	5,182	34.9	4,228	24.9	4,138	25.4
Junior boys' pajamas and nightwear .....	1,163	(NA)	288	(NA)	334	(NA)	304	(NA)	237	(NA)
Robes .....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Underwear total .....	1,138,040	1,707.2	255,885	490.3	295,560	444.9	308,730	444.9	277,865	327.1
Thermal underwear .....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Undershirts (1/4 sleeve and athletic types) .....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Knit undershorts and briefs .....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Woven boxer shorts .....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Other garments:										
Coveralls, overalls, and jumpsuits .....	17,541	390.7	4,076	117.3	4,567	131.8	3,958	69.1	4,940	72.5
Jumpsuits .....	1,533	(NA)	275	(NA)	451	(NA)	427	(NA)	383	(NA)
Jogging and warmup suits .....	10,720	79.7	(D)	(D)	(D)	(D)	1,612	12.7	(D)	(D)
Playsuits .....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Ski apparel .....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Swimwear .....	2,269	21.7	371	4.4	419	3.5	534	5.3	945	8.5
Team sports uniforms .....	16,498	190.4	5,526	61.3	3,565	44.3	3,723	42.1	3,684	42.7
Washable service apparel .....	19,816	234.2	5,386	60.1	4,959	58.5	4,954	58.2	4,517	57.4

See footnotes at end of table.

Table 42. Total Quantity of Production and Value of Shipments of Men's, Junior Boys', and Little Boys' Apparel: 1996 and 1995—Con.

[Quantity in thousands of units. Value in millions of dollars]

Product description	Total		Fourth quarter		Third quarter		Second quarter		First quarter	
	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
<b>1995</b>										
Suits .....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Trios .....	2	(NA)	1	(NA)	1	(NA)	-	(NA)	-	(NA)
Coats, jackets, and vests:										
Down and feather filled coats, jackets, and vests .....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Dress and sport coats (tailored) .....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Heavy nontailored coats and jackets .....	16,506	553.8	5,500	184.0	4,234	142.6	3,243	111.3	3,529	115.9
Lightweight nontailored coats and jackets .....	25,301	442.7	6,651	120.8	6,374	112.6	6,001	100.8	6,275	108.5
Overcoats and top coats .....	1,131	77.5	271	21.7	367	25.9	330	18.8	163	11.1
Raincoats .....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Separate vests .....	1,691	21.9	(D)	(D)	(D)	(D)	286	4.6	(D)	(D)
Work jackets .....	5,002	132.7	1,196	31.7	(D)	(D)	1,248	32.3	(D)	(D)
Tops:										
Woven dress and business shirts .....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Woven sport shirts .....	24,769	246.4	5,016	59.0	6,414	65.7	7,147	60.4	6,192	61.3
Work shirts .....	51,065	509.8	12,953	130.9	13,369	150.3	12,291	111.7	12,452	116.9
Knit T-shirts and tank tops made for outerwear .....	863,032	4,073.6	180,749	1,050.5	189,289	860.8	245,494	1,108.0	247,500	1,054.3
Sweatshirts .....	213,323	1,155.0	56,530	305.8	53,264	343.8	52,884	261.9	50,645	243.5
Other knit shirts .....	112,799	844.0	25,137	182.8	28,331	212.4	30,758	225.8	28,573	223.0
Sweaters .....	17,831	210.8	4,662	62.3	5,485	74.2	4,099	41.4	3,585	32.9
Bottoms:										
Dress and sport trousers .....	105,347	1,640.3	23,271	360.0	29,308	463.8	25,820	394.2	26,948	422.3
Junior boys' dress and sport trousers .....	6,609	(NA)	1,870	(NA)	1,658	(NA)	1,544	(NA)	1,537	(NA)
Jeans .....	276,463	3,793.6	75,445	972.2	71,912	974.3	72,428	1,025.5	56,678	821.6
Junior boys' jeans .....	41,194	(NA)	13,858	(NA)	10,057	(NA)	11,182	(NA)	6,097	(NA)
Jean-cut casual slacks .....	58,258	875.1	12,870	196.5	16,120	243.8	16,858	239.2	12,410	195.6
Junior boys' jean-cut casual slacks .....	4,400	(NA)	723	(NA)	553	(NA)	1,953	(NA)	1,171	(NA)
Shorts .....	114,618	817.7	21,853	165.1	19,174	130.1	30,263	206.2	43,328	316.3
Athletic shorts .....	42,115	(NA)	7,485	(NA)	9,070	(NA)	12,554	(NA)	13,006	(NA)
Sweatpants .....	53,277	314.3	13,165	96.6	18,231	96.1	13,475	64.5	8,406	57.1
Workpants .....	53,528	613.6	14,870	176.6	15,553	184.2	12,637	137.6	10,468	115.2
Underwear and nightwear:										
Pajamas and nightwear .....	21,724	135.8	6,439	42.6	4,912	34.6	5,077	28.8	5,296	29.8
Junior boys' pajamas and nightwear .....	2,259	(NA)	343	(NA)	386	(NA)	860	(NA)	670	(NA)
Robes .....	5,244	66.6	1,631	29.7	1,835	22.9	1,109	7.7	669	6.3
Underwear total .....	1,088,650	1,576.2	259,161	395.7	296,065	408.2	292,455	430.2	240,969	342.1
Thermal underwear .....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Undershirts (1/4 sleeve and athletic types) .....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Knit undershorts and briefs .....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Woven boxer shorts .....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Other garments:										
Coveralls, overalls, and jumpsuits .....	19,451	376.0	4,864	109.5	5,207	127.6	(D)	(D)	(D)	(D)
Jumpsuits .....	1,188	(NA)	508	(NA)	333	(NA)	223	(NA)	124	(NA)
Jogging and warmup suit .....	10,000	77.0	2,607	19.6	3,213	23.8	2,131	16.8	2,049	16.8
Playsuits .....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Ski apparel .....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Swimwear .....	2,362	27.0	422	3.9	268	4.2	620	6.7	1,052	12.2
Team sports uniforms .....	15,782	186.6	3,982	43.5	3,331	45.7	(D)	(D)	(D)	(D)
Washable service apparel .....	21,622	219.4	4,187	51.0	4,301	50.3	5,811	56.9	7,323	61.2

- Represents zero. D Withheld to avoid disclosing data for individual companies. NA Not available.

Table 43. Quantity of Production and Value of Shipments of Men's and Junior Boys' Apparel: 1996 and 1995

[Quantity in thousands of units. Value in millions of dollars]

Product description	Total		Fourth quarter		Third quarter		Second quarter		First quarter	
	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
<b>1996</b>										
Suits .....	9,032	840.9	1,945	176.6	2,283	227.4	2,180	204.2	2,624	232.7
Coats, jackets, and vests:										
Down and feather filled coats, jackets, and vests .....	173	10.2	(D)	(D)	(D)	(D)	39	1.7	50	2.7
Dress and sport coats (tailored) .....	10,936	704.0	2,833	167.0	2,628	177.1	2,700	171.4	2,775	188.5
Heavy nontailored coats and jackets .....	17,944	682.5	6,040	244.8	5,539	214.7	3,468	119.7	2,897	103.3
Lightweight nontailored coats and jackets .....	21,248	440.2	6,700	144.4	5,738	129.8	4,166	88.3	4,644	77.7
Overcoats and top coats .....	971	67.1	313	24.2	231	18.9	204	11.2	223	12.8
Raincoats .....	2,255	72.5	666	23.1	698	27.5	486	13.2	405	8.7
Separate vests .....	1,030	24.7	330	8.3	215	5.6	227	4.9	258	5.9
Work jackets .....	4,902	116.5	1,413	34.2	1,137	26.4	1,137	24.4	1,215	31.5
Tops:										
Woven dress and business shirts .....	54,629	634.9	14,440	167.3	12,704	151.0	13,851	154.2	13,634	162.4
Woven sport shirts .....	18,360	232.6	5,279	65.3	4,417	55.1	4,649	64.0	4,015	48.2
Work shirts .....	49,464	493.3	14,589	145.0	12,892	136.8	11,389	107.8	10,594	103.7
Knit T-shirts and tank tops made for outerwear .....	884,320	4,080.3	184,975	932.3	191,185	990.5	259,153	1,164.4	249,007	993.1
Sweatshirts .....	194,256	1,074.3	60,400	295.2	53,820	359.2	41,329	262.4	38,707	157.5
Other knit shirts .....	92,167	769.4	20,857	178.0	24,049	199.3	24,015	201.4	23,246	190.7
Sweaters .....	13,735	204.3	4,223	65.7	3,897	68.9	3,274	39.3	2,341	30.4
Bottoms:										
Dress and sport trousers .....	103,424	1,864.6	28,989	539.9	29,212	540.1	22,965	392.2	22,258	392.4
Jeans .....	243,240	3,858.2	65,301	1,005.3	61,040	974.0	63,136	1,021.1	53,763	857.8
Jean-cut casual slacks .....	27,946	284.2	6,154	75.0	7,989	81.8	7,295	69.2	6,508	58.2
Shorts .....	83,919	654.0	14,878	120.8	15,935	92.8	24,836	189.6	28,270	250.8
Sweatpants .....	49,650	306.2	17,909	91.3	14,816	125.0	10,324	55.4	6,601	34.5
Workpants .....	50,356	566.2	12,173	142.7	11,028	126.5	11,407	130.5	15,748	166.5
Underwear and nightwear:										
Pajamas and nightwear .....	11,917	84.6	1,973	18.0	3,764	27.3	2,989	18.6	3,191	20.7
Robes .....	3,940	47.2	958	21.1	1,473	18.0	943	4.2	566	3.9
Underwear total .....	1,045,757	1,525.5	236,789	437.0	274,524	399.6	277,931	386.6	256,513	302.3
Thermal underwear .....	50,166	163.5	12,523	39.7	15,064	49.0	12,170	40.2	10,409	34.6
Undershirts (1/4 sleeve and athletic types) .....	417,399	587.0	98,249	199.9	129,527	175.0	99,202	109.3	90,421	102.8
Knit undershorts and briefs .....	485,164	582.9	107,130	147.4	104,180	124.0	(D)	(D)	(D)	(D)
Woven boxer shorts .....	93,028	192.1	18,887	50.0	25,753	51.6	26,546	49.0	21,842	41.5
Other garments:										
Coveralls, overalls, and jumpsuits .....	12,947	347.7	3,137	106.0	3,347	117.2	3,142	63.0	3,321	61.5
Jogging and warmup suits .....	3,151	28.9	841	7.0	850	9.1	496	5.9	964	6.9
Playsuits .....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Ski apparel .....	4,038	106.7	908	23.1	1,731	49.8	(D)	(D)	(D)	(D)
Swimwear .....	1,899	19.9	346	4.2	360	3.2	456	4.7	737	7.8
Team sports uniforms .....	15,987	186.4	5,407	60.4	3,446	43.4	3,569	40.8	3,565	41.8
Washable service apparel .....	19,816	234.0	5,386	60.1	4,959	58.4	4,954	58.1	4,517	57.4

See footnotes at end of table.



Table 43. Quantity of Production and Value of Shipments of Men's and Junior Boys' Apparel: 1996 and 1995—Con.

[Quantity in thousands of units. Value in millions of dollars]

Product description	Total		Fourth quarter		Third quarter		Second quarter		First quarter	
	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
<b>1995</b>										
Suits .....	9,611	932.0	2,100	212.0	2,487	229.8	2,310	219.1	2,714	271.1
Coats, jackets, and vests:										
Down and feather filled coats, jackets, and vests .....	227	15.1	67	4.6	60	5.4	47	2.2	53	2.9
Dress and sport coats (tailored) .....	11,688	742.6	2,513	159.2	2,931	183.1	2,797	184.3	3,447	216.0
Heavy nontailored coats and jackets .....	15,509	535.6	5,070	178.8	3,945	135.6	3,093	107.7	3,401	113.5
Lightweight nontailored coats and jackets .....	23,695	424.2	6,161	115.0	5,982	108.1	5,630	96.7	5,922	104.4
Overcoats and top coats .....	1,131	77.5	271	21.7	367	25.9	330	18.8	163	11.1
Raincoats .....	1,926	67.3	406	12.0	543	23.0	576	22.0	401	10.3
Separate vests .....	1,172	19.5	409	5.5	237	4.6	231	4.3	295	5.1
Work jackets .....	5,002	132.7	1,196	31.7	(D)	(D)	1,248	32.3	(D)	(D)
Tops:										
Woven dress and business shirts .....	65,691	750.7	13,932	166.1	17,090	201.3	17,511	183.1	17,158	200.2
Woven sport shirts .....	20,396	224.1	4,064	53.8	5,277	58.8	5,974	55.6	5,081	55.9
Work shirts .....	51,065	509.8	12,953	130.9	13,369	150.3	12,291	111.7	12,452	116.9
Knit T-shirts and tank tops made for outerwear .....	835,038	3,991.6	174,032	1,031.6	183,516	841.0	239,310	1,089.4	238,180	1,029.6
Sweatshirts .....	205,763	1,122.0	54,572	297.0	51,064	334.3	50,812	253.6	49,315	237.1
Other knit shirts .....	86,346	724.7	19,666	157.5	21,134	179.6	23,968	195.4	21,578	192.2
Sweaters .....	15,443	195.7	4,182	59.3	4,483	67.0	3,745	39.1	3,033	30.3
Bottoms:										
Dress and sport trousers .....	91,814	1,543.2	20,248	337.6	25,625	436.8	22,608	371.7	23,333	397.1
Jeans .....	255,973	3,604.9	70,435	922.3	67,856	934.3	65,682	966.3	52,000	782.0
Jean and jean-cut casual slacks .....	55,406	853.4	12,157	191.8	15,085	235.4	16,001	233.0	12,163	193.2
Shorts .....	90,462	713.2	16,633	143.4	15,579	112.2	25,132	185.9	33,118	217.7
Sweatpants .....	46,362	293.0	12,003	92.5	16,030	89.7	11,048	57.8	7,281	53.0
Workpants .....	53,528	613.6	14,870	176.6	15,553	184.2	12,637	137.6	10,468	115.2
Underwear and nightwear:										
Pajamas and nightwear .....	17,251	112.4	5,416	37.2	4,133	30.2	3,610	21.6	4,092	23.4
Robes .....	5,132	65.7	1,624	29.6	1,796	22.6	1,082	7.5	630	6.0
Underwear total .....	1,002,838	1,425.4	234,491	367.2	277,848	361.7	259,703	377.5	230,796	319.0
Thermal underwear .....	51,103	171.6	13,689	47.8	14,005	44.8	11,850	39.8	11,559	39.2
Undershirts (1/4 sleeve and athletic types) .....	453,561	510.0	102,777	129.7	117,767	130.5	120,534	129.9	112,483	119.9
Knit undershorts and briefs .....	411,354	555.6	(D)	(D)	(D)	(D)	103,956	161.4	88,104	117.9
Woven boxer shorts .....	86,820	188.2	21,579	47.7	23,228	52.1	23,363	46.4	18,650	42.0
Other garments:										
Coveralls, overalls, and jumpsuits .....	12,951	329.0	3,279	98.3	3,743	115.2	3,004	55.4	2,925	60.1
Jogging and warmup suits .....	3,154	34.6	959	10.2	763	8.4	696	8.1	736	7.9
Playsuits .....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Ski apparel .....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Swimwear .....	1,838	21.9	367	3.4	220	3.4	533	5.9	718	9.2
Team sports uniforms .....	15,078	176.0	3,806	40.9	3,166	43.1	3,642	45.1	4,464	46.9
Washable service apparel .....	21,622	219.4	4,187	51.0	4,301	50.3	5,811	56.9	7,323	61.2

D Withheld to avoid disclosing data for individual companies.

Table 44. Quantity of Production and Value of Shipments of Little Boys' Apparel: 1996 and 1995

[Quantity in thousands of units. Value in millions of dollars]

Product description	Total		Fourth quarter		Third quarter		Second quarter		First quarter	
	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
<b>1996</b>										
Suits .....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Coats, jackets, and vests:										
Down and feather filled coats, jackets, and vests	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Dress and sport coats (tailored) .....	332	7.7	70	1.3	93	1.6	(D)	(D)	(D)	(D)
Heavy nontailored coats and jackets .....	1,579	43.9	502	14.7	698	22.2	202	3.6	177	3.4
Lightweight nontailored coats and jackets .....	2,242	28.7	927	11.7	688	9.7	338	3.9	289	3.4
Overcoats and top coats .....	-	-	-	-	-	-	-	-	-	-
Raincoats .....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Separate vests .....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Work jackets .....	-	-	-	-	-	-	-	-	-	-
Tops:										
Woven dress and business shirts .....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Woven sport shirts .....	4,473	22.5	966	4.9	859	5.1	1,039	5.4	1,609	7.1
Work shirts .....	-	-	-	-	-	-	-	-	-	-
Knit T-shirts and tank tops made for outerwear ...	32,015	93.8	7,452	20.4	7,325	23.5	7,917	23.2	9,321	26.7
Sweatshirts .....	7,902	29.3	1,909	7.2	2,129	6.2	2,666	8.1	1,198	7.8
Other knit shirts .....	18,257	79.4	4,147	19.4	4,612	19.3	4,676	18.0	4,822	22.7
Sweaters .....	1,134	10.1	266	1.6	305	1.7	313	4.8	250	2.0
Bottoms:										
Dress and sport trousers .....	10,514	82.9	2,838	21.2	2,764	23.1	2,288	17.9	2,624	20.7
Jeans .....	22,621	207.0	5,040	44.3	6,923	61.2	6,064	58.8	4,594	42.7
Jean-cut casual slacks .....	2,398	15.6	564	3.9	1,240	8.1	350	2.3	244	1.3
Shorts .....	23,239	102.1	4,097	18.5	3,739	13.5	6,081	29.1	9,322	41.0
Sweatpants .....	7,790	22.3	1,600	5.7	2,497	6.9	2,944	7.0	749	2.7
Workpants .....	-	-	-	-	-	-	-	-	-	-
Underwear and nightwear:										
Pajamas and nightwear .....	4,920	25.4	1,316	6.8	1,418	7.6	1,239	6.3	947	4.7
Robes .....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Underwear total .....	92,283	181.7	19,096	53.3	21,036	45.3	30,799	58.3	21,352	24.8
Thermal underwear .....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Undershirts (1/4 sleeve and athletic types) .....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Knit undershorts and briefs .....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Woven boxer shorts .....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Other garments:										
Coveralls, overalls, and jumpsuits .....	4,594	43.0	939	11.3	1,220	14.6	816	6.1	1,619	11.0
Jogging and warmup suits .....	7,569	50.8	(D)	(D)	(D)	(D)	1,116	6.8	(D)	(D)
Playsuits .....	1,666	13.7	505	3.6	779	6.0	184	2.0	198	2.1
Ski apparel .....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Swimwear .....	370	1.8	25	0.2	59	0.3	78	0.6	208	0.7
Team sports uniforms .....	511	4.0	119	0.9	119	0.9	154	1.3	119	0.9
Washable service apparel .....	-	-	-	-	-	-	-	-	-	-

See footnotes at end of table.

Table 44. Quantity of Production and Value of Shipments of Little Boys' Apparel: 1996 and 1995—Con.

[Quantity in thousands of units. Value in millions of dollars]

Product description	Total		Fourth quarter		Third quarter		Second quarter		First quarter	
	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
<b>1995</b>										
Suits .....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Coats, jackets, and vests:										
Down and feather filled coats, jackets, and vests .....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Dress and sport coats (tailored) .....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Heavy nontailored coats and jackets .....	997	18.2	430	5.2	289	7.0	150	3.6	128	2.4
Lightweight nontailored coats and jackets .....	1,606	18.5	490	5.8	392	4.5	371	4.1	353	4.1
Overcoats and top coats .....	-	-	-	-	-	-	-	-	-	-
Raincoats .....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Separate vests .....	519	2.4	(D)	(D)	(D)	(D)	55	0.3	(D)	(D)
Work jackets .....	-	-	-	-	-	-	-	-	-	-
Tops:										
Woven dress and business shirts .....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Woven sport shirts .....	4,373	22.3	952	5.2	1,137	6.9	1,173	4.8	1,111	5.4
Work shirts .....	-	-	-	-	-	-	-	-	-	-
Knit T-shirts and tank tops made for outerwear .....	27,994	82.0	6,717	18.9	5,773	19.8	6,184	18.6	9,320	24.7
Sweatshirts .....	7,560	33.0	1,958	8.8	2,200	9.5	2,072	8.3	1,330	6.4
Other knit shirts .....	26,453	119.3	5,471	25.3	7,197	32.8	6,790	30.4	6,995	30.8
Sweaters .....	2,388	15.1	480	3.0	1,002	7.2	354	2.3	552	2.6
Bottoms:										
Dress and sport trousers .....	13,533	97.1	3,023	22.4	3,683	27.0	3,212	22.5	3,615	25.2
Jeans .....	20,490	188.7	5,010	49.9	4,056	40.0	6,746	59.2	4,678	39.6
Jean and jean-cut casual slacks .....	2,852	21.7	713	4.7	1,035	8.4	857	6.2	247	2.4
Shorts .....	24,156	104.5	5,220	21.7	3,595	17.9	5,131	20.3	10,210	44.6
Sweatpants .....	6,915	21.3	1,162	4.1	2,201	6.4	2,427	6.7	1,125	4.1
Workpants .....	-	-	-	-	-	-	-	-	-	-
Underwear and nightwear:										
Pajamas and nightwear .....	4,473	23.4	1,023	5.4	779	4.4	1,467	7.2	1,204	6.4
Robes .....	112	0.9	7	0.1	39	0.3	27	0.2	39	0.3
Underwear total .....	85,812	150.8	24,670	28.5	18,217	46.5	32,752	52.7	10,173	23.1
Thermal underwear .....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Undershirts (1/4 sleeve and athletic types) .....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Knit undershorts and briefs .....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Woven boxer shorts .....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Other garments:										
Coveralls, overalls, and jumpsuits .....	6,500	47.0	1,585	11.2	1,464	12.4	(D)	(D)	(D)	(D)
Jogging and warmup suits .....	6,846	42.4	1,648	9.4	2,450	15.4	1,435	8.7	1,313	8.9
Playsuits .....	1,991	17.4	820	6.7	402	3.6	168	1.7	601	5.4
Ski apparel .....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Swimwear .....	524	5.1	55	0.5	48	0.8	87	0.8	334	3.0
Team sports uniforms .....	704	10.6	176	2.6	165	2.6	(D)	(D)	(D)	(D)
Washable service apparel .....	-	-	-	-	-	-	-	-	-	-

- Represents zero. D Withheld to avoid disclosing data for individual companies.

Table 45. Total Quantity of Production and Value of Shipments of Women's, Misses', Juniors', and Girls' Apparel: 1996 and 1995

[Quantity in thousands of units. Value in millions of dollars]

Product description	Total		Fourth quarter		Third quarter		Second quarter		First quarter	
	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
<b>1996</b>										
Dresses .....	182,780	4,373.5	36,145	894.6	43,333	1,051.0	50,070	1,166.5	53,232	1,261.4
Coats, jackets, and vests:										
Coats and capes .....	7,216	468.1	1,939	158.6	2,478	165.3	1,822	88.9	977	55.3
Down and feather filled coats, jackets, and vests .....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Nontailored jackets .....	7,810	212.4	1,678	44.7	2,176	61.5	1,590	43.5	2,366	62.7
Raincoats .....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Separate vests .....	3,125	58.9	778	14.0	820	15.0	716	13.8	811	16.1
Tailored suit-type jackets .....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Tops:										
Woven blouses and shirts .....	195,388	1,951.3	40,943	415.8	47,203	484.2	55,835	538.8	51,407	512.5
Knit T-shirts and tank tops made for outerwear .....	243,526	1,104.2	53,485	251.1	53,064	262.2	63,142	294.1	73,835	296.8
Sweatshirts .....	55,510	286.1	15,202	66.2	16,570	102.9	13,627	70.8	10,111	46.2
Other knit blouses and shirts .....	102,386	814.5	28,723	232.3	24,569	207.8	26,542	201.1	22,552	173.3
Sweaters, including coat, cardigan, pullover, and vest sweaters .....	46,996	611.5	14,715	208.3	14,298	184.7	9,580	115.9	8,403	102.6
Bottoms:										
Shorts .....	107,308	737.6	24,202	149.1	16,497	120.4	28,776	199.8	37,833	268.3
Skirts and divided skirts .....	83,820	1,208.7	16,466	239.2	21,923	339.3	20,155	291.5	25,276	338.7
Jeans .....	162,884	2,076.8	38,296	518.6	46,038	617.2	41,992	523.9	36,558	417.1
Slacks (except jeans) .....	169,009	1,950.5	40,375	476.5	48,920	572.0	36,798	423.6	42,916	478.4
Sweatpants .....	42,762	206.9	(D)	(D)	(D)	(D)	9,969	46.0	8,092	32.5
Underwear and nightwear:										
Brassieres, bra-lettes, and bandeaux .....	264,962	1,479.6	62,217	349.9	66,629	369.3	68,907	398.6	67,209	361.8
Total produced in Puerto Rico .....	39,530	(NA)	9,272	(NA)	9,621	(NA)	9,461	(NA)	11,176	(NA)
Girdles, corsets, and other foundation garments .....	86,020	402.0	20,288	97.7	21,522	102.5	22,730	113.9	21,480	87.9
Total produced in Puerto Rico .....	2,824	(NA)	628	(NA)	734	(NA)	655	(NA)	807	(NA)
Nightgowns, pajamas, and other nightwear .....	67,152	545.8	15,916	146.8	16,839	136.3	15,795	123.9	18,602	138.8
Other underwear, including camisoles, teddies, undershirts, and union suits .....	44,281	213.2	13,288	59.0	12,327	48.9	9,616	54.5	9,050	50.8
Panties .....	613,876	735.6	130,936	179.8	145,554	189.5	178,043	201.7	159,343	164.6
Robes and dressing gowns .....	23,146	237.5	6,294	78.9	6,444	66.1	5,651	51.0	4,757	41.5
Slips .....	9,857	56.4	2,336	13.4	2,285	12.4	2,524	14.6	2,712	16.0
Other garments:										
Bodysuits and bodyshirts .....	21,281	152.6	3,441	29.7	5,016	36.4	6,591	44.7	6,233	41.8
Jogging and warmup suits .....	14,804	108.2	3,228	23.5	4,679	35.1	2,834	21.8	4,063	27.8
Overalls, coveralls, and jumpsuits .....	6,606	82.2	1,310	16.1	1,675	22.1	1,515	18.8	2,106	25.2
Playsuits, rompers, halters, etc. ....	17,374	108.9	4,489	26.6	3,827	25.7	4,548	29.5	4,510	27.1
Ski apparel .....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Suits, including pant suits .....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Swimwear .....	51,153	741.7	14,104	166.0	7,696	117.1	11,092	191.4	18,261	267.2
Washable service apparel .....	25,300	233.4	7,005	59.8	6,266	64.1	6,252	56.4	5,777	53.1
Smocks and lab coats .....	5,373	(NA)	1,741	(NA)	1,266	(NA)	1,243	(NA)	1,123	(NA)
Uniform dresses .....	4,014	(NA)	1,244	(NA)	818	(NA)	987	(NA)	965	(NA)
Uniform pant sets .....	2,219	(NA)	708	(NA)	526	(NA)	513	(NA)	472	(NA)
All other garment types .....	1,781	(NA)	429	(NA)	470	(NA)	461	(NA)	421	(NA)

See footnotes at end of table.

Table 45. Total Quantity of Production and Value of Shipments of Women's, Misses', Juniors', and Girls' Apparel: 1996 and 1995—Con.

[Quantity in thousands of units. Value in millions of dollars]

Product description	Total		Fourth quarter		Third quarter		Second quarter		First quarter	
	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
<b>1995</b>										
Dresses .....	208,072	4,715.8	44,950	1,024.4	49,776	1,120.6	54,629	1,223.7	58,717	1,347.1
Coats, jackets, and vests:										
Coats and capes .....	8,255	563.8	1,966	156.8	2,584	179.9	2,172	128.3	1,533	98.8
Down and feather filled coats, jackets, and vests .....	28	3.7	7	1.1	7	0.9	5	0.5	9	1.2
Nontailored jackets .....	9,066	232.9	2,088	51.0	2,468	66.0	1,996	49.9	2,514	66.0
Raincoats .....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Separate vests .....	3,347	61.0	929	17.0	914	18.3	820	13.8	684	11.9
Tailored suit-type jackets .....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Tops:										
Woven blouses and shirts .....	195,963	2,017.5	45,566	461.9	43,646	474.4	49,455	510.4	57,296	570.8
Knit T-shirts and tank tops made for outerwear .....	221,892	1,081.5	59,720	271.1	48,541	257.7	51,237	254.1	62,394	298.6
Sweatshirts .....	45,971	232.9	11,526	59.0	13,825	63.2	11,362	71.0	9,258	39.7
Other knit blouses and shirts .....	113,495	790.7	25,733	179.1	30,050	200.9	25,985	179.2	31,727	231.5
Sweaters, including coat, cardigan, pullover, and vest sweaters .....	50,133	580.8	14,709	168.9	15,108	179.9	10,726	116.3	9,590	115.7
Bottoms:										
Shorts .....	118,370	847.8	25,977	168.0	19,116	144.0	29,950	212.7	43,327	323.1
Skirts and divided skirts .....	89,186	1,281.5	19,649	279.5	23,027	351.4	21,815	303.3	24,695	347.3
Jeans .....	167,097	2,124.7	40,792	543.3	49,837	617.9	43,613	544.2	32,855	419.3
Slacks, pants, and jeans, including jean-cut casual slacks .....	180,329	2,009.8	43,566	484.5	49,463	569.3	41,208	445.9	46,092	510.1
Sweatpants .....	39,610	164.4	9,494	41.2	13,045	51.2	10,356	43.1	6,715	28.9
Underwear and nightwear:										
Brassieres, bra-lettes, and bandeaux .....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Total produced in Puerto Rico .....	42,219	(NA)	10,338	(NA)	11,717	(NA)	10,657	(NA)	9,507	(NA)
Girdles, corsets, and other foundation garments .....	92,186	405.3	21,569	98.6	24,177	110.9	24,045	100.7	22,395	95.1
Total produced in Puerto Rico .....	8,786	(NA)	806	(NA)	2,797	(NA)	2,646	(NA)	2,537	(NA)
Nightgowns, pajamas, and other nightwear .....	87,976	694.0	22,329	191.2	22,464	182.8	18,994	138.9	24,189	181.1
Other underwear, including camisoles, teddies, undershirts, and union suits .....	61,811	266.2	15,449	64.6	18,363	75.5	14,345	60.6	13,654	65.5
Panties .....	688,632	976.0	156,589	256.4	184,799	290.3	178,901	233.4	168,343	195.9
Robes and dressing gowns .....	23,666	222.3	6,148	67.7	6,473	66.9	(D)	(D)	(D)	(D)
Slips .....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Other garments:										
Bodysuits and bodyshirts .....	19,883	155.8	4,875	35.5	5,550	36.2	4,932	41.0	4,526	43.1
Jogging and warmup suits .....	13,321	95.8	2,875	22.3	3,654	27.5	2,992	21.9	3,800	24.1
Overalls, coveralls, and jumpsuits .....	8,629	82.2	1,964	22.0	1,852	19.9	1,958	18.2	2,855	22.1
Playsuits, rompers, halters, etc. ....	17,548	106.1	4,541	27.7	3,322	22.3	4,168	23.2	5,517	32.9
Ski apparel .....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Suits, including pant suits .....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Swimwear .....	50,081	670.6	10,750	130.1	7,473	73.9	13,260	213.8	18,598	252.8
Washable service apparel .....	25,971	246.7	6,307	58.8	6,469	61.8	5,709	58.7	7,486	67.4
Smocks and lab coats .....	6,960	(NA)	1,481	(NA)	1,464	(NA)	1,445	(NA)	2,570	(NA)
Uniform dresses .....	4,338	(NA)	957	(NA)	1,085	(NA)	1,072	(NA)	1,224	(NA)
Uniform pant sets .....	1,858	(NA)	375	(NA)	380	(NA)	400	(NA)	703	(NA)
All other garment types .....	3,641	(NA)	502	(NA)	621	(NA)	945	(NA)	1,573	(NA)

D Withheld to avoid disclosing data for individual companies. NA Not available.

Table 46. Quantity of Production and Value of Shipments of Women's, Misses', and Juniors' Apparel: 1996 and 1995

[Quantity in thousands of units. Value in millions of dollars]

Product description	Total		Fourth quarter		Third quarter		Second quarter		First quarter	
	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
<b>1996</b>										
Dresses .....	140,465	3,908.3	27,223	786.2	32,729	929.3	39,851	1,068.8	40,662	1,124.0
Coats, jackets, and vests:										
Coats and capes .....	7,147	466.3	1,923	158.1	2,465	164.8	1,793	88.3	966	55.1
Down and feather filled coats, jackets, and vests .....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Nontailored jackets .....	6,844	201.2	1,391	41.8	1,790	57.1	1,442	41.6	2,221	60.7
Raincoats .....	625	32.5	(D)	(D)	(D)	(D)	(D)	(D)	47	3.2
Separate vests .....	3,018	57.4	746	13.6	782	14.5	699	13.5	791	15.8
Tailored suit-type jackets .....	29,461	1,034.4	6,301	225.0	8,847	341.4	6,011	212.7	8,302	255.3
Tops:										
Woven blouses and shirts .....	161,939	1,713.0	33,214	360.9	38,337	416.1	46,682	473.1	43,706	462.9
Knit T-shirts and tank tops made for outerwear .....	187,541	918.3	41,277	212.9	39,373	213.7	47,627	238.1	59,264	253.6
Sweatshirts .....	42,705	239.0	11,013	52.0	13,115	87.5	11,118	61.6	7,459	37.9
Other knit blouses and shirts .....	78,351	692.1	22,603	198.7	19,048	177.8	19,802	172.1	16,898	143.5
Sweaters, including coat, cardigan, pullover, and vest sweaters .....	41,407	566.5	12,638	191.2	12,551	170.6	8,532	107.9	7,686	96.8
Bottoms:										
Shorts .....	80,105	599.5	18,082	124.0	12,493	101.7	22,389	169.1	27,141	204.7
Skirts and divided skirts .....	76,326	1,148.7	15,187	227.8	19,777	320.9	18,401	276.8	22,961	323.2
Jeans .....	138,056	1,865.1	33,006	472.9	39,772	562.0	35,604	466.4	29,674	363.8
Slacks (except jeans) .....	149,163	1,840.9	36,607	453.3	41,572	534.7	32,695	397.3	38,289	455.6
Sweatpants .....	33,957	174.7	7,712	40.8	10,463	64.0	8,586	40.8	7,196	29.1
Underwear and nightwear:										
Brassieres, bra-lettes, and bandeaux .....	264,962	1,479.6	62,217	349.9	66,629	369.3	68,907	398.6	67,209	361.8
Girdles, corsets, and other foundation garments .....	86,020	402.0	20,288	97.7	21,522	102.5	22,730	113.9	21,480	87.9
Nightgowns, pajamas, and other nightwear .....	45,829	419.7	10,609	111.0	11,415	100.5	11,480	99.2	12,325	109.0
Other underwear, including camisoles, teddies, undershirts, and union suits .....	40,172	205.4	12,078	56.7	10,559	45.6	9,098	53.5	8,437	49.6
Panties .....	496,872	660.6	104,104	163.3	112,711	166.3	143,066	181.0	136,991	150.0
Robes and dressing gowns .....	22,899	234.9	6,242	78.3	6,288	64.5	5,625	50.8	4,744	41.3
Slips .....	9,053	51.2	2,141	11.5	2,109	11.6	2,355	13.4	2,448	14.7
Other garments:										
Bodysuits and bodyshirts .....	19,434	137.0	2,993	25.6	4,576	33.3	6,092	39.4	5,773	38.7
Jogging and warmup suits .....	2,416	27.9	442	6.4	699	8.0	524	5.9	751	7.6
Overalls, coveralls, and jumpsuits .....	1,711	34.6	344	6.6	359	8.9	476	8.4	532	10.7
Playsuits, rompers, halters, etc. ....	5,231	44.8	1,193	9.9	968	9.6	1,724	14.3	1,346	11.0
Ski apparel .....	968	49.8	278	16.5	410	21.8	228	9.9	52	1.6
Suits, including pant suits .....	10,059	343.6	2,001	78.6	2,463	90.5	2,805	84.0	2,790	90.5
Swimwear .....	36,624	616.6	10,599	134.8	5,696	95.9	8,826	169.6	11,503	216.3
Washable service apparel .....	25,300	233.4	7,005	59.8	6,266	64.1	6,252	56.4	5,777	53.1

See footnotes at end of table.

Table 46. **Quantity of Production and Value of Shipments of Women's, Misses', and Juniors' Apparel: 1996 and 1995—Con.**

[Quantity in thousands of units. Value in millions of dollars]

Product description	Total		Fourth quarter		Third quarter		Second quarter		First quarter	
	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
<b>1995</b>										
Dresses .....	163,747	4,227.3	34,739	901.2	39,230	1,001.0	43,911	1,118.9	45,867	1,206.2
Coats, jackets, and vests:										
Coats and capes .....	8,141	558.8	1,954	156.0	2,544	177.6	2,134	127.1	1,509	98.1
Down and feather filled coats, jackets, and vests .....	28	3.7	7	1.1	7	0.9	5	0.5	9	1.2
Nontailored jackets .....	8,149	223.3	1,833	48.3	2,226	63.3	1,730	46.9	2,360	64.8
Raincoats .....	589	37.7	137	9.3	214	14.1	(D)	(D)	(D)	(D)
Separate vests .....	3,120	58.6	826	15.9	866	17.7	795	13.5	633	11.5
Tailored suit-type jackets .....	30,687	987.5	7,516	234.8	8,936	303.8	6,479	220.3	7,756	228.6
Tops:										
Woven blouses and shirts .....	168,028	1,802.5	39,553	410.6	36,952	414.4	41,496	454.8	50,027	522.7
Knit T-shirts and tank tops made for outerwear .....	174,630	914.8	49,621	235.1	38,266	217.2	38,327	210.0	48,416	252.5
Sweatshirts .....	37,100	198.1	8,570	46.6	10,903	51.6	9,718	65.0	7,909	34.9
Other knit blouses and shirts .....	81,292	631.9	19,867	149.3	20,413	154.3	18,430	141.4	22,582	186.9
Sweaters, including coat, cardigan, pullover, and vest sweaters .....	43,959	535.2	12,803	153.6	12,992	163.8	9,363	107.0	8,801	110.8
Bottoms:										
Shorts .....	90,063	696.4	19,700	136.9	15,188	121.9	21,782	168.7	33,393	268.9
Skirts and divided skirts .....	82,874	1,222.9	18,373	269.0	21,240	335.4	20,370	292.5	22,891	326.0
Jeans .....	149,527	1,954.6	36,201	502.6	44,219	560.0	39,044	498.4	30,063	393.6
Slacks, pants, and jeans, including jean-cut casual slacks .....	153,271	1,865.7	38,364	453.8	40,795	521.0	33,501	410.0	40,611	480.9
Sweatpants .....	30,988	135.4	6,932	31.8	10,140	41.3	8,373	37.2	5,543	25.1
Underwear and nightwear:										
Brassieres, bra-lettes, and bandeaux .....	303,298	1,645.0	70,794	371.5	76,904	423.9	80,819	421.9	74,781	427.7
Girdles, corsets, and other foundation garments .....	92,186	405.3	21,569	98.6	24,177	110.9	24,045	100.7	22,395	95.1
Nightgowns, pajamas, and other nightwear .....	65,258	558.9	16,977	154.7	15,549	138.4	14,833	117.2	17,899	148.6
Other underwear, including camisoles, teddies, undershirts, and union suits .....	56,619	256.2	14,102	62.2	16,373	71.6	13,555	58.9	12,589	63.5
Panties .....	550,789	883.4	127,372	239.2	143,812	257.7	138,327	209.1	141,278	177.4
Robes and dressing gowns .....	23,430	219.9	6,084	66.9	6,377	65.9	4,941	37.8	6,028	49.3
Slips .....	10,909	52.5	2,311	14.1	2,575	13.0	2,986	12.6	3,037	12.8
Other garments:										
Bodysuits and bodyshirts .....	17,892	137.1	4,437	31.7	5,036	31.8	4,424	36.1	3,995	37.5
Jogging and warmup suits .....	2,119	27.6	560	8.1	529	6.8	489	6.4	541	6.3
Overalls, coveralls, and jumpsuits .....	2,831	39.3	797	12.4	614	9.8	332	7.3	1,088	9.8
Playsuits, rompers, halters, etc. ....	5,220	43.4	1,025	8.5	1,307	10.3	1,546	12.9	1,342	11.7
Ski apparel .....	1,889	79.4	615	25.5	1,022	41.1	105	6.1	147	6.7
Suits, including pant suits .....	8,785	299.1	1,837	73.2	2,177	81.3	2,147	68.5	2,624	76.1
Swimwear .....	35,720	582.8	7,348	116.0	4,786	64.1	9,966	191.5	13,620	211.2
Washable service apparel .....	25,971	246.7	6,307	58.8	6,469	61.8	5,709	58.7	7,486	67.4

D Withheld to avoid disclosing data for individual companies.

Table 47. Quantity of Production and Value of Shipments of Little Girls' Apparel: 1996 and 1995

[Quantity in thousands of units. Value in millions of dollars]

Product description	Total		Fourth quarter		Third quarter		Second quarter		First quarter	
	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
<b>1996</b>										
Dresses .....	42,315	465.2	8,922	108.4	10,604	121.7	10,219	97.7	12,570	137.4
Coats, jackets, and vests:										
Coats and capes .....	69	1.8	16	0.5	13	0.5	29	0.6	11	0.2
Down and feather filled coats, jackets, and vests ..	-	-	-	-	-	-	-	-	-	-
Nontailored jackets .....	966	11.2	287	2.9	386	4.4	148	1.9	145	2.0
Raincoats .....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Separate vests .....	107	1.5	32	0.4	38	0.5	17	0.3	20	0.3
Tailored suit-type jackets .....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Tops:										
Woven blouses and shirts .....	33,449	238.3	7,729	54.9	8,866	68.1	9,153	65.7	7,701	49.6
Knit T-shirts and tank tops made for outerwear ..	55,985	185.9	12,208	38.2	13,691	48.5	15,515	56.0	14,571	43.2
Sweatshirts .....	12,805	47.1	4,189	14.2	3,455	15.4	2,509	9.2	2,652	8.3
Other knit blouses and shirts .....	24,035	122.4	6,120	33.6	5,521	30.0	6,740	29.0	5,654	29.8
Sweaters, including coat, cardigan, pullover, and vest sweaters .....	5,589	45.0	2,077	17.1	1,747	14.1	1,048	8.0	717	5.8
Bottoms:										
Shorts .....	27,203	138.1	6,120	25.1	4,004	18.7	6,387	30.7	10,692	63.6
Skirts and divided skirts .....	7,494	60.0	1,279	11.4	2,146	18.4	1,754	14.7	2,315	15.5
Jeans .....	24,828	211.7	5,290	45.7	6,266	55.2	6,388	57.5	6,884	53.3
Slacks (except jeans) .....	19,846	109.6	3,768	23.2	7,348	37.3	4,103	26.3	4,627	22.8
Sweatpants .....	8,805	32.2	(D)	(D)	(D)	(D)	1,383	5.2	896	3.4
Underwear and nightwear:										
Brassieres, bra-lettes, and bandeaux .....	-	-	-	-	-	-	-	-	-	-
Girdles, corsets, and other foundation garments ..	-	-	-	-	-	-	-	-	-	-
Nightgowns, pajamas, and other nightwear .....	21,323	126.1	5,307	35.8	5,424	35.8	4,315	24.7	6,277	29.8
Other underwear, including camisoles, teddies, undershirts, and union suits .....	4,109	7.8	1,210	2.3	1,768	3.3	518	1.0	613	1.2
Panties .....	117,004	75.0	26,832	16.5	32,843	23.2	34,977	20.7	22,352	14.6
Robes and dressing gowns .....	247	2.6	52	0.6	156	1.6	26	0.2	13	0.2
Slips .....	804	5.2	195	1.9	176	0.8	169	1.2	264	1.3
Other garments:										
Bodysuits and bodyshirts .....	1,847	15.6	448	4.1	440	3.1	499	5.3	460	3.1
Jogging and warmup suits .....	12,388	80.3	2,786	17.1	3,980	27.1	2,310	15.9	3,312	20.2
Overalls, coveralls, and jumpsuits .....	4,895	47.6	966	9.5	1,316	13.2	1,039	10.4	1,574	14.5
Playsuits, rompers, halters, etc. ....	12,143	64.1	3,296	16.7	2,859	16.1	2,824	15.2	3,164	16.1
Ski apparel .....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Suits, including pant suits .....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Swimwear .....	14,529	125.1	3,505	31.2	2,000	21.2	2,266	21.8	6,758	50.9
Washable service apparel .....	-	-	-	-	-	-	-	-	-	-

See footnotes at end of table.



Table 47. Quantity of Production and Value of Shipments of Little Girls' Apparel: 1996 and 1995—Con.

[Quantity in thousands of units. Value in millions of dollars]

Product description	Total		Fourth quarter		Third quarter		Second quarter		First quarter	
	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
<b>1995</b>										
Dresses .....	44,325	488.5	10,211	123.2	10,546	119.6	10,718	104.8	12,850	140.9
Coats, jackets, and vests:										
Coats and capes .....	114	5.0	12	0.8	40	2.3	38	1.2	24	0.7
Down and feather filled coats, jackets, and vests ..	-	-	-	-	-	-	-	-	-	-
Nontailored jackets .....	917	9.6	255	2.7	242	2.7	266	3.0	154	1.2
Raincoats .....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Separate vests .....	227	2.4	103	1.1	48	0.6	25	0.3	51	0.4
Tailored suit-type jackets .....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Tops:										
Woven blouses and shirts .....	27,935	215.0	6,013	51.3	6,694	60.0	7,959	55.6	7,269	48.1
Knit T-shirts and tank tops made for outerwear ..	47,262	166.7	10,099	36.0	10,275	40.5	12,910	44.1	13,978	46.1
Sweatshirts .....	8,871	34.8	2,956	12.4	2,922	11.6	1,644	6.0	1,349	4.8
Other knit blouses and shirts .....	32,203	158.8	5,866	29.8	9,637	46.6	7,555	37.8	9,145	44.6
Sweaters, including coat, cardigan, pullover, and vest sweaters .....	6,174	45.6	1,906	15.3	2,116	16.1	1,363	9.3	789	4.9
Bottoms:										
Shorts .....	28,307	151.4	6,277	31.1	3,928	22.1	8,168	44.0	9,934	54.2
Skirts and divided skirts .....	6,312	58.6	1,276	10.5	1,787	16.0	1,445	10.8	1,804	21.3
Jeans .....	17,570	170.1	4,591	40.7	5,618	57.9	4,569	45.8	2,792	25.7
Slacks, pants, and jeans, including jean-cut casual slacks .....	27,058	144.1	5,202	30.7	8,668	48.3	7,707	35.9	5,481	29.2
Sweatpants .....	8,622	29.0	2,562	(D)	2,905	9.9	1,983	5.9	1,172	3.8
Underwear and nightwear:										
Brassieres, bra-lettes, and bandeaux .....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Girdles, corsets, and other foundation garments ..	-	-	-	-	-	-	-	-	-	-
Nightgowns, pajamas, and other nightwear .....	22,718	135.1	5,352	36.5	6,915	44.4	4,161	21.7	6,290	32.5
Other underwear, including camisoles, teddies, undershirts, and union suits .....	5,192	10.0	1,347	2.4	1,990	3.9	790	1.7	1,065	2.0
Panties .....	137,843	92.6	29,217	17.2	40,987	32.6	40,574	24.3	27,065	18.5
Robes and dressing gowns .....	236	2.4	64	0.8	96	1.0	(D)	(D)	(D)	(D)
Slips .....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Other garments:										
Bodysuits and bodyshirts .....	1,991	18.7	438	3.8	514	4.4	508	4.9	531	5.6
Jogging and warmup suits .....	11,202	68.2	2,315	14.2	3,125	20.7	2,503	15.5	3,259	17.8
Overalls, coveralls, and jumpsuits .....	5,798	42.9	1,167	9.6	1,238	10.1	1,626	10.9	1,767	12.3
Playsuits, rompers, halters, etc. ....	12,328	62.7	3,516	19.2	2,015	12.0	2,622	10.3	4,175	21.2
Ski apparel .....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Suits, including pant suits .....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Swimwear .....	14,361	87.8	3,402	14.1	2,687	9.8	3,294	22.3	4,978	41.6
Washable service apparel .....	-	-	-	-	-	-	-	-	-	-

- Represents zero. D Withheld to avoid disclosing data for individual companies.

Table 48. Quantity of Production of Apparel by Type of Fabrics: 1996

[Quantity in thousands of units]

Product description	Total	Cotton	Manmade		Wool	Other	Not specified by kind (n.s.k)
			Total	Wool blends			
<b>TOTAL</b>							
Men's and boys' garments:							
Suits	(D)	536	4,112	1,125	2,604	128	(D)
Coats, jackets, and vests:							
Down and feather filled coats, jackets, and vests	(D)	(D)	148	(NA)	-	-	13
Dress and sport coats (tailored)	11,268	377	6,749	2,290	2,493	740	909
Heavy nontailored coats and jackets	19,523	8,593	8,571	(NA)	609	(D)	(D)
Lightweight nontailored coats and jackets	23,490	8,104	11,335	(NA)	93	1	3,957
Overcoats and top coats	971	(D)	492	(NA)	186	(D)	30
Raincoats	(D)	(D)	1,343	(NA)	(NA)	(D)	332
Separate vests	(D)	88	1,389	(NA)	30	(D)	363
Work jackets	4,902	(D)	(D)	(NA)	(NA)	(D)	638
Tops:							
Woven dress and business shirts	(D)	27,221	24,849	(NA)	(NA)	(D)	4,405
Woven sport shirts	22,833	15,146	5,382	(NA)	(D)	(D)	(D)
Work shirts	49,464	10,056	36,519	(NA)	(NA)	-	2,889
Knit T-shirts and tank tops made for outerwear	916,335	778,760	84,203	(NA)	-	-	53,372
Sweatshirts	202,158	140,093	57,014	(NA)	-	-	5,051
Other knit shirts	110,424	69,365	29,651	(NA)	-	7	11,401
Sweaters	14,869	5,424	3,683	(NA)	529	(D)	(D)
Bottoms:							
Dress and sport trousers	113,938	58,374	42,386	17,115	5,141	1,320	6,717
Jeans	265,861	260,159	251	-	-	-	5,451
Jean-cut casual slacks	30,344	15,018	(D)	(NA)	(NA)	(D)	9,502
Shorts	107,158	71,980	20,062	(NA)	(D)	(D)	(D)
Sweatpants	57,440	26,763	29,671	(NA)	(NA)	-	1,006
Workpants	50,356	3,080	44,916	(NA)	(NA)	-	2,360
Underwear and nightwear:							
Pajamas and nightwear	16,837	4,102	11,309	(NA)	(NA)	(D)	(D)
Robes	(D)	1,049	(D)	(NA)	(NA)	-	126
All other underwear, including thermal underwear, undershirts, knit undershorts, and woven boxer shorts	1,138,040	1,076,366	49,269	(NA)	(NA)	36	12,369
Other garments:							
Coveralls, overalls, and jumpsuits	17,541	6,392	9,170	(NA)	-	-	1,979
Jogging and warmup suits	10,720	(D)	7,686	(NA)	(NA)	(D)	2,364
Playsuits	(D)	(D)	1,325	(NA)	-	(D)	287
Ski apparel	(D)	-	(D)	(NA)	(NA)	-	292
Swimwear	2,269	484	1,429	(NA)	(NA)	-	356
Team sports uniforms	16,498	(D)	11,897	(NA)	-	-	(D)
Washable service apparel	19,816	(D)	8,612	(NA)	(NA)	(D)	(D)
Women's and girls' garments:							
Dresses	182,780	37,671	95,855	(NA)	2,225	4,463	42,566
Coats, jackets, and vests:							
Coats and capes	17,216	(D)	2,229	1,141	13,833	(D)	(D)
Down and feather filled coats, jackets, and vests	(D)	(D)	(D)	(NA)	(D)	(D)	(D)
Heavy nontailored coats and jackets	7,810	1,773	2,483	(NA)	123	(D)	(D)
Raincoats	(D)	(D)	(D)	(NA)	(NA)	(D)	73
Separate vests	3,125	585	1,424	(NA)	85	86	945
Tailored suit-type jackets	(D)	1,658	15,590	1,343	6,658	1,387	(D)
Tops:							
Woven blouses and shirts	195,388	68,255	89,597	(NA)	185	4,544	32,807
Knit T-shirts and tank tops made for outerwear	243,526	140,682	40,840	(NA)	(NA)	849	61,155
Sweatshirts	55,510	26,866	26,446	(NA)	(NA)	-	2,198
Other knit blouses and shirts	102,386	44,166	38,352	(NA)	(D)	3,798	(D)
Sweaters, including coat, cardigan, pullover, and vest sweaters	46,996	18,995	16,800	(NA)	862	(D)	(D)
Bottoms:							
Shorts	107,308	57,907	36,982	(NA)	(NA)	900	11,386
Skirts and divided skirts	83,820	13,656	40,646	4,905	12,148	2,074	15,296
Jeans	162,884	141,351	(D)	(D)	-	(D)	21,305
Slacks (except jeans)	169,009	50,215	81,911	7,404	8,059	1,682	27,142
Sweatpants	42,762	(D)	25,617	(NA)	(NA)	-	(D)
Underwear and nightwear:							
Brassieres, bra-lettes, and bandeaux	264,962	13,078	248,880	(NA)	(NA)	-	3,004
Girdles, corsets, and other foundation garments	86,020	(D)	75,751	(NA)	(NA)	-	(D)
Nightgowns, pajamas, and other nightwear	67,152	12,961	46,941	(NA)	(NA)	653	6,597
Panties	613,876	449,053	153,001	(NA)	(NA)	-	11,822
Robes and dressing gowns	23,146	4,918	14,442	(NA)	(NA)	100	3,686
All other underwear, including slips, camisoles, teddies, undershirts, and union suits	54,138	12,188	35,376	(NA)	(NA)	488	6,086
Other garments:							
Bodysuits and bodyshirts	21,281	(D)	6,158	(NA)	(NA)	-	(D)
Jogging and warmup suits	14,804	763	12,894	(NA)	(NA)	5	1,142
Overalls, coveralls, and jumpsuits	6,606	3,398	2,420	(NA)	-	-	788
Playsuits, rompers, halters, etc.	17,374	4,494	11,153	(NA)	-	(D)	(D)
Ski apparel	(D)	-	(D)	(NA)	(NA)	-	205
Suits, including pant suits	(D)	304	4,606	1,737	1,674	32	(D)
Swimwear	51,153	4,230	41,299	(NA)	(NA)	-	5,624
Washable service apparel	25,300	9,429	11,766	(NA)	(NA)	-	4,105
Infants' apparel	151,677	98,395	46,500	(NA)	(NA)	2,541	4,241

See footnotes at end of table.

Table 48. Quantity of Production of Apparel by Type of Fabrics: 1996—Con.

[Quantity in thousands of units]

Product description	Total	Cotton	Manmade		Wool	Other	Not specified by kind (n.s.k)
			Total	Wool blends			
<b>FOURTH QUARTER</b>							
Men's and boys' garments:							
Suits . . . . .	(D)	145	933	277	509	29	(D)
Coats, jackets, and vests:							
Down and feather filled coats, jackets, and vests . . . . .	(D)	-	(D)	(NA)	-	-	3
Dress and sport coats (tailored) . . . . .	2,903	115	1,859	591	569	138	222
Heavy nontailored coats and jackets . . . . .	6,542	3,701	2,379	(NA)	190	(D)	(D)
Lightweight nontailored coats and jackets . . . . .	7,627	3,687	2,614	(NA)	(D)	(D)	1,301
Overcoats and top coats . . . . .	313	(D)	148	(NA)	85	(D)	8
Raincoats . . . . .	(D)	(D)	397	(NA)	(NA)	(D)	98
Separate vests . . . . .	(D)	27	471	(NA)	9	(D)	103
Work jackets . . . . .	1,413	(D)	(D)	(NA)	(NA)	(D)	171
Tops:							
Woven dress and business shirts . . . . .	(D)	7,901	5,813	(NA)	(NA)	(D)	1,166
Woven sport shirts . . . . .	6,245	4,159	1,493	(NA)	(D)	-	(D)
Work shirts . . . . .	14,589	3,604	10,108	(NA)	(NA)	-	877
Knit T-shirts and tank tops made for outerwear . . . . .	192,427	160,682	19,849	(NA)	-	-	11,896
Sweatshirts . . . . .	62,309	43,884	17,023	(NA)	-	-	1,402
Other knit shirts . . . . .	25,004	15,853	6,496	(NA)	-	(D)	(D)
Sweaters . . . . .	4,489	1,775	1,284	(NA)	131	-	1,299
Bottoms:							
Dress and sport trousers . . . . .	31,827	17,402	10,968	4,975	1,298	(D)	(D)
Jeans . . . . .	70,341	68,858	21	(NA)	(NA)	(D)	(D)
Jeans-cut casual slacks . . . . .	6,718	3,536	(D)	(NA)	(NA)	(D)	2,231
Shorts . . . . .	18,975	12,242	3,808	(NA)	(D)	(D)	2,809
Sweatpants . . . . .	19,509	12,418	6,808	(NA)	(NA)	-	283
Workpants . . . . .	12,173	729	10,865	(NA)	(NA)	-	579
Underwear and nightwear:							
Pajamas and nightwear . . . . .	3,289	(D)	2,537	(NA)	(NA)	(D)	(D)
Robes . . . . .	(D)	357	582	(NA)	(NA)	-	(D)
All other underwear, including thermal underwear, undershirts, knit undershorts, and woven boxer shorts . . . . .	255,885	244,462	8,583	(NA)	(NA)	13	2,827
Other garments:							
Coveralls, overalls, and jumpsuits . . . . .	4,076	1,407	2,388	(NA)	-	-	281
Jogging and warmup suits . . . . .	(D)	(D)	2,666	(NA)	(NA)	(D)	655
Playsuits . . . . .	(D)	(D)	445	(NA)	-	(D)	52
Ski apparel . . . . .	(D)	-	(D)	(NA)	(NA)	-	72
Swimwear . . . . .	371	(D)	274	(NA)	(NA)	-	(D)
Team sports uniforms . . . . .	5,526	(D)	4,053	(NA)	-	-	(D)
Washable service apparel . . . . .	5,386	(D)	2,028	(NA)	(NA)	(D)	850
Women's and girls' garments:							
Dresses . . . . .	36,145	6,508	19,205	(NA)	467	878	9,087
Coats, jackets, and vests:							
Coats and capes . . . . .	1,939	(D)	800	476	1,798	6	(D)
Down and feather filled coats, jackets, and vests . . . . .	(D)	(D)	(D)	(NA)	-	(D)	(D)
Heavy nontailored coats and jackets . . . . .	1,678	484	393	(NA)	(D)	(D)	663
Raincoats . . . . .	(D)	(D)	(D)	(NA)	(NA)	(D)	15
Separate vests . . . . .	778	95	447	(NA)	(D)	(D)	211
Tailored suit-type jackets . . . . .	(D)	495	2,948	314	1,549	249	(D)
Tops:							
Woven blouses and shirts . . . . .	40,943	15,993	16,145	(NA)	31	1,033	7,741
Knit T-shirts and tank tops made for outerwear . . . . .	53,485	31,736	8,356	(NA)	(NA)	(D)	(D)
Sweatshirts . . . . .	15,202	(D)	6,405	(NA)	(NA)	-	(D)
Other knit blouses and shirts . . . . .	28,723	13,412	10,384	(NA)	(D)	940	(D)
Sweaters, including coat, cardigan, pullover, and vest sweaters . . . . .	14,715	5,182	6,458	(NA)	216	(D)	(D)
Bottoms:							
Shorts . . . . .	24,202	12,274	8,782	(NA)	(NA)	139	3,007
Skirts and divided skirts . . . . .	16,466	2,667	7,768	984	2,435	398	3,198
Jeans . . . . .	38,296	32,947	(D)	(D)	-	(D)	5,294
Slacks (except jeans) . . . . .	40,375	12,538	18,616	2,345	1,854	571	6,796
Sweatpants . . . . .	(D)	(D)	4,927	(NA)	(NA)	-	636
Underwear and nightwear:							
Brassieres, bra-lettes, and bandeaux . . . . .	62,217	3,382	58,139	(NA)	(NA)	-	696
Girdles, corsets, and other foundation garments . . . . .	20,288	(D)	17,073	(NA)	(NA)	-	(D)
Nightgowns, pajamas, and other nightwear . . . . .	15,916	2,557	11,559	(NA)	(NA)	(D)	(D)
Panties . . . . .	130,936	94,155	34,358	(NA)	(NA)	-	2,423
Robes and dressing gowns . . . . .	6,294	1,364	4,086	(NA)	(NA)	-	844
All other underwear, including slips, camisoles, teddies, undershirts, and union suits . . . . .	15,624	3,657	10,227	(NA)	(NA)	52	1,688
Other garments:							
Bodysuits and bodyshirts . . . . .	3,441	(D)	(D)	(NA)	(NA)	-	(D)
Jogging and warmup suits . . . . .	3,228	134	2,845	(NA)	(NA)	(D)	(D)
Overalls, coveralls, and jumpsuits . . . . .	1,310	593	572	(NA)	-	-	145
Playsuits, rompers, halters, etc. . . . .	4,489	1,045	2,998	(NA)	-	(D)	(D)
Ski apparel . . . . .	(D)	-	(D)	(NA)	(NA)	-	62
Suits, including pant suits . . . . .	(D)	(D)	(D)	(D)	302	7	948
Swimwear . . . . .	14,104	865	11,838	(NA)	(NA)	-	1,401
Washable service apparel . . . . .	7,005	3,172	2,810	(NA)	(NA)	-	1,023
Infants' apparel . . . . .	36,166	22,859	11,564	(NA)	(NA)	620	1,123

See footnotes at end of table.

Table 48. Quantity of Production of Apparel by Type of Fabrics: 1996—Con.

[Quantity in thousands of units]

Product description	Total	Cotton	Manmade		Wool	Other	Not specified by kind (n.s.k)
			Total	Wool blends			
<b>THIRD QUARTER</b>							
Men's and boys' garments:							
Suits . . . . .	(D)	144	(D)	345	672	31	606
Coats, jackets, and vests:							
Down and feather filled coats, jackets, and vests . . . . .	(D)	-	(D)	(NA)	-	-	3
Dress and sport coats (tailored) . . . . .	2,721	102	1,560	625	660	182	217
Heavy nontailored coats and jackets . . . . .	6,237	3,653	2,191	(NA)	138	(D)	(D)
Lightweight nontailored coats and jackets . . . . .	6,426	3,031	2,231	(NA)	18	-	1,146
Overcoats and top coats . . . . .	231	(D)	110	(NA)	(D)	(D)	7
Raincoats . . . . .	(D)	(D)	421	(NA)	(NA)	(D)	95
Separate vests . . . . .	(D)	9	309	(NA)	14	(D)	86
Work jackets . . . . .	1,137	(D)	(D)	(NA)	(NA)	(D)	154
Tops:							
Woven dress and business shirts . . . . .	(D)	5,116	7,031	(NA)	(NA)	(D)	987
Woven sport shirts . . . . .	5,276	3,685	1,055	(NA)	(D)	(D)	485
Work shirts . . . . .	12,892	3,232	8,924	(NA)	(NA)	-	736
Knit T-shirts and tank tops made for outerwear . . . . .	198,510	167,474	19,086	(NA)	-	-	11,950
Sweatshirts . . . . .	55,949	35,574	18,931	(NA)	-	-	1,444
Other knit shirts . . . . .	28,661	16,558	9,143	(NA)	-	-	2,960
Sweaters . . . . .	4,202	1,442	1,136	(NA)	147	(D)	(D)
Bottoms:							
Dress and sport trousers . . . . .	31,976	16,600	11,735	4,842	1,363	(D)	(D)
Jeans . . . . .	67,963	66,528	59	(NA)	(NA)	(D)	(D)
Jeans-cut casual slacks . . . . .	9,229	5,089	(D)	(NA)	(NA)	(D)	2,899
Shorts . . . . .	19,674	12,434	4,186	(NA)	(D)	-	(D)
Sweatpants . . . . .	17,313	6,916	10,073	(NA)	(NA)	-	324
Workpants . . . . .	11,028	923	9,575	(NA)	(NA)	-	530
Underwear and nightwear:							
Pajamas and nightwear . . . . .	5,182	(D)	3,310	(NA)	(NA)	(D)	492
Robes . . . . .	(D)	285	1,196	(NA)	(NA)	-	(D)
All other underwear, including thermal underwear, undershirts, knit undershorts, and woven boxer shorts . . . . .	295,560	277,092	15,144	(NA)	(NA)	17	3,307
Other garments:							
Coveralls, overalls, and jumpsuits . . . . .	4,567	1,760	2,428	(NA)	-	-	379
Jogging and warmup suits . . . . .	(D)	(D)	2,627	(NA)	(NA)	(D)	577
Playsuits . . . . .	(D)	(D)	(D)	(NA)	-	(D)	78
Ski apparel . . . . .	(D)	-	(D)	(NA)	(NA)	-	136
Swimwear . . . . .	419	(D)	324	(NA)	(NA)	-	(D)
Team sports uniforms . . . . .	3,565	(D)	2,532	(NA)	-	-	(D)
Washable service apparel . . . . .	4,959	(D)	2,238	(NA)	(NA)	-	(D)
Women's and girls' garments:							
Dresses . . . . .	43,333	9,000	22,274	(NA)	604	1,239	10,216
Coats, jackets, and vests:							
Coats and capes . . . . .	<sup>1</sup> 2,478	(D)	854	405	<sup>1</sup> 1,249	(D)	162
Down and feather filled coats, jackets, and vests . . . . .	(D)	(D)	(D)	(NA)	(D)	(D)	(D)
Heavy nontailored coats and jackets . . . . .	2,176	491	682	(NA)	47	(D)	(D)
Raincoats . . . . .	(D)	(D)	(D)	(NA)	(NA)	-	23
Separate vests . . . . .	820	120	367	(NA)	53	20	260
Tailored suit-type jackets . . . . .	(D)	494	3,113	400	3,404	460	(D)
Tops:							
Woven blouses and shirts . . . . .	47,203	16,151	21,779	(NA)	30	988	8,255
Knit T-shirts and tank tops made for outerwear . . . . .	53,064	30,729	9,067	(NA)	(NA)	(D)	(D)
Sweatshirts . . . . .	16,570	7,439	8,539	(NA)	(NA)	-	592
Other knit blouses and shirts . . . . .	24,569	10,095	9,621	(NA)	(D)	973	(D)
Sweaters, including coat, cardigan, pullover, and vest sweaters . . . . .	14,298	5,164	5,739	(NA)	264	(D)	(D)
Bottoms:							
Shorts . . . . .	16,497	6,718	6,520	(NA)	(NA)	(D)	(D)
Skirts and divided skirts . . . . .	21,923	3,300	10,126	1,131	4,029	544	3,924
Jeans . . . . .	46,038	40,168	(D)	(D)	-	(D)	5,819
Slacks (except jeans) . . . . .	48,920	14,399	23,829	2,086	2,969	341	7,382
Sweatpants . . . . .	(D)	(D)	8,643	(NA)	(NA)	-	716
Underwear and nightwear:							
Brassieres, bra-lettes, and bandeaux . . . . .	66,629	3,751	62,126	(NA)	(NA)	-	752
Girdles, corsets, and other foundation garments . . . . .	21,522	(D)	18,531	(NA)	(NA)	-	(D)
Nightgowns, pajamas, and other nightwear . . . . .	16,839	3,743	11,268	(NA)	(NA)	(D)	(D)
Panties . . . . .	145,554	102,088	40,581	(NA)	(NA)	-	2,885
Robes and dressing gowns . . . . .	6,444	2,088	3,341	(NA)	(NA)	-	1,015
All other underwear, including slips, camisoles, teddies, undershirts, and union suits . . . . .	14,612	3,666	9,330	(NA)	(NA)	35	1,581
Other garments:							
Bodysuits and bodyshirts . . . . .	5,016	(D)	(D)	(NA)	(NA)	-	1,260
Jogging and warmup suits . . . . .	4,679	303	4,063	(NA)	(NA)	(D)	(D)
Overalls, coveralls, and jumpsuits . . . . .	1,675	857	661	(NA)	-	-	157
Playsuits, rompers, halters, etc. . . . .	3,827	984	2,457	(NA)	-	(D)	(D)
Ski apparel . . . . .	(D)	-	(D)	(NA)	(NA)	-	90
Suits, including pant suits . . . . .	(D)	14	(D)	(D)	440	15	1,081
Swimwear . . . . .	7,696	730	5,955	(NA)	(NA)	-	1,011
Washable service apparel . . . . .	6,266	(D)	3,036	(NA)	(NA)	-	(D)
Infants' apparel . . . . .	42,708	27,899	13,124	(NA)	(NA)	577	1,108

See footnotes at end of table.

Table 48. Quantity of Production of Apparel by Type of Fabrics: 1996—Con.

[Quantity in thousands of units]

Product description	Total	Cotton	Manmade		Wool	Other	Not specified by kind (n.s.k)
			Total	Wool blends			
<b>SECOND QUARTER</b>							
Men's and boys' garments:							
Suits . . . . .	(D)	103	(D)	243	670	31	(D)
Coats, jackets, and vests:							
Down and feather filled coats, jackets, and vests . . . . .	(D)	(D)	32	(NA)	-	-	3
Dress and sport coats (tailored) . . . . .	(D)	64	1,727	548	609	192	(D)
Heavy nontailored coats and jackets . . . . .	3,670	607	1,987	(NA)	117	(D)	(D)
Lightweight nontailored coats and jackets . . . . .	4,504	939	2,698	(NA)	25	(D)	(D)
Overcoats and top coats . . . . .	204	(D)	114	(NA)	(D)	(D)	7
Raincoats . . . . .	(D)	(D)	287	(NA)	(NA)	(D)	69
Separate vests . . . . .	(D)	28	187	(NA)	2	(D)	81
Work jackets . . . . .	1,137	(D)	(D)	(NA)	(NA)	(D)	154
Tops:							
Woven dress and business shirts . . . . .	(D)	7,207	5,950	(NA)	(NA)	(D)	1,072
Woven sport shirts . . . . .	5,688	3,380	1,744	(NA)	(D)	-	(D)
Work shirts . . . . .	11,389	1,457	9,272	(NA)	(NA)	-	660
Knit T-shirts and tank tops made for outerwear . . . . .	267,070	227,014	25,090	(NA)	-	-	14,966
Sweatshirts . . . . .	43,995	29,728	13,130	(NA)	-	-	1,137
Other knit shirts . . . . .	28,691	18,455	7,339	(NA)	-	(D)	(D)
Sweaters . . . . .	3,587	1,329	847	(NA)	(D)	(D)	1,278
Bottoms:							
Dress and sport trousers . . . . .	25,253	12,228	9,894	3,712	1,299	252	1,580
Jeans . . . . .	69,200	67,740	50	(NA)	(NA)	-	1,410
Jeans-cut casual slacks . . . . .	7,645	3,620	(D)	(NA)	(NA)	(D)	2,210
Shorts . . . . .	30,917	20,627	6,129	(NA)	-	(D)	(D)
Sweatpants . . . . .	13,268	3,815	9,216	(NA)	(NA)	-	237
Workpants . . . . .	11,407	635	10,225	(NA)	(NA)	-	547
Underwear and nightwear:							
Pajamas and nightwear . . . . .	4,228	1,347	2,554	(NA)	(NA)	(D)	(D)
Robes . . . . .	(D)	223	686	(NA)	(NA)	-	(D)
All other underwear, including thermal underwear, undershirts, knit undershorts, and woven boxer shorts . . . . .	308,730	290,708	14,704	(NA)	(NA)	4	3,314
Other garments:							
Coveralls, overalls, and jumpsuits . . . . .	3,958	1,397	2,034	(NA)	-	-	527
Jogging and warmup suits . . . . .	1,612	(D)	957	(NA)	(NA)	-	(D)
Playsuits . . . . .	(D)	38	(D)	(NA)	-	(D)	77
Ski apparel . . . . .	(D)	(D)	(D)	(NA)	(NA)	-	77
Swimwear . . . . .	534	113	297	(NA)	(NA)	-	124
Team sports uniforms . . . . .	3,723	(D)	2,658	(NA)	-	-	(D)
Washable service apparel . . . . .	4,954	(D)	2,258	(NA)	(NA)	-	(D)
Women's and girls' garments:							
Dresses . . . . .	50,070	10,912	26,027	(NA)	670	1,089	11,372
Coats, jackets, and vests:							
Coats and capes . . . . .	1,822	89	318	158	1,240	20	155
Down and feather filled coats, jackets, and vests . . . . .	(D)	(D)	(D)	(NA)	-	(D)	(D)
Heavy nontailored coats and jackets . . . . .	1,590	347	400	(NA)	(D)	(D)	730
Raincoats . . . . .	(D)	(D)	(D)	(NA)	(NA)	-	18
Separate vests . . . . .	716	134	321	(NA)	15	19	227
Tailored suit-type jackets . . . . .	(D)	308	3,667	327	1,004	255	(D)
Tops:							
Woven blouses and shirts . . . . .	55,835	18,039	27,127	(NA)	(D)	1,284	(D)
Knit T-shirts and tank tops made for outerwear . . . . .	63,142	35,015	12,351	(NA)	(NA)	(D)	(D)
Sweatshirts . . . . .	13,627	(D)	(D)	(NA)	(NA)	-	(D)
Other knit blouses and shirts . . . . .	26,542	11,141	10,602	(NA)	(D)	904	(D)
Sweaters, including coat, cardigan, pullover, and vest sweaters . . . . .	9,580	4,852	2,250	(NA)	230	(D)	(D)
Bottoms:							
Shorts . . . . .	28,776	15,523	10,236	(NA)	(NA)	(D)	(D)
Skirts and divided skirts . . . . .	20,155	4,042	10,374	1,254	(D)	472	(D)
Jeans . . . . .	41,992	36,463	(D)	(D)	-	(D)	5,470
Slacks (except jeans) . . . . .	36,798	10,117	18,249	1,686	1,985	317	6,130
Sweatpants . . . . .	9,969	(D)	(D)	(NA)	(NA)	-	676
Underwear and nightwear:							
Brassieres, bra-lettes, and bandeaux . . . . .	68,907	2,981	65,138	(NA)	(NA)	-	788
Girdles, corsets, and other foundation garments . . . . .	22,730	(D)	20,807	(NA)	(NA)	-	(D)
Nightgowns, pajamas, and other nightwear . . . . .	15,795	3,323	10,528	(NA)	(NA)	(D)	(D)
Panties . . . . .	178,043	136,361	38,122	(NA)	(NA)	-	3,560
Robes and dressing gowns . . . . .	5,651	487	4,196	(NA)	(NA)	(D)	(D)
All other underwear, including slips, camisoles, teddies, undershirts, and union suits . . . . .	12,140	2,215	8,304	(NA)	(NA)	186	1,435
Other garments:							
Bodysuits and bodyshirts . . . . .	6,591	(D)	1,763	(NA)	(NA)	-	(D)
Jogging and warmup suits . . . . .	2,834	152	2,432	(NA)	(NA)	-	250
Overalls, coveralls, and jumpsuits . . . . .	1,515	785	520	(NA)	(D)	-	(D)
Playsuits, rompers, halters, etc. . . . .	4,548	1,316	2,781	(NA)	-	(D)	(D)
Ski apparel . . . . .	(D)	-	(D)	(NA)	(NA)	-	45
Suits, including pant suits . . . . .	(D)	(D)	1,491	489	472	2	1,191
Swimwear . . . . .	11,092	1,037	8,653	(NA)	(NA)	-	1,402
Washable service apparel . . . . .	6,252	(D)	3,041	(NA)	(NA)	-	(D)
Infants' apparel . . . . .	36,547	24,892	10,110	(NA)	(NA)	513	1,032

See footnotes at end of table.

Table 48. Quantity of Production of Apparel by Type of Fabrics: 1996—Con.

[Quantity in thousands of units]

Product description	Total	Cotton	Manmade		Wool	Other	Not specified by kind (n.s.k)
			Total	Wool blends			
<b>FIRST QUARTER</b>							
Men's and boys' garments:							
Suits .....	(D)	144	1,189	260	753	37	(D)
Coats, jackets, and vests:							
Down and feather filled coats, jackets, and vests .....	(D)	(D)	38	(NA)	-	-	4
Dress and sport coats (tailored) .....	(D)	96	1,603	526	655	228	(D)
Heavy nontailored coats and jackets .....	3,074	632	2,014	(NA)	164	(D)	(D)
Lightweight nontailored coats and jackets .....	4,933	447	3,792	(NA)	(D)	-	(D)
Overcoats and top coats .....	223	(D)	120	(NA)	34	(D)	8
Raincoats .....	(D)	(D)	238	(NA)	(NA)	(D)	70
Separate vests .....	(D)	24	422	(NA)	5	(D)	93
Work jackets .....	1,215	(D)	(D)	(NA)	(NA)	(D)	159
Tops:							
Woven dress and business shirts .....	(D)	6,997	6,055	(NA)	(NA)	(D)	1,180
Woven sport shirts .....	5,624	3,922	1,090	(NA)	(D)	-	(D)
Work shirts .....	10,594	1,763	8,215	(NA)	(NA)	-	616
Knit T-shirts and tank tops made for outerwear .....	258,328	223,590	20,178	(NA)	-	-	14,560
Sweatshirts .....	39,905	30,907	7,930	(NA)	-	-	1,068
Other knit shirts .....	28,068	18,499	6,673	(NA)	-	-	2,896
Sweaters .....	2,591	878	416	(NA)	(D)	(D)	1,178
Bottoms:							
Dress and sport trousers .....	24,882	12,144	9,789	3,586	1,181	(D)	(D)
Jeans .....	58,357	57,033	121	(NA)	(NA)	-	1,203
Jeans-cut casual slacks .....	6,752	(D)	(D)	(NA)	(NA)	(D)	2,162
Shorts .....	37,592	26,677	5,939	(NA)	-	(D)	(D)
Sweatpants .....	7,350	3,614	3,574	(NA)	(NA)	-	162
Workpants .....	15,748	793	14,251	(NA)	(NA)	-	704
Underwear and nightwear:							
Pajamas and nightwear .....	4,138	889	2,908	(NA)	(NA)	(D)	(D)
Robes .....	(D)	184	(D)	(NA)	(NA)	-	25
All other underwear, including thermal underwear, undershirts, knit undershorts, and woven boxer shorts .....	277,865	264,104	10,838	(NA)	(NA)	2	2,921
Other garments:							
Coveralls, overalls, and jumpsuits .....	4,940	1,828	2,320	(NA)	-	-	792
Jogging and warmup suits .....	(D)	(D)	1,436	(NA)	(NA)	-	717
Playsuits .....	(D)	38	(D)	(NA)	-	(D)	80
Ski apparel .....	(D)	-	(D)	(NA)	(NA)	-	7
Swimwear .....	945	214	534	(NA)	(NA)	-	197
Team sports uniforms .....	3,684	(D)	2,654	(NA)	-	-	(D)
Washable service apparel .....	4,517	(D)	2,088	(NA)	(NA)	-	(D)
Women's and girls' garments:							
Dresses .....	53,232	11,251	28,349	(NA)	484	1,257	11,891
Coats, jackets, and vests:							
Coats and capes .....	1,977	64	257	102	<sup>1</sup> 546	(D)	(D)
Down and feather filled coats, jackets, and vests .....	(D)	(D)	(D)	(NA)	-	(D)	(D)
Heavy nontailored coats and jackets .....	2,366	451	1,008	(NA)	(D)	(D)	720
Raincoats .....	(D)	(D)	19	(NA)	(NA)	-	17
Separate vests .....	811	236	289	(NA)	(D)	(D)	247
Tailored suit-type jackets .....	(D)	361	5,862	302	701	423	(D)
Tops:							
Woven blouses and shirts .....	51,407	18,072	24,546	(NA)	(D)	1,239	(D)
Knit T-shirts and tank tops made for outerwear .....	73,835	43,202	11,066	(NA)	(NA)	(D)	(D)
Sweatshirts .....	10,111	4,732	(D)	(NA)	(NA)	-	(D)
Other knit blouses and shirts .....	22,552	9,518	7,745	(NA)	(D)	981	(D)
Sweaters, including coat, cardigan, pullover, and vest sweaters .....	8,403	3,797	2,353	(NA)	152	(D)	(D)
Bottoms:							
Shorts .....	37,833	23,392	11,444	(NA)	(NA)	120	2,877
Skirts and divided skirts .....	25,276	3,647	12,378	1,536	(D)	660	(D)
Jeans .....	36,558	31,773	(D)	(D)	-	(D)	4,722
Slacks (except jeans) .....	42,916	13,161	21,217	1,287	1,251	453	6,834
Sweatpants .....	8,092	(D)	(D)	(NA)	(NA)	-	646
Underwear and nightwear:							
Brassieres, bra-lettes, and bandeaux .....	67,209	2,964	63,477	(NA)	(NA)	-	768
Girdles, corsets, and other foundation garments .....	21,480	(D)	19,340	(NA)	(NA)	-	(D)
Nightgowns, pajamas, and other nightwear .....	18,602	3,338	13,586	(NA)	(NA)	319	1,359
Panties .....	159,343	116,449	39,940	(NA)	(NA)	-	2,954
Robes and dressing gowns .....	4,757	979	2,819	(NA)	(NA)	(D)	(D)
All other underwear, including slips, camisoles, teddies, undershirts, and union suits .....	11,762	2,650	7,515	(NA)	(NA)	215	1,382
Other garments:							
Bodysuits and bodyshirts .....	6,233	(D)	1,561	(NA)	(NA)	-	(D)
Jogging and warmup suits .....	4,063	174	3,554	(NA)	(NA)	-	335
Overalls, coveralls, and jumpsuits .....	2,106	1,163	667	(NA)	(D)	-	(D)
Playsuits, rompers, halters, etc. ....	4,510	1,149	2,917	(NA)	-	(D)	(D)
Ski apparel .....	(D)	-	(D)	(NA)	(NA)	-	8
Suits, including pant suits .....	(D)	33	1,259	422	460	8	(D)
Swimwear .....	18,261	1,598	14,853	(NA)	(NA)	-	1,810
Washable service apparel .....	5,777	(D)	2,879	(NA)	(NA)	-	(D)
Infants' apparel .....	36,256	22,745	11,702	(NA)	(NA)	831	978

- Represents zero. D Withheld to avoid disclosing data for individual companies. NA Not available.

<sup>1</sup>Data for 1995 and 1996 are not directly comparable to previous years due to reconciliation between the 1995 Annual Survey of Manufactures and the 1995 Current Industrial Report, MQ23A, Apparel.

Table 49. Quantity of Production of Apparel by Type of Fabrics: 1995

[Quantity in thousands of units]

Product description	Total	Cotton	Manmade		Wool	Other	Not specified by kind (n.s.k)
			Total	Wool blends			
<b>TOTAL</b>							
Men's and boys' garments:							
Suits.....	(D)	(D)	5,040	1,227	2,735	119	(D)
Coats, jackets, and vests:							
Down and feather filled coats, jackets, and vests.....	(D)	(D)	181	(NA)	(D)	-	11
Dress and sport coats (tailored).....	(D)	430	7,028	2,610	2,918	685	(D)
Heavy nontailored coats and jackets.....	16,506	4,670	9,085	(NA)	926	208	1,617
Lightweight nontailored coats and jackets.....	25,301	2,615	16,854	(NA)	(D)	(D)	(D)
Overcoats and top coats.....	1,131	107	413	(NA)	410	(D)	(D)
Raincoats.....	(D)	(D)	1,092	(NA)	(NA)	(D)	288
Separate vests.....	1,691	109	827	(NA)	48	(D)	(D)
Work jackets.....	5,002	(D)	2,887	(NA)	(NA)	(D)	244
Tops:							
Woven dress and business shirts.....	(D)	36,544	27,469	(NA)	(NA)	(D)	4,982
Woven sport shirts.....	24,769	18,082	4,168	(NA)	(D)	-	(D)
Work shirts.....	51,065	9,742	38,585	(NA)	(NA)	-	2,738
Knit T-shirts and tank tops made for outerwear.....	863,032	707,994	88,855	(NA)	(D)	-	(D)
Sweatshirts.....	213,323	142,519	64,737	(NA)	-	-	6,067
Other knit shirts.....	112,799	71,722	35,213	(NA)	(D)	(D)	(D)
Sweaters.....	17,831	8,668	4,310	(NA)	497	(D)	(D)
Bottoms:							
Dress and sport trousers.....	105,347	41,832	50,107	11,466	5,273	(D)	(D)
Jeans.....	276,463	263,941	458	-	-	-	12,064
Jean-cut casual slacks.....	58,258	43,112	6,591	(NA)	(NA)	-	8,555
Shorts.....	114,618	75,838	20,882	(NA)	(D)	(D)	(D)
Sweatpants.....	53,277	21,900	30,397	(NA)	(NA)	-	980
Workpants.....	53,528	2,767	49,039	(NA)	(NA)	(D)	(D)
Underwear and nightwear:							
Pajamas and nightwear.....	21,724	5,493	14,430	(NA)	(NA)	(D)	(D)
Robes.....	5,244	1,649	3,368	(NA)	(NA)	(D)	(D)
All other underwear, including thermal underwear, undershirts, knit undershorts, and woven boxer shorts.....	1,088,650	993,347	79,363	(NA)	(NA)	34	15,906
Other garments:							
Coveralls, overalls, and jumpsuits.....	19,451	6,454	10,825	(NA)	-	87	2,085
Jogging and warmup suits.....	10,000	(D)	7,442	(NA)	(NA)	-	(D)
Playsuits.....	(D)	(D)	711	(NA)	-	(D)	271
Ski apparel.....	(D)	-	8,495	(NA)	(NA)	-	(D)
Swimwear.....	2,362	721	1,132	(NA)	(NA)	-	509
Team sports uniforms.....	15,782	(D)	9,323	(NA)	-	-	(D)
Washable service apparel.....	21,622	5,277	14,531	(NA)	(NA)	8	1,806
Women's and girls' garments:							
Dresses.....	208,072	40,196	112,979	(NA)	1,834	5,200	47,863
Coats, jackets, and vests:							
Coats and capes.....	18,255	(D)	3,055	1,847	13,686	(D)	(D)
Down and feather filled coats, jackets, and vests.....	28	(D)	16	(NA)	-	(D)	6
Heavy nontailored coats and jackets.....	9,066	2,624	2,408	(NA)	195	625	3,214
Raincoats.....	(D)	(D)	318	(NA)	(NA)	1	80
Separate vests.....	3,347	(D)	1,489	(NA)	33	(D)	1,156
Tailored suit-type jackets.....	(D)	1,089	17,952	1,592	5,754	1,127	(D)
Tops:							
Woven blouses and shirts.....	195,963	66,346	91,674	(NA)	241	4,500	33,202
Knit T-shirts and tank tops made for outerwear.....	221,892	107,576	51,739	(NA)	(NA)	1,279	61,298
Sweatshirts.....	45,971	15,018	28,108	(NA)	(NA)	-	2,845
Other knit blouses and shirts.....	113,495	49,122	36,434	(NA)	(D)	(D)	(D)
Sweaters, including coat, cardigan, pullover, and vest sweaters.....	50,133	25,005	15,568	(NA)	1,163	75	8,322
Bottoms:							
Shorts.....	118,370	61,244	38,695	(NA)	(NA)	957	17,474
Skirts and divided skirts.....	89,186	12,975	42,105	4,576	11,096	2,358	20,652
Jeans.....	167,097	146,719	(D)	(D)	-	(D)	19,298
Slacks (except jeans).....	180,329	51,558	87,628	9,533	7,489	2,498	31,156
Sweatpants.....	39,610	(D)	23,411	(NA)	(NA)	-	(D)
Underwear and nightwear:							
Brassieres, bra-lettes, and bandeaux.....	(D)	14,460	284,932	(NA)	(NA)	-	(D)
Girdles, corsets, and other foundation garments.....	92,186	(D)	83,295	(NA)	(NA)	-	(D)
Nightgowns, pajamas, and other nightwear.....	87,976	14,048	60,333	(NA)	(NA)	2,194	11,401
Panties.....	688,632	489,244	190,198	(NA)	(NA)	-	9,190
Robes and dressing gowns.....	23,666	5,965	17,129	(NA)	(NA)	-	572
All other underwear, including slips, camisoles, teddies, undershirts, and union suits.....	(D)	20,197	45,125	(NA)	(NA)	944	(D)
Other garments:							
Bodysuits and bodyshirts.....	19,883	(D)	6,177	(NA)	(NA)	-	(D)
Jogging and warmup suits.....	13,321	653	12,001	(NA)	(NA)	-	667
Overalls, coveralls, and jumpsuits.....	8,629	3,663	4,001	(NA)	(D)	-	(D)
Playsuits, rompers, halters, etc.....	17,548	4,962	10,133	(NA)	(D)	(D)	(D)
Ski apparel.....	(D)	-	1,688	(NA)	(NA)	-	(D)
Suits, including pant suits.....	(D)	103	4,077	1,375	2,066	(D)	3,943
Swimwear.....	50,081	1,603	41,592	(NA)	(NA)	14	6,872
Washable service apparel.....	25,971	6,894	16,248	(NA)	(NA)	-	2,829
Infants' apparel.....	158,302	102,159	45,251	(NA)	(NA)	4,752	6,140

See footnotes at end of table.

Table 49. Quantity of Production of Apparel by Type of Fabrics: 1995—Con.

[Quantity in thousands of units]

Product description	Total	Cotton	Manmade		Wool	Other	Not specified by kind (n.s.k)
			Total	Wool blends			
<b>FOURTH QUARTER</b>							
Men's and boys' garments:							
Suits .....	(D)	155	1,030	309	613	38	(D)
Coats, jackets, and vests:							
Down and feather filled coats, jackets, and vests .....	(D)	(D)	47	(NA)	-	-	3
Dress and sport coats (tailored) .....	(D)	109	1,489	537	641	148	(D)
Heavy nontailored coats and jackets .....	5,500	2,362	2,391	(NA)	277	70	400
Lightweight nontailored coats and jackets .....	6,651	750	4,587	(NA)	(D)	-	(D)
Overcoats and top coats .....	271	24	121	(NA)	73	(D)	(D)
Raincoats .....	(D)	(D)	240	(NA)	(NA)	(D)	52
Separate vests .....	(D)	50	300	(NA)	7	(D)	208
Work jackets .....	1,196	(D)	728	(NA)	(NA)	(D)	58
Tops:							
Woven dress and business shirts .....	(D)	8,197	5,275	(NA)	(NA)	(D)	1,168
Woven sport shirts .....	5,016	3,570	931	(NA)	(D)	-	(D)
Work shirts .....	12,953	2,902	9,362	(NA)	(NA)	-	689
Knit T-shirts and tank tops made for outerwear .....	180,749	150,595	16,409	(NA)	-	-	13,745
Sweatshirts .....	56,530	37,214	17,802	(NA)	-	-	1,514
Other knit shirts .....	25,137	16,632	7,217	(NA)	-	-	1,288
Sweaters .....	4,662	2,652	798	(NA)	(D)	(D)	1,079
Bottoms:							
Dress and sport trousers .....	23,271	9,225	11,050	3,207	1,207	(D)	(D)
Jeans .....	75,445	72,317	112	(NA)	(NA)	-	3,016
Jeans-cut casual slacks .....	12,870	9,231	1,804	(NA)	(NA)	(D)	(D)
Shorts .....	21,853	14,396	3,813	(NA)	(D)	-	(D)
Sweatpants .....	13,165	5,805	7,108	(NA)	(NA)	-	252
Workpants .....	14,870	706	13,691	(NA)	(NA)	-	473
Underwear and nightwear:							
Pajamas and nightwear .....	6,439	1,524	4,468	(NA)	(NA)	(D)	(D)
Robes .....	1,631	588	975	(NA)	(NA)	-	68
All other underwear, including thermal underwear, undershirts, knit undershorts, and woven boxer shorts .....	259,161	236,504	19,303	(NA)	(NA)	7	3,347
Other garments:							
Coveralls, overalls, and jumpsuits .....	4,864	1,647	2,800	(NA)	(NA)	-	417
Jogging and warmup suits .....	2,607	(D)	1,885	(NA)	(NA)	-	(D)
Playsuits .....	(D)	(D)	274	(NA)	-	(D)	47
Ski apparel .....	(D)	-	1,680	(NA)	(NA)	-	(D)
Swimwear .....	422	150	172	(NA)	(NA)	-	100
Team sports uniforms .....	3,982	(D)	2,349	(NA)	-	-	(D)
Washable service apparel .....	4,187	(D)	2,059	(NA)	(NA)	-	(D)
Women's and girls' garments:							
Dresses .....	44,950	8,357	24,752	(NA)	469	1,026	10,346
Coats, jackets, and vests:							
Coats and capes .....	11,966	(D)	904	535	1,658	(D)	213
Down and feather filled coats, jackets, and vests .....	7	(D)	4	(NA)	-	(D)	2
Heavy nontailored coats and jackets .....	2,088	701	437	(NA)	11	128	811
Raincoats .....	(D)	(D)	74	(NA)	(NA)	-	18
Separate vests .....	929	180	433	(NA)	2	19	295
Tailored suit-type jackets .....	(D)	236	4,305	423	1,448	392	(D)
Tops:							
Woven blouses and shirts .....	45,566	15,703	20,437	(NA)	53	1,149	8,224
Knit T-shirts and tank tops made for outerwear .....	59,720	32,309	10,224	(NA)	(NA)	260	16,927
Sweatshirts .....	11,526	3,597	7,325	(NA)	(NA)	-	604
Other knit blouses and shirts .....	25,733	11,352	7,082	(NA)	(D)	996	(D)
Sweaters, including coat, cardigan, pullover, and vest sweaters .....	14,709	7,100	5,014	(NA)	213	(D)	(D)
Bottoms:							
Shorts .....	25,977	12,378	8,388	(NA)	(NA)	133	5,078
Skirts and divided skirts .....	19,649	2,530	10,067	1,254	1,887	508	4,657
Jeans .....	40,792	35,826	(D)	(D)	-	(D)	4,824
Slacks (except jeans) .....	43,566	14,187	19,947	1,691	1,536	397	7,499
Sweatpants .....	9,494	(D)	5,277	(NA)	(NA)	-	(D)
Underwear and nightwear:							
Brassieres, bra-lettes, and bandeaux .....	(D)	3,268	66,642	(NA)	(NA)	-	(D)
Girdles, corsets, and other foundation garments .....	21,569	(D)	20,465	(NA)	(NA)	-	(D)
Nightgowns, pajamas, and other nightwear .....	22,329	4,195	14,622	(NA)	(NA)	639	2,873
Panties .....	156,589	116,656	37,990	(NA)	(NA)	-	1,943
Robes and dressing gowns .....	6,148	1,616	4,388	(NA)	(NA)	-	144
All other underwear, including slips, camisoles, teddies, undershirts, and union suits .....	(D)	4,547	11,481	(NA)	(NA)	167	(D)
Other garments:							
Bodysuits and bodyshirts .....	4,875	(D)	1,308	(NA)	(NA)	-	(D)
Jogging and warmup suits .....	2,875	136	2,590	(NA)	(NA)	-	149
Overalls, coveralls, and jumpsuits .....	1,964	932	808	(NA)	(D)	-	(D)
Playsuits, rompers, halters, etc. .....	4,541	1,438	2,544	(NA)	-	(D)	(D)
Ski apparel .....	(D)	-	570	(NA)	(NA)	-	(D)
Suits, including pant suits .....	(D)	(D)	933	348	434	12	845
Swimwear .....	10,750	863	8,450	(NA)	(NA)	-	1,437
Washable service apparel .....	6,307	2,227	3,443	(NA)	(NA)	-	637
Infants' apparel .....	36,375	21,397	12,468	(NA)	(NA)	1,021	1,489

See footnotes at end of table.



Table 49. Quantity of Production of Apparel by Type of Fabrics: 1995—Con.

[Quantity in thousands of units]

Product description	Total	Cotton	Manmade		Wool	Other	Not specified by kind (n.s.k)
			Total	Wool blends			
<b>THIRD QUARTER</b>							
Men's and boys' garments:							
Suits .....	(D)	(D)	1,299	289	687	24	491
Coats, jackets, and vests:							
Down and feather filled coats, jackets, and vests .....	(D)	(D)	49	(NA)	(D)	-	3
Dress and sport coats (tailored) .....	(D)	104	1,738	668	741	166	(D)
Heavy nontailored coats and jackets .....	4,234	1,257	2,329	(NA)	188	53	407
Lightweight nontailored coats and jackets .....	6,374	694	4,551	(NA)	(D)	(D)	1,100
Overcoats and top coats .....	367	(D)	114	(NA)	174	(D)	6
Raincoats .....	(D)	(D)	304	(NA)	(NA)	(D)	74
Separate vests .....	(D)	16	186	(NA)	23	(D)	136
Work jackets .....	(D)	(D)	692	(NA)	(NA)	(D)	57
Tops:							
Woven dress and business shirts .....	(D)	8,984	7,485	(NA)	(NA)	(D)	1,229
Woven sport shirts .....	6,414	4,763	1,024	(NA)	(D)	-	(D)
Work shirts .....	13,369	3,699	8,983	(NA)	(NA)	-	687
Knit T-shirts and tank tops made for outerwear .....	189,289	155,598	19,148	(NA)	(D)	-	(D)
Sweatshirts .....	53,264	31,860	19,822	(NA)	-	-	1,582
Other knit shirts .....	28,331	17,591	9,301	(NA)	-	-	1,439
Sweaters .....	5,485	2,795	1,392	(NA)	(D)	(D)	1,155
Bottoms:							
Dress and sport trousers .....	29,308	12,839	12,853	3,885	1,527	(D)	(D)
Jeans .....	71,912	68,784	112	(NA)	(NA)	-	3,016
Jeans-cut casual slacks .....	16,120	12,052	1,804	(NA)	(NA)	(D)	(D)
Shorts .....	19,174	10,642	4,878	(NA)	(D)	(D)	3,653
Sweatpants .....	18,231	7,335	10,606	(NA)	(NA)	-	290
Workpants .....	15,553	769	14,299	(NA)	(NA)	(D)	(D)
Underwear and nightwear:							
Pajamas and nightwear .....	4,912	1,007	3,464	(NA)	(NA)	(D)	(D)
Robes .....	1,835	541	1,220	(NA)	(NA)	-	74
All other underwear, including thermal underwear, undershirts, knit undershorts, and woven boxer shorts .....	296,065	270,793	21,786	(NA)	(NA)	18	3,468
Other garments:							
Coveralls, overalls, and jumpsuits .....	5,207	1,902	2,597	(NA)	(NA)	-	708
Jogging and warmup suits .....	3,213	(D)	2,563	(NA)	(NA)	-	(D)
Playsuits .....	(D)	(D)	239	(NA)	-	(D)	90
Ski apparel .....	(D)	-	4,307	(NA)	(NA)	-	(D)
Swimwear .....	268	85	118	(NA)	(NA)	-	65
Team sports uniforms .....	3,331	(D)	1,988	(NA)	-	-	(D)
Washable service apparel .....	4,301	(D)	2,020	(NA)	(NA)	-	(D)
Women's and girls' garments:							
Dresses .....	49,776	9,179	27,500	(NA)	468	1,272	11,357
Coats, jackets, and vests:							
Coats and capes .....	12,584	(D)	924	620	1,244	(D)	225
Down and feather filled coats, jackets, and vests .....	7	(D)	4	(NA)	-	(D)	2
Heavy nontailored coats and jackets .....	2,468	667	676	(NA)	(D)	(D)	879
Raincoats .....	(D)	(D)	119	(NA)	(NA)	-	26
Separate vests .....	914	(D)	398	(NA)	18	(D)	301
Tailored suit-type jackets .....	(D)	187	4,238	536	2,750	408	(D)
Tops:							
Woven blouses and shirts .....	43,646	15,283	19,111	(NA)	46	1,199	8,007
Knit T-shirts and tank tops made for outerwear .....	48,541	24,674	9,834	(NA)	(NA)	(D)	(D)
Sweatshirts .....	13,825	4,646	8,514	(NA)	(NA)	-	665
Other knit blouses and shirts .....	30,050	13,815	9,191	(NA)	(D)	897	(D)
Sweaters, including coat, cardigan, pullover, and vest sweaters .....	15,108	6,763	5,495	(NA)	381	14	2,455
Bottoms:							
Shorts .....	19,116	7,387	7,396	(NA)	(NA)	288	4,045
Skirts and divided skirts .....	23,027	2,956	10,820	1,216	3,398	572	5,281
Jeans .....	49,837	44,484	524	(D)	-	(D)	4,824
Slacks (except jeans) .....	49,463	13,358	24,218	2,822	2,781	739	8,367
Sweatpants .....	13,045	(D)	7,761	(NA)	(NA)	-	(D)
Underwear and nightwear:							
Brassieres, bra-lettes, and bandeaux .....	(D)	3,564	72,368	(NA)	(NA)	-	(D)
Girdles, corsets, and other foundation garments .....	24,177	(D)	21,331	(NA)	(NA)	-	(D)
Nightgowns, pajamas, and other nightwear .....	22,464	3,456	15,790	(NA)	(NA)	478	2,740
Panties .....	184,799	128,380	53,989	(NA)	(NA)	-	2,430
Robes and dressing gowns .....	6,473	1,665	4,656	(NA)	(NA)	-	152
All other underwear, including slips, camisoles, teddies, undershirts, and union suits .....	(D)	6,024	12,627	(NA)	(NA)	266	(D)
Other garments:							
Bodysuits and bodyshirts .....	5,550	(D)	1,409	(NA)	(NA)	-	(D)
Jogging and warmup suits .....	3,654	180	3,324	(NA)	(NA)	-	150
Overalls, coveralls, and jumpsuits .....	1,852	771	884	(NA)	(D)	(D)	192
Playsuits, rompers, halters, etc. .....	3,322	867	1,881	(NA)	(D)	(D)	367
Ski apparel .....	(D)	-	954	(NA)	(NA)	-	(D)
Suits, including pant suits .....	(D)	(D)	923	381	467	18	997
Swimwear .....	7,473	101	6,140	(NA)	(NA)	(D)	(D)
Washable service apparel .....	6,469	2,366	3,585	(NA)	(NA)	-	518
Infants' apparel .....	45,085	30,520	11,955	(NA)	(NA)	1,020	1,590

See footnotes at end of table.

Table 49. Quantity of Production of Apparel by Type of Fabrics: 1995—Con.

[Quantity in thousands of units]

Product description	Total	Cotton	Manmade		Wool	Other	Not specified by kind (n.s.k)
			Total	Wool blends			
<b>SECOND QUARTER</b>							
Men's and boys' garments:							
Suits	(D)	121	1,165	271	677	28	(D)
Coats, jackets, and vests:							
Down and feather filled coats, jackets, and vests	(D)	(D)	41	(NA)	(D)	-	3
Dress and sport coats (tailored)	(D)	86	1,655	651	753	184	(D)
Heavy nontailored coats and jackets	3,243	535	2,080	(NA)	191	(D)	(D)
Lightweight nontailored coats and jackets	6,001	614	3,756	(NA)	(D)	-	(D)
Overcoats and top coats	330	(D)	110	(NA)	(D)	(D)	6
Raincoats	(D)	(D)	329	(NA)	(NA)	(D)	78
Separate vests	286	26	90	(NA)	6	(D)	(D)
Work jackets	1,248	(D)	750	(NA)	(NA)	(D)	60
Tops:							
Woven dress and business shirts	(D)	10,209	6,836	(NA)	(NA)	(D)	1,237
Woven sport shirts	7,147	5,144	1,295	(NA)	(D)	-	(D)
Work shirts	12,291	1,566	10,055	(NA)	(NA)	-	670
Knit T-shirts and tank tops made for outerwear	245,494	201,623	26,312	(NA)	-	-	17,559
Sweatshirts	52,884	36,332	14,999	(NA)	-	-	1,553
Other knit shirts	30,758	19,453	9,696	(NA)	(D)	-	(D)
Sweaters	4,099	1,709	1,114	(NA)	(D)	-	(D)
Bottoms:							
Dress and sport trousers	25,820	10,046	12,440	2,072	1,344	(D)	(D)
Jeans	72,428	69,298	114	(NA)	(NA)	-	3,016
Jeans-cut casual slacks	16,858	12,945	1,511	(NA)	(NA)	(D)	(D)
Shorts	30,263	19,488	6,077	(NA)	-	(D)	(D)
Sweatpants	13,475	4,748	8,491	(NA)	(NA)	-	236
Workpants	12,637	599	11,631	(NA)	(NA)	-	407
Underwear and nightwear:							
Pajamas and nightwear	5,077	1,294	3,367	(NA)	(NA)	(D)	(D)
Robes	1,109	311	750	(NA)	(NA)	(D)	(D)
All other underwear, including thermal underwear, undershirts, knit undershorts, and woven boxer shorts	292,455	267,286	21,914	(NA)	(NA)	7	3,248
Other garments:							
Coveralls, overalls, and jumpsuits	(D)	1,342	2,816	(NA)	(NA)	(D)	481
Jogging and warmup suits	2,131	(D)	1,513	(NA)	(NA)	-	(D)
Playsuits	(D)	70	63	(NA)	-	(D)	47
Ski apparel	(D)	-	2,027	(NA)	(NA)	-	(D)
Swimwear	620	209	300	(NA)	(NA)	-	111
Team sports uniforms	(D)	(D)	2,319	(NA)	-	-	1,436
Washable service apparel	5,811	747	4,732	(NA)	(NA)	(D)	(D)
Women's and girls' garments:							
Dresses	54,629	9,822	30,043	(NA)	448	1,518	12,798
Coats, jackets, and vests:							
Coats and capes	12,172	(D)	485	103	1,251	6	(D)
Down and feather filled coats, jackets, and vests	5	(D)	3	(NA)	-	(D)	1
Heavy nontailored coats and jackets	1,996	629	513	(NA)	(D)	(D)	715
Raincoats	(D)	(D)	98	(NA)	(NA)	(D)	10
Separate vests	820	(D)	315	(NA)	(D)	(D)	289
Tailored suit-type jackets	(D)	275	3,866	283	1,069	186	(D)
Tops:							
Woven blouses and shirts	49,455	16,933	22,844	(NA)	38	1,200	8,440
Knit T-shirts and tank tops made for outerwear	51,237	21,909	15,473	(NA)	(NA)	(D)	(D)
Sweatshirts	11,362	3,501	6,834	(NA)	(NA)	-	1,027
Other knit blouses and shirts	25,985	10,119	9,114	(NA)	(D)	979	(D)
Sweaters, including coat, cardigan, pullover, and vest sweaters	10,726	5,718	2,857	(NA)	356	(D)	(D)
Bottoms:							
Shorts	29,950	15,262	10,813	(NA)	(NA)	152	3,723
Skirts and divided skirts	21,815	3,274	9,697	990	(D)	526	(D)
Jeans	43,613	38,653	(D)	(D)	-	(D)	4,825
Slacks (except jeans)	41,208	11,655	20,049	2,258	(D)	384	(D)
Sweatpants	10,356	(D)	6,541	(NA)	(NA)	-	(D)
Underwear and nightwear:							
Brassieres, bra-lettes, and bandeaux	(D)	3,587	76,244	(NA)	(NA)	-	(D)
Girdles, corsets, and other foundation garments	24,045	(D)	21,424	(NA)	(NA)	-	(D)
Nightgowns, pajamas, and other nightwear	18,994	3,111	12,746	(NA)	(NA)	573	2,564
Panties	178,901	127,871	48,685	(NA)	(NA)	-	2,345
Robes and dressing gowns	(D)	1,173	3,696	(NA)	(NA)	-	(D)
All other underwear, including slips, camisoles, teddies, undershirts, and union suits	(D)	4,815	10,573	(NA)	(NA)	303	(D)
Other garments:							
Bodysuits and bodyshirts	4,932	(D)	1,706	(NA)	(NA)	-	(D)
Jogging and warmup suits	2,992	147	2,706	(NA)	(NA)	-	139
Overalls, coveralls, and jumpsuits	1,958	534	1,208	(NA)	-	-	216
Playsuits, rompers, halters, etc.	4,168	1,214	2,333	(NA)	-	(D)	(D)
Ski apparel	(D)	-	68	(NA)	(NA)	-	(D)
Suits, including pant suits	(D)	39	1,365	297	445	(D)	903
Swimwear	13,260	(D)	11,245	(NA)	(NA)	(D)	(D)
Washable service apparel	5,709	950	4,007	(NA)	(NA)	-	752
Infants' apparel	39,769	27,892	9,282	(NA)	(NA)	1,106	1,489

See footnotes at end of table.

Table 49. Quantity of Production of Apparel by Type of Fabrics: 1995—Con.

[Quantity in thousands of units]

Product description	Total	Cotton	Manmade		Wool	Other	Not specified by kind (n.s.k)
			Total	Wool blends			
<b>FIRST QUARTER</b>							
Men's and boys' garments:							
Suits	(D)	151	1,546	358	758	29	(D)
Coats, jackets, and vests:							
Down and feather filled coats, jackets, and vests	(D)	(D)	44	(NA)	(D)	-	2
Dress and sport coats (tailored)	(D)	131	2,146	754	783	187	(D)
Heavy nontailored coats and jackets	3,529	516	2,285	(NA)	270	40	418
Lightweight nontailored coats and jackets	6,275	557	3,960	(NA)	(D)	-	(D)
Overcoats and top coats	163	(D)	68	(NA)	25	(D)	4
Raincoats	(D)	(D)	219	(NA)	(NA)	(D)	84
Separate vests	(D)	17	251	(NA)	12	13	(D)
Work jackets	(D)	(D)	717	(NA)	(NA)	(D)	69
Tops:							
Woven dress and business shirts	(D)	9,154	7,873	(NA)	(NA)	(D)	1,348
Woven sport shirts	6,192	4,605	918	(NA)	(D)	-	(D)
Work shirts	12,452	1,575	10,185	(NA)	(NA)	-	692
Knit T-shirts and tank tops made for outerwear	247,500	200,178	26,986	(NA)	-	-	20,336
Sweatshirts	50,645	37,113	12,114	(NA)	-	-	1,418
Other knit shirts	28,573	18,046	8,999	(NA)	(D)	(D)	1,511
Sweaters	3,585	1,512	1,006	(NA)	94	-	973
Bottoms:							
Dress and sport trousers	26,948	9,722	13,764	2,302	1,195	(D)	(D)
Jeans	56,678	53,542	120	(NA)	(NA)	-	3,016
Jeans-cut casual slacks	12,410	8,884	1,472	(NA)	(NA)	-	2,054
Shorts	43,328	31,312	6,114	(NA)	(D)	(D)	5,900
Sweatpants	8,406	4,012	4,192	(NA)	(NA)	-	202
Workpants	10,468	693	9,418	(NA)	(NA)	-	357
Underwear and nightwear:							
Pajamas and nightwear	5,296	1,668	3,131	(NA)	(NA)	(D)	(D)
Robes	669	209	423	(NA)	(NA)	-	37
All other underwear, including thermal underwear, undershirts, knit undershorts, and woven boxer shorts	240,969	218,764	16,360	(NA)	(NA)	2	5,843
Other garments:							
Coveralls, overalls, and jumpsuits	(D)	1,563	2,612	(NA)	(NA)	(D)	479
Jogging and warmup suits	2,049	(D)	1,481	(NA)	(NA)	-	(D)
Playsuits	(D)	(D)	135	(NA)	-	(D)	87
Ski apparel	(D)	-	481	(NA)	(NA)	-	(D)
Swimwear	1,052	277	542	(NA)	(NA)	-	233
Team sports uniforms	(D)	(D)	2,667	(NA)	-	-	(D)
Washable service apparel	7,323	888	5,720	(NA)	(NA)	(D)	(D)
Women's and girls' garments:							
Dresses	58,717	12,838	30,684	(NA)	449	1,384	13,362
Coats, jackets, and vests:							
Coats and capes	1,533	(D)	742	589	1,533	11	(D)
Down and feather filled coats, jackets, and vests	9	(D)	5	(NA)	-	(D)	1
Heavy nontailored coats and jackets	2,514	627	782	(NA)	101	195	809
Raincoats	(D)	(D)	27	(NA)	(NA)	(D)	26
Separate vests	684	(D)	343	(NA)	(D)	(D)	271
Tailored suit-type jackets	(D)	391	5,543	350	487	141	(D)
Tops:							
Woven blouses and shirts	57,296	18,427	29,282	(NA)	104	952	8,531
Knit T-shirts and tank tops made for outerwear	62,394	28,684	16,208	(NA)	(NA)	(D)	(D)
Sweatshirts	9,258	3,274	5,435	(NA)	(NA)	-	549
Other knit blouses and shirts	31,727	13,836	11,047	(NA)	(D)	(D)	5,606
Sweaters, including coat, cardigan, pullover, and vest sweaters	9,590	5,424	2,202	(NA)	213	(D)	(D)
Bottoms:							
Shorts	43,327	26,217	12,098	(NA)	(NA)	384	4,628
Skirts and divided skirts	24,695	4,215	11,521	1,116	(D)	752	(D)
Jeans	32,855	27,756	(D)	(D)	-	-	(D)
Slacks (except jeans)	46,092	12,358	23,414	2,762	(D)	978	(D)
Sweatpants	6,715	(D)	3,832	(NA)	(NA)	-	(D)
Underwear and nightwear:							
Brassieres, bra-lettes, and bandeaux	(D)	4,041	69,678	(NA)	(NA)	-	(D)
Girdles, corsets, and other foundation garments	22,395	(D)	20,075	(NA)	(NA)	-	(D)
Nightgowns, pajamas, and other nightwear	24,189	3,286	17,175	(NA)	(NA)	504	3,224
Panties	168,343	116,337	49,534	(NA)	(NA)	-	2,472
Robes and dressing gowns	(D)	1,511	4,389	(NA)	(NA)	-	(D)
All other underwear, including slips, camisoles, teddies, undershirts, and union suits	(D)	4,811	10,444	(NA)	(NA)	208	(D)
Other garments:							
Bodysuits and bodyshirts	4,526	(D)	1,754	(NA)	(NA)	-	(D)
Jogging and warmup suits	3,800	190	3,381	(NA)	(NA)	-	229
Overalls, coveralls, and jumpsuits	2,855	1,426	1,101	(NA)	-	(D)	(D)
Playsuits, rompers, halters, etc.	5,517	1,443	3,375	(NA)	-	(D)	(D)
Ski apparel	(D)	-	96	(NA)	(NA)	-	(D)
Suits, including pant suits	(D)	12	856	349	720	(D)	1,198
Swimwear	18,598	(D)	15,757	(NA)	(NA)	(D)	2,528
Washable service apparel	7,486	1,351	5,213	(NA)	(NA)	-	922
Infants' apparel	37,073	22,350	11,546	(NA)	(NA)	1,716	1,461

- Represents zero. D Withheld to avoid disclosing data for individual companies. NA Not available.

<sup>1</sup>Data for 1995 and 1996 are not directly comparable to previous years due to reconciliation between the 1995 Annual Survey of Manufactures and the 1995 Current Industrial Report, MQ23A, Apparel.

Table 50. Shipments, Exports, Imports, and Apparent Consumption of Selected Apparel Items: 1996 and 1995

[Quantity in thousands of units. Value in millions of dollars]

Product description	Manufacturers' shipments		Exports of domestic merchandise <sup>1</sup>		"9802" imports <sup>2</sup>			Imports for consumption <sup>5</sup>		Apparent consumption <sup>7</sup>		Percent imports to apparent consumption	
	Quantity	Value f.o.b. plant	Quantity	Value at port	Quantity	Value U.S. content <sup>3</sup>	Total value <sup>4</sup>	Quantity	Value <sup>6</sup>	Quantity	Value	Quantity	Value
<b>1996</b>													
Men's and boys' apparel:													
Sweaters .....	14,869	214.4	22,488	100.6	276	0.9	2.8	35,568	466.7	27,949	580.5	127.3	80.4
Tops (except sweaters) ...	(D)	(D)	371,352	1,020.3	437,724	929.0	1,324.6	1,352,496	6,722.8	(D)	(D)	(D)	(D)
Bottoms .....	625,097	7,963.3	256,728	1,032.4	282,324	1,077.7	1,813.7	610,488	3,926.8	978,857	10,857.7	62.4	36.2
Coats:													
Suit type, dress and sport .....	11,268	711.7	6,816	57.0	5,028	73.2	127.8	11,472	414.4	15,924	1,069.1	72.0	38.8
Other coats .....	53,205	1,491.0	20,376	99.1	5,664	46.3	79.5	117,528	1,840.4	150,357	3,232.3	78.2	56.9
Suits .....	(D)	(D)	5,184	54.0	756	12.7	33.7	79,584	532.1	(D)	(D)	(D)	(D)
Swimwear .....	2,269	21.7	1,320	6.3	732	1.9	2.9	42,456	149.2	43,405	164.6	97.8	90.6
Women's and girls' apparel:													
Sweaters .....	46,996	611.5	3,972	22.7	1,044	1.6	16.9	152,088	1,601.2	195,112	2,190.0	77.9	73.1
Dresses .....	182,780	4,373.5	21,432	114.1	30,588	101.9	238.7	189,564	1,928.0	350,912	6,187.4	54.0	31.2
Tops (except sweaters) ...	596,810	4,156.1	176,748	434.6	161,112	327.1	488.8	1,013,892	5,433.2	1,433,954	9,154.7	70.7	59.3
Skirts .....	83,820	1,208.7	10,248	43.8	23,532	68.0	155.8	137,760	1,063.2	211,332	2,228.1	65.2	47.7
Coats and jackets .....	48,320	1,816.9	16,632	124.7	25,200	216.8	472.1	127,560	2,847.6	159,248	4,539.8	80.1	62.7
Bottoms (except skirts) ...	481,963	4,971.8	139,896	480.3	222,288	713.1	1,183.6	597,072	3,800.5	939,139	8,292.0	63.6	45.8
Suits .....	(D)	(D)	7,032	62.4	1,465	30.0	51.1	105,288	361.1	(D)	(D)	(D)	(D)
Swimwear .....	51,153	741.7	7,332	37.6	12,828	44.9	63.5	30,780	189.3	74,601	893.4	41.3	21.2
Other apparel (men's/ women's):													
Playsuits .....	(D)	(D)	-	-	4,440	4.7	7.6	35,520	144.9	(D)	(D)	(D)	(D)
Coveralls, etc. ....	24,147	472.9	8,280	28.1	8,688	39.4	63.8	53,580	427.6	69,447	872.4	77.2	49.0
Robes and dressing gowns .....	(D)	(D)	12,408	26.5	10,452	32.0	58.8	37,128	348.2	(D)	(D)	(D)	(D)
Pajamas and other nightwear .....	83,989	655.8	24,216	65.9	49,644	96.4	193.0	154,164	904.7	213,937	1,494.6	72.1	60.5
Underwear (except foundation garments) ...	1,806,054	2,712.4	770,532	715.0	1,185,060	733.1	1,041.6	1,718,532	1,802.0	2,754,054	3,799.4	62.4	47.4
Foundation garments .....	350,982	1,881.6	294,288	372.3	238,488	403.7	597.9	352,524	867.1	409,218	2,376.4	86.1	36.5
Infants' apparel .....	151,677	785.8	104,952	135.7	86,220	119.9	187.9	424,260	1,039.9	470,985	1,690.0	90.1	61.5
<b>1995</b>													
Men's and boys' apparel:													
Sweaters .....	17,831	210.8	24,612	95.4	108	0.2	1.7	40,668	457.5	33,887	572.9	120.0	79.9
Tops (except sweaters) ...	(D)	(D)	346,968	941.7	206,170	462.9	764.5	1,212,228	6,389.3	(D)	(D)	(D)	(D)
Bottoms .....	661,491	8,054.6	233,628	882.2	172,703	617.6	1,050.5	580,548	3,762.8	1,008,411	10,935.2	57.6	34.4
Coats:													
Suit type, dress and sport .....	(D)	(D)	7,932	66.1	5,332	71.7	130.5	12,216	416.1	(D)	(D)	(D)	(D)
Other coats .....	51,805	1,311.5	25,776	105.0	4,488	35.8	65.4	130,128	2,141.0	156,157	3,347.5	83.3	64.0
Suits .....	(D)	(D)	5,508	63.5	745	8.9	27.4	87,228	430.5	(D)	(D)	(D)	(D)
Swimwear .....	2,362	27.0	1,200	4.8	960	2.1	3.6	50,388	213.6	51,550	235.8	97.7	90.6
Women's and girls' apparel:													
Sweaters .....	50,133	580.8	1,344	21.9	1,416	0.5	25.1	136,032	1,401.8	184,821	1,960.7	73.6	71.5
Dresses .....	208,072	4,715.8	20,712	112.5	18,528	59.7	162.2	168,168	1,872.4	355,528	6,475.7	47.3	28.9
Tops (except sweaters) ...	577,321	4,122.6	141,312	386.7	95,652	162.9	342.0	1,011,144	5,663.2	1,447,153	9,399.1	69.9	60.3
Skirts .....	89,186	1,281.5	10,020	45.2	15,624	46.7	119.6	127,284	1,032.9	206,450	2,269.2	61.7	45.5
Coats and jackets .....	52,038	1,888.1	16,080	121.5	18,204	165.2	365.4	119,172	2,099.7	155,130	3,866.3	76.8	54.3
Bottoms (except skirts) ...	505,406	5,146.7	117,348	418.1	101,664	270.8	539.8	582,576	3,692.5	970,634	8,421.1	60.0	43.8
Suits .....	(D)	(D)	6,480	55.2	1,255	23.1	45.6	100,776	371.9	(D)	(D)	(D)	(D)
Swimwear .....	50,081	670.6	6,324	32.1	8,928	26.9	38.8	27,468	191.3	71,225	829.8	38.6	23.1

See footnotes at end of table.

Table 50. Shipments, Exports, Imports, and Apparent Consumption of Selected Apparel Items: 1996 and 1995—Con.

[Quantity in thousands of units. Value in millions of dollars]

Product description	Manufacturers' shipments		Exports of domestic merchandise <sup>1</sup>		"9802" imports <sup>2</sup>			Imports for consumption <sup>5</sup>		Apparent consumption <sup>7</sup>		Percent imports to apparent consumption	
	Quantity	Value f.o.b. plant	Quantity	Value at port	Quantity	Value U.S. content <sup>3</sup>	Total value <sup>4</sup>	Quantity	Value <sup>6</sup>	Quantity	Value	Quantity	Value
<b>1995—Con.</b>													
Other apparel (men's/women's):													
Playsuits . . . . .	(D)	(D)	-	-	4,656	6.6	11.3	50,712	298.2	(D)	(D)	(D)	(D)
Coveralls, etc. . . . .	28,080	458.2	7,356	35.3	4,536	20.5	35.1	50,772	409.8	71,496	832.7	71.0	49.2
Robes and dressing gowns . . . . .	28,910	288.9	13,620	34.4	9,324	23.7	47.9	37,128	335.4	52,418	589.9	70.8	56.9
Pajamas and other nightwear . . . . .	109,700	829.8	24,684	60.2	37,512	64.1	148.2	146,388	848.8	231,404	1,618.4	63.3	52.4
Underwear (except foundation garments) . . . . .	1,851,032	2,875.0	624,492	617.7	897,756	532.7	769.6	1,556,316	1,541.4	2,782,856	3,798.7	55.9	40.6
Foundation garments . . . . .	(D)	(D)	336,456	387.5	287,472	437.0	659.9	399,648	901.8	(D)	(D)	(D)	(D)
Infants' apparel . . . . .	158,302	777.2	88,236	121.5	62,964	80.6	124.6	413,736	1,001.6	483,802	1,657.3	85.5	60.4

- Represents zero. D Withheld to avoid disclosing data for individual companies.

<sup>1</sup>Source: Bureau of the Census report EM 545, *U.S. Exports*.<sup>2</sup>Represents apparel that is cut in the United States, sent outside the country to be sewn, and then returned to the United States under 9802 (formerly 807) of Chapter 98, Special Classification Provisions of the Harmonized Tariff Schedules of the United States, and is included in domestic output, imports, and exports. Because 9802 garments are exported in pieces, the export quantity data may be overstated since some data may be reported in pieces rather than in completed garments.<sup>3</sup>Represents value of the U.S. fabricated components.<sup>4</sup>Represents total c.i.f. (cost, insurance, and freight) value of article, which includes value of the U.S. fabricated components and foreign processing.<sup>5</sup>Source: Bureau of the Census report IM 145, *U.S. Imports for Consumption*.<sup>6</sup>Dollar value represents c.i.f. (cost, insurance, and freight) value at first port of entry in the United States plus U.S. import duties.<sup>7</sup>Apparent consumption represents new domestic supply and is derived by subtracting exports from sum of manufacturers' shipments plus imports.

Note: For comparison of SIC-based codes with Schedule B export numbers and HTSUSA import numbers, see "Contact for Data Users" at end of subsection MA23D, Gloves and Mittens, page 2-81.

## GLOVES AND MITTENS (MA23D)

Table 51. Quantity and Value of Shipments of Gloves and Mittens: 1996 and 1995

[Quantity in thousand dozen pairs. Value in millions of dollars]

Product description	1996		1995 <sup>1</sup>	
	Quantity	Value	Quantity	Value
Gloves and mittens.....	300,357	964.3	<sup>1</sup> 320,313	1,009.8
All fabrics gloves and mittens.....	32,938	367.7	33,292	366.2
All leather and leather and fabrics combination gloves and mittens.....	1,402	125.7	1,567	127.9
All plastics gloves.....	32,000	43.9	<sup>1</sup> 36,916	<sup>1</sup> 45.0
All rubber gloves.....	234,017	427.0	<sup>1</sup> 248,538	470.7
Of total:				
Dress/casual gloves and mittens.....	265	21.2	<sup>1</sup> 287	<sup>1</sup> 24.6
Work/chore gloves and mittens.....	300,092	943.1	<sup>1</sup> 320,026	985.2

<sup>1</sup>Revised by 5 percent or more from previously published data.

<sup>1</sup>For 1995, a number of establishments were added based on information in the 1994 Annual Survey Manufactures. Data were received from these establishments for 1995; therefore, the information shown for years prior to 1995 may not be directly comparable. These changes represent approximately 1.5 percent of the total value of shipments of gloves and mittens.

Table 52. Quantity and Value of Shipments of Gloves and Mittens: 1996 and 1995

[Quantity in thousand dozen pairs. Value in millions of dollars]

Product description	1996		1995 <sup>1</sup>	
	Quantity	Value	Quantity	Value
<b>All fabrics gloves and mittens.....</b>	<b>32,938</b>	<b>367.7</b>	<b>33,292</b>	<b>366.2</b>
Woven fabrics gloves and mittens.....	3,874	66.2	3,809	<sup>1</sup> 59.9
Impregnated with rubber or plastics.....	476	7.3	524	7.9
Greater than 50 percent plastics or rubber.....	(D)	(D)	(D)	(D)
Cotton.....	(D)	(D)	(D)	(D)
Manmade.....	-	-	-	-
Other.....	-	-	-	-
Nonimpregnated.....	3,398	58.9	3,285	<sup>1</sup> 52.0
Cotton.....	3,325	52.3	3,234	47.2
Manmade.....	(D)	(D)	(D)	(D)
Wool.....	(D)	(D)	(D)	(D)
Other.....	(D)	(D)	(D)	(D)
Knit fabrics gloves and mittens.....	29,064	301.5	29,483	306.3
Impregnated with rubber or plastics.....	7,268	120.5	<sup>1</sup> 7,484	<sup>1</sup> 125.6
Greater than 50 percent plastics or rubber.....	3,244	69.2	3,341	71.0
Cotton.....	2,946	38.3	<sup>1</sup> 3,229	<sup>1</sup> 40.9
Manmade.....	(D)	(D)	(D)	(D)
Other.....	(D)	(D)	(D)	(D)
Nonimpregnated.....	21,796	181.0	21,999	180.7
Cotton.....	20,856	166.5	20,851	164.0
Terry/looped pile.....	812	9.5	736	9.2
Jersey, brushed, napped.....	3,871	73.6	4,722	79.3
Lisle (no nap or brush).....	1,786	6.5	1,632	6.0
Other.....	14,387	76.9	13,761	69.5
Manmade.....	752	6.9	873	<sup>1</sup> 8.7
Wool.....	(D)	(D)	(D)	(D)
Other.....	(D)	(D)	(D)	(D)

See footnotes at end of table.

Table 52. Quantity and Value of Shipments of Gloves and Mittens: 1996 and 1995—Con.

[Quantity in thousand dozen pairs. Value in millions of dollars]

Product description	1996		1995 <sup>1</sup>	
	Quantity	Value	Quantity	Value
Leather and fabrics combination gloves . . . . .	<sup>a</sup> 311	29.8	<sup>b</sup> 350	<sup>a</sup> 27.1
All leather gloves and mittens . . . . .	1,091	95.9	<sup>f</sup> 1,217	<sup>f</sup> 100.8
All grain leather . . . . .	795	76.3	936	<sup>f</sup> 82.4
All split leather . . . . .	<sup>a</sup> 250	<sup>a</sup> 15.8	<sup>a</sup> 235	<sup>a</sup> 14.9
All other leather gloves . . . . .	46	3.8	<sup>f</sup> 46	<sup>f</sup> 3.5
All plastics gloves . . . . .	32,000	43.9	<sup>f</sup> 36,916	<sup>f</sup> 45.0
Medical and surgical . . . . .	(D)	(D)	(D)	(D)
All other . . . . .	(D)	(D)	(D)	(D)
All rubber gloves . . . . .	234,017	427.0	<sup>f</sup> 248,538	470.7
Medical and surgical . . . . .	211,508	319.1	<sup>f</sup> 227,881	363.9
All other . . . . .	22,509	107.9	20,657	106.8

- Represents zero. D Withheld to avoid disclosing data for individual companies. <sup>f</sup>Revised by 5 percent or more from previously published data.

<sup>1</sup>For 1995, a number of establishments were added based on information in the 1994 Annual Survey of Manufacturers. Data were received from these establishments for 1995; therefore, the information shown for years prior to 1995 may not be directly comparable. These changes represent approximately 1.5 percent of the total value of shipments of gloves and mittens.

Note: Percent of estimation of each item is indicated as follows: <sup>a</sup>10 to 19 percent of this item is estimated. <sup>b</sup>20 to 49 percent of this item is estimated.

Table 53. Shipments, Exports, Imports, and Apparent Consumption of Gloves and Mittens: 1996 and 1995

[Quantity in thousand dozen pairs. Value and calculated import duty in millions of dollars]

Product code	Product description	Manufacturers' shipments		Exports of domestic merchandise <sup>1</sup>		Percent exports to manufacturers' shipments		Imports for consumption <sup>2</sup>		Apparent consumption <sup>4</sup>		Percent imports to apparent consumption	
		Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value <sup>3</sup>	Quantity	Value	Quantity	Value
<b>1996</b>													
23813	Knitted, not coated or impregnated gloves and mittens . . .	21,796	181.0	1,019	13.9	4.7	7.7	35,577	207.0	56,354	374.1	63.1	55.3
3069D	Knitted, plastics or rubber, coated or impregnated gloves and mittens . . . . .	7,268	120.5	1,661	24.0	22.9	19.9	6,696	66.3	12,303	162.8	54.4	40.7
23813	Woven, nonimpregnated gloves and mittens . . . . .	3,398	58.9	1,313	11.8	38.6	20.0	9,790	67.9	11,875	115.0	82.4	59.0
3069D	Woven impregnated gloves and mittens . . . . .	476	7.3	88	1.3	18.5	17.8	1,482	10.1	1,870	16.1	79.3	62.7
23814, 31510	All leather and leather and fabrics combination gloves and mittens . . . . .	1,402	125.7	268	10.0	19.1	8.0	15,995	343.1	17,129	458.8	93.4	74.8
30698	Rubber, surgical and medical gloves . . . . .	211,508	319.1	13,156	36.4	6.2	11.4	868,392	774.9	1,066,744	1,057.6	81.4	73.3
3069D	Rubber, other gloves . . . . .	22,509	107.9	2,484	23.2	11.0	21.5	102,676	168.4	122,701	253.1	83.7	66.5
30896	Plastics, surgical and medical gloves <sup>5</sup> . . . . .	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
30896	Plastics, other gloves <sup>5</sup> . . . . .	32,000	43.9	8,706	43.1	27.2	98.2	282,871	113.0	306,165	113.8	92.4	99.3
<b>1995</b>													
23813	Knitted, not coated or impregnated gloves and mittens . . .	21,999	180.7	1,066	15.0	4.8	8.3	33,110	208.4	54,043	374.1	61.3	55.7
3069D	Knitted, plastics or rubber, coated or impregnated gloves and mittens . . . . .	<sup>f</sup> 7,484	<sup>f</sup> 125.6	2,326	27.9	31.1	22.2	6,241	66.0	11,399	163.7	54.8	40.3
23813	Woven, nonimpregnated gloves and mittens . . . . .	3,285	<sup>f</sup> 52.0	1,291	11.4	39.3	21.9	11,333	74.5	13,327	115.1	85.0	64.7
3069D	Woven impregnated gloves and mittens . . . . .	524	7.9	59	1.0	11.3	12.7	1,207	9.6	1,672	16.5	72.2	58.2

See footnotes at end of table.

Table 53. Shipments, Exports, Imports, and Apparent Consumption of Gloves and Mittens: 1996 and 1995—Con.

[Quantity in thousand dozen pairs. Value and calculated import duty in millions of dollars]

Product code	Product description	Manufacturers' shipments		Exports of domestic merchandise <sup>1</sup>		Percent exports to manufacturers' shipments		Imports for consumption <sup>2</sup>		Apparent consumption <sup>4</sup>		Percent imports to apparent consumption	
		Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value <sup>3</sup>	Quantity	Value	Quantity	Value
	<b>1995—Con.</b> . . . . .												
23814, 31510	All leather and leather and fabrics combination gloves and mittens. . . . .	1,567	127.9	349	13.4	22.3	10.5	14,102	338.9	15,320	453.4	92.0	74.7
30698	Rubber, surgical and medical gloves. . . . .	'227,881	363.9	19,039	36.4	8.4	10.0	724,743	648.4	933,585	975.9	77.6	66.4
3069D	Rubber, other gloves . . . . .	20,657	106.8	2,216	20.5	10.7	19.2	82,737	127.1	101,178	213.4	81.8	59.6
30896	Plastics, surgical and medical gloves <sup>5</sup> . . . . .	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
30896	Plastics, other gloves <sup>5</sup> . . . . .	'36,916	'45.0	8,247	39.6	22.3	88.0	216,864	91.4	245,533	96.8	88.3	94.4

D Withheld to avoid disclosing data for individual companies.

'Revised by 5 percent or more from previously published data.

<sup>1</sup>Source: Bureau of the Census report EM 545, *U.S. Exports*.<sup>2</sup>Source: Bureau of the Census report IM 145, *U.S. Imports for Consumption*.<sup>3</sup>Dollar value represents c.i.f. (cost, insurance, and freight) value at first port of entry in the United States plus U.S. import duties.<sup>4</sup>Apparent consumption represents new domestic supply and is derived by subtracting exports from total of manufacturers' shipments plus imports.<sup>5</sup>"Plastics, surgical and medical gloves" and "Plastics, other gloves" are combined to avoid disclosing data for individual companies.

Note: Export and import data include glove linings that are not available by separate classification; however, this item is not included in manufacturers' shipments. For comparison of SIC-based codes with Schedule B export numbers and HTSUSA import numbers, see "Contact for Data Users" at end of this subsection.

## HISTORICAL NOTE

Data on apparel have been collected by the Bureau of the Census since 1923. In 1955, the MA23A apparel series consolidated, on an annual basis, five separate series that were formerly conducted independently (between 1923 and 1954). The 1968 apparel report was the first in this series to show quantity and value for each major product description. Previously, only product code values and/or production data were published.

For the years 1980 through 1985, similar data were published separately as MA23E, Men's and Boys' Outerwear, MA23F, Women's and Children's Outerwear, and MA23G, Underwear and Nightwear. Prior to 1984, data on foundation garments were published separately as MA23J, Foundation Garments.

The data were again published on an annual basis from 1986 through 1989 as the MA23A. Since 1990, the data

have been published quarterly as the MQ23A. The annual summary shows any revisions to the quarterly data.

Data on gloves and mittens have also been collected since 1923. They are collected on MA23D, Gloves and Mittens.

Additional information for the apparel industry (employment, payroll, cost of materials, capital expenditures, inventories, etc.) is also collected by the Bureau of the Census and is shown in the census of manufactures and the annual survey of manufactures series.

## CONTACT FOR DATA USERS

For additional information on these data, contact Kristin Williams, 301-457-4698.



## BED AND BATH FURNISHINGS (MQ23X) (Formerly Sheets, Pillowcases, and Towels)

### INTRODUCTION

The data shown for sheets, pillowcases, and towels are for finished products. They do not include sheeting fabrics that may be used later in items such as comforter sets. However, included is a category for terry towel blanks, which are generally sold for further embellishment.

### EXPLANATION OF TERMS

#### Distribution Channels

**Branded retail.** Sales of company brands, including premium goods, drops (closeouts), and seconds sold to domestic consumers through all types of retailers.

**Private ticket retail.** Sales with retail identification, with or without a manufacturer's corporate identification, but not with a manufacturer's brand name.

**Other (institutional).** Includes domestic distribution only and includes all federal and state contract business, commercial accounts (e.g., hotels) that are sold on a contract basis, and shipments to dealers who are involved in resale to the institutional trade.

**Exports.** Includes only direct company shipments for export, usually through a domestic international sales corporation, regardless of put-up or packaging. Export shipments through jobbers or distributors are included in the other categories (e.g., branded or private ticket).

**Inventories.** Represents the quantity of finished goods on hand, plus those held at private or public warehouses by the manufacturers who own the goods.

#### Products

**Sheets.** Excludes bedsheeting fabrics used for bedspreads, shower curtains, tablecloths, piece goods, etc.

**Sheet sets.** Packages of at least two sheets and one pillowcase that may contain additional sheets, pillowcases, or other items.

**Kitchen accessories.** Includes items such as terry cloth aprons, pot holders, dish cloths, and toaster covers.

**Towel blanks.** Includes towels sold for further processing elsewhere. The figure reported for finished terry woven towels includes towel blanks; thus, both sets of data are not additive.

#### Types of Finish

**Solids (sheets).** Includes solid color sheets with attached hems or piping.

**Fancies.** Towels include jacquards, mixed color or pattern weaves, prints, embroidered, and attached or embellished hems. Excludes solid color, white dobby, and white cam. Sheets include prints and solids with embroidery, lace, or other embellishments, except attached hems or piping.

Table 54. Summary of Production and Shipments of Sheets, Pillowcases, and Terry Towels: 1986 to 1996

[Thousands of dozens]

Year and quarter	Sheets, flat and fitted <sup>1</sup>			Pillowcases			Terry towels		
	Production (quantity)	Shipments		Production (quantity)	Shipments		Production (quantity)	Shipments	
		Quantity	Value		Quantity	Value		Quantity	Value
<b>1996, total</b> .....	19,434	16,277	1,342,858	14,287	14,330	398,804	45,287	46,955	1,223,646
Fourth quarter .....	4,874	4,282	351,041	3,569	3,655	101,777	10,333	11,081	310,404
Third quarter .....	5,462	4,454	363,258	3,979	3,800	110,768	10,839	11,457	319,540
Second quarter .....	4,967	4,044	336,258	3,641	3,687	97,555	11,685	12,223	306,320
First quarter .....	4,131	3,497	292,301	3,098	3,188	88,704	12,430	12,194	287,382
<b>1995, total</b> .....	18,302	15,282	1,242,271	13,901	14,232	388,185	49,084	47,939	1,147,510
Fourth quarter .....	4,700	3,702	313,905	3,678	3,455	93,443	11,786	11,931	289,490
Third quarter .....	4,436	3,969	347,216	3,366	3,861	106,750	12,145	12,057	291,848
Second quarter .....	4,825	3,998	299,325	3,659	3,697	92,627	12,458	12,527	291,021
First quarter .....	4,341	3,613	281,825	3,198	3,219	95,365	12,695	11,424	275,151
1994 .....	17,906	16,190	1,230,863	13,701	14,622	372,227	48,974	48,348	1,130,082
1993 .....	16,826	16,331	1,197,095	12,304	14,464	370,620	48,529	47,161	1,071,837
1992 .....	14,908	15,300	1,129,122	12,528	12,945	322,304	48,789	46,885	1,053,042
1991 .....	13,851	14,505	1,076,310	11,301	12,082	302,073	43,158	43,596	991,756
1990 .....	15,152	14,716	1,088,690	12,665	12,443	305,447	42,376	41,855	968,329
1989 .....	15,430	14,868	1,075,916	13,089	12,609	303,866	62,471	51,231	1,095,858
1988 .....	14,966	14,260	982,380	12,564	11,983	280,277	47,179	43,384	1,007,639
1987 .....	14,867	14,773	940,925	12,627	12,310	266,778	52,425	50,536	994,319
1986 .....	14,533	13,877	879,731	12,372	11,917	249,740	50,182	50,010	924,851

<sup>1</sup>Excludes crib sheets.

Note: For 1993, a number of companies were added based on information in the 1992 Census of Manufactures. Data were received from these companies for 1993; therefore, information shown for years prior to 1993 may not be directly comparable. These changes represent approximately 2.0 percent of total value of shipments for sheets, pillowcases, and towels.

Table 55. Inventories and Unfilled Orders of Sheets, Pillowcases, and Finished Terry Towels: 1995 and 1996

[Thousands of dozens]

Year and quarter	Inventories			Unfilled orders		
	Sheets, flat and fitted <sup>1</sup>	Pillowcases	Terry towels	Sheets, flat and fitted <sup>1</sup>	Pillowcases	Terry towels
<b>1996</b>						
Fourth quarter .....	2,326	1,993	7,126	140,587	38,806	(D)
Third quarter .....	2,570	1,972	8,433	133,738	42,215	(D)
Second quarter .....	3,049	2,333	9,876	148,502	47,441	(D)
First quarter .....	3,061	2,312	10,662	129,592	41,821	(D)
<b>1995</b>						
Fourth quarter .....	2,673	2,139	10,532	101,550	31,346	(D)
Third quarter .....	2,770	2,295	11,057	122,367	39,588	(D)
Second quarter .....	2,943	2,390	11,053	131,986	43,543	(D)
First quarter .....	2,788	2,308	12,145	138,998	44,580	(D)

D Withheld to avoid disclosing data for individual companies.

<sup>1</sup>Excludes crib sheets.

Table 56. Production and Shipments of Sheets, Pillowcases, and Terry Towels: 1996 and 1995

[Production and shipments in thousands of dozens. Value in thousands of dollars]

Product description	1996			1995		
	Production	Shipments	Value of shipments	Production	Shipments	Value of shipments
<b>TOTAL</b>						
Sheets and pillowcases.....	34,561	31,426	1,771,927	33,066	30,372	1,665,242
Crib size sheets and pillowcases.....	840	819	30,265	863	858	34,786
Sheets, excluding crib.....	19,434	16,277	1,342,858	18,302	15,282	1,242,271
By type:						
Flat sheets.....	10,128	8,191	692,958	9,703	7,942	654,280
Fitted sheets.....	8,048	6,754	559,013	7,720	6,313	520,533
Not specified by kind (n.s.k.).....	1,258	1,332	90,887	'879	'1,027	'67,458
By thread count:						
195 and over.....	3,108	3,522	421,303	2,513	2,335	302,259
180 to 194.....	9,251	7,260	541,637	9,553	7,364	572,456
135 to 179.....	920	507	50,045	727	618	48,145
125 to 134.....	1,659	1,166	92,521	1,634	1,646	106,465
Under 125.....	3,238	2,490	146,465	2,996	2,292	145,488
Not specified by kind (n.s.k.).....	1,258	1,332	90,887	879	1,027	67,458
By fabrics:						
Chiefly polyester blends with cotton.....	10,888	9,068	712,016	10,489	8,918	654,881
All cotton and chiefly cotton.....	(D)	(D)	(D)	(D)	(D)	(D)
All other fabrics.....	(D)	(D)	(D)	(D)	(D)	(D)
By size:						
King.....	(X)	2,256	278,443	(X)	1,984	245,523
Queen.....	(X)	3,651	389,360	(X)	3,361	361,801
Full.....	(X)	3,592	282,138	(X)	3,803	278,847
Twin.....	(X)	5,001	273,054	(X)	4,749	264,608
Single and smaller.....	(X)	445	28,976	(X)	358	24,034
Not specified by kind (n.s.k.).....	(X)	1,332	90,887	(X)	1,027	67,458
Flannel sheets.....	(D)	(D)	(D)	(D)	(D)	(D)
Pillowcases, excluding crib size.....	14,287	14,330	398,804	13,901	14,232	388,185
By thread count:						
195 and over.....	2,758	3,434	155,424	2,202	2,556	118,506
180 to 194.....	6,841	6,831	156,748	7,140	7,185	172,952
135 to 179.....	680	424	12,147	501	465	10,615
125 to 134.....	1,162	824	16,030	1,146	1,209	20,721
Under 125.....	2,168	2,068	39,594	2,098	1,993	35,250
Not specified by kind (n.s.k.).....	678	749	18,861	'814	'824	'30,141
By fabrics:						
Chiefly polyester blends with cotton.....	8,866	8,161	190,215	8,567	7,959	185,362
All cotton and chiefly cotton.....	(D)	(D)	(D)	(D)	(D)	(D)
All other fabrics.....	(D)	(D)	(D)	(D)	(D)	(D)
Flannel pillowcases.....	(D)	(D)	(D)	(D)	(D)	(D)
Branded retail shipments of sheets and pillowcases (except crib).....	(X)	18,154	1,101,815	(X)	18,724	1,104,673
Upstairs brand.....	(X)	8,713	640,038	(X)	8,294	612,758
Open brand.....	(X)	9,441	461,777	(X)	10,430	491,915
Sheet sets, excluding waterbed sheet sets.....	(X)	3,139	663,126	(X)	3,155	603,878
Waterbed sheet sets.....	(X)	341	19,134	(X)	114	13,238
Finished towels.....	45,287	46,955	1,223,646	49,084	47,939	1,147,510
By type:						
Sheared.....	4,704	5,697	81,976	7,476	7,048	95,477
Nonsheared.....	33,044	34,024	999,406	32,748	32,142	946,431
Not specified by kind (n.s.k.).....	7,539	7,234	142,264	8,860	8,749	105,602
By end use:						
Kitchen.....	3,488	3,354	43,439	4,382	4,489	34,520
Bath.....	22,776	23,482	764,452	22,695	22,298	718,423
Hand, face, guest, and fingertip.....	15,364	16,584	280,278	18,564	17,736	282,958
Bath/tub mats.....	723	772	25,748	620	650	23,703
All other types, including larger than bath (queen/king size bath towels, bath sheets, beach towels, and bath mats).....	2,936	2,763	109,729	2,823	2,766	87,906
Not specified by kind (n.s.k.).....	-	-	-	-	-	-

See footnotes at end of table.

Table 56. Production and Shipments of Sheets, Pillowcases, and Terry Towels: 1996 and 1995—Con.

[Production and shipments in thousands of dozens. Value in thousands of dollars]

Product description	1996			1995		
	Production	Shipments	Value of shipments	Production	Shipments	Value of shipments
<b>TOTAL—Con.</b>						
Terry towels sold for further processing . . . . .	(X)	2,643	26,003	(X)	4,421	39,038
Washcloths . . . . .	27,740	28,582	220,150	29,386	28,529	199,978
Branded shipments of towels and washcloths . . . . .	(X)	44,411	887,231	(X)	45,112	846,111
Upstairs brand . . . . .	(X)	7,626	258,487	(X)	7,503	258,021
Open brand . . . . .	(X)	36,785	628,744	(X)	37,609	588,090
Huck and crash towels . . . . .	(D)	(D)	(D)	(D)	(D)	(D)
Other terry products:						
Terry cloth sold by the yard <sup>1</sup> . . . . .	4,411	4,469	13,483	5,073	5,940	15,211
Pot holders, aprons, dishcloths, etc. . . . .	(X)	1,233	8,667	(X)	1,339	8,560
Knit and/or crocheted bedspreads . . . . .	(D)	(D)	(D)	(D)	(D)	(D)
Tailored bedspreads (except knit) . . . . .	673	662	114,323	'883	'1,011	175,795
Quilted:						
All cotton and chiefly cotton . . . . .	178	206	36,882	'33	'464	74,729
All manmade and chiefly manmade . . . . .	491	452	73,631	530	532	94,603
Nonquilted:						
All cotton and chiefly cotton . . . . .	(D)	(D)	(D)	(D)	(D)	(D)
All manmade and chiefly manmade . . . . .	(D)	(D)	(D)	(D)	(D)	(D)
Nontailored bedspreads . . . . .	314	180	43,273	153	141	72,966
All cotton and chiefly cotton . . . . .	175	35	14,080	(D)	(D)	(D)
All manmade and chiefly manmade . . . . .	139	145	29,193	(D)	(D)	(D)
Comforters and quilts . . . . .	3,261	3,328	949,248	'3,047	'3,252	871,191
All cotton and chiefly cotton . . . . .	1,119	1,075	296,787	'985	'935	'232,015
All manmade and chiefly manmade . . . . .	1,958	2,088	549,617	'1,838	'2,099	'561,237
Downfilled . . . . .	184	165	102,844	224	218	77,939
Blankets . . . . .	4,560	5,134	573,117	4,080	4,126	482,499
<b>FOURTH QUARTER</b>						
Sheets and pillowcases . . . . .	8,658	8,133	459,370	8,567	7,363	415,527
Crib size sheets and pillowcases . . . . .	215	196	6,552	189	206	8,179
Sheets, excluding crib . . . . .	4,874	4,282	351,041	4,700	3,702	313,905
By type:						
Flat sheets . . . . .	2,513	2,108	180,398	2,461	1,905	164,977
Fitted sheets . . . . .	1,964	1,786	144,643	2,009	1,539	133,397
Not specified by kind (n.s.k.) . . . . .	'397	'388	'26,000	230	258	15,531
By thread count:						
195 and over . . . . .	860	882	106,388	719	589	77,582
180 to 194 . . . . .	2,157	1,778	131,002	2,519	1,792	140,311
135 to 179 . . . . .	250	138	13,467	162	107	11,940
125 to 134 . . . . .	465	284	21,974	282	283	23,103
Under 125 . . . . .	745	812	52,210	788	673	45,438
Not specified by kind (n.s.k.) . . . . .	'397	'388	'26,000	230	258	15,531
By fabrics:						
Chiefly polyester blends with cotton . . . . .	2,795	2,372	185,971	2,602	1,980	159,154
All cotton and chiefly cotton . . . . .	(D)	(D)	(D)	(D)	(D)	(D)
All other fabrics . . . . .	(D)	(D)	(D)	(D)	(D)	(D)
By size:						
King . . . . .	(X)	613	75,648	(X)	493	64,620
Queen . . . . .	(X)	973	104,776	(X)	827	90,928
Full . . . . .	(X)	925	72,065	(X)	864	69,896
Twin . . . . .	(X)	1,281	66,670	(X)	1,152	65,222
Single and smaller . . . . .	(X)	102	5,882	(X)	108	7,708
Not specified by kind (n.s.k.) . . . . .	(X)	'388	'26,000	(X)	258	15,531
Flannel sheets . . . . .	(D)	(D)	(D)	(D)	(D)	(D)
Pillowcases, excluding crib size . . . . .	3,569	3,655	101,777	3,678	3,455	93,443
By thread count:						
195 and over . . . . .	785	859	39,579	670	623	31,360
180 to 194 . . . . .	1,548	1,681	37,213	1,934	1,734	38,990
135 to 179 . . . . .	170	108	3,296	121	90	2,965
125 to 134 . . . . .	328	208	3,984	198	203	3,959
Under 125 . . . . .	574	654	14,312	547	606	10,638
Not specified by kind (n.s.k.) . . . . .	164	145	'3,393	208	199	5,531

See footnotes at end of table.

Table 56. **Production and Shipments of Sheets, Pillowcases, and Terry Towels: 1996 and 1995—Con.**

[Production and shipments in thousands of dozens. Value in thousands of dollars]

Product description	1996			1995		
	Production	Shipments	Value of shipments	Production	Shipments	Value of shipments
<b>FOURTH QUARTER—Con.</b>						
Sheets and pillowcases—Con.						
Pillowcases, excluding crib size—Con.						
By fabrics:						
Chiefly polyester blends with cotton . . . . .	2,306	2,038	48,235	2,205	1,859	41,646
All cotton and chiefly cotton . . . . .	(D)	(D)	(D)	(D)	(D)	(D)
All other fabrics . . . . .	(D)	(D)	(D)	(D)	(D)	(D)
Flannel pillowcases . . . . .	(D)	(D)	(D)	(D)	(D)	(D)
Branded retail shipments of sheets and pillowcases (except crib) . . . . .						
Upstairs brand . . . . .	(X)	4,612	282,347	(X)	4,829	292,032
Open brand . . . . .	(X)	2,169	162,200	(X)	2,154	163,587
Sheet sets, excluding waterbed sheet sets . . . . .	(X)	2,443	120,147	(X)	2,675	128,445
Waterbed sheet sets . . . . .	(X)	785	166,703	(X)	688	142,751
Waterbed sheet sets . . . . .	(X)	19	4,105	(X)	17	4,012
Finished towels . . . . .	10,333	11,081	310,404	11,786	11,931	289,490
By type:						
Sheared . . . . .	912	1,145	17,115	1,645	1,603	21,937
Nonsheared . . . . .	7,850	8,387	256,790	7,895	8,032	241,024
Not specified by kind (n.s.k.) . . . . .	1,571	1,549	36,499	2,246	2,296	26,529
By end use:						
Kitchen . . . . .	703	688	11,101	1,089	1,176	9,089
Bath . . . . .	5,357	5,697	199,601	5,693	5,782	187,215
Hand, face, guest, and fingertip . . . . .	3,496	3,952	70,110	4,301	4,269	69,228
Bath/tub mats . . . . .	199	221	6,967	128	156	5,436
All other types, including larger than bath (queen/king size bath towels, bath sheets, beach towels, and bath mats) . . . . .	578	523	22,625	575	548	18,522
Not specified by kind (n.s.k.) . . . . .	-	-	-	-	-	-
Terry towels sold for further processing . . . . .	(X)	537	4,875	(X)	829	7,270
Washcloths . . . . .	6,515	6,819	56,840	7,279	7,225	50,702
Branded shipments of towels and washcloths . . . . .						
Upstairs brand . . . . .	(X)	10,156	217,665	(X)	11,260	213,248
Open brand . . . . .	(X)	2,029	69,248	(X)	1,927	64,368
Huck and crash towels . . . . .	(X)	8,127	148,417	(X)	9,333	148,880
Huck and crash towels . . . . .	(D)	(D)	(D)	(D)	(D)	(D)
Other terry products:						
Terry cloth sold by the yard <sup>1</sup> . . . . .	973	1,047	3,473	1,109	1,375	3,632
Pot holders, aprons, dishcloths, etc. . . . .	(X)	362	2,632	(X)	297	2,027
Knit and/or crocheted bedspreads . . . . .	-	-	-	(D)	(D)	(D)
Tailored bedspreads (except knit) . . . . .	'150	'163	'26,327	'188	'198	36,063
Quilted:						
All cotton and chiefly cotton . . . . .	'35	'44	'6,632	'67	'73	'12,007
All manmade and chiefly manmade . . . . .	'114	'118	'18,747	119	123	22,702
Nonquilted:						
All cotton and chiefly cotton . . . . .	(D)	(D)	(D)	(D)	(D)	(D)
All manmade and chiefly manmade . . . . .	(D)	(D)	(D)	(D)	(D)	(D)
Nontailored bedspreads . . . . .						
All cotton and chiefly cotton . . . . .	102	44	11,330	43	34	18,378
All manmade and chiefly manmade . . . . .	'69	'8	'3,732	(D)	(D)	(D)
All manmade and chiefly manmade . . . . .	33	36	7,598	(D)	(D)	(D)
Comforters and quilts . . . . .						
All cotton and chiefly cotton . . . . .	718	'811	'244,773	'712	'814	232,667
All manmade and chiefly manmade . . . . .	'217	'250	'77,591	'192	'203	'58,931
Downfilled . . . . .	448	'513	'132,583	'443	'541	'147,893
Blankets . . . . .	'53	'48	'34,599	77	70	25,843
Blankets . . . . .	'882	1,385	196,555	952	1,089	126,166

See footnotes at end of table.

Table 56. Production and Shipments of Sheets, Pillowcases, and Terry Towels: 1996 and 1995—Con.

[Production and shipments in thousands of dozens. Value in thousands of dollars]

Product description	1996			1995		
	Production	Shipments	Value of shipments	Production	Shipments	Value of shipments
<b>THIRD QUARTER</b>						
Sheets and pillowcases.....	9,641	8,473	482,055	8,012	8,053	463,034
Crib size sheets and pillowcases.....	200	219	8,029	210	223	9,068
Sheets, excluding crib.....	5,462	4,454	363,258	4,436	3,969	347,216
By type:						
Flat sheets.....	2,882	2,233	187,912	2,326	2,017	181,997
Fitted sheets.....	2,285	1,921	155,065	1,899	1,700	148,459
Not specified by kind (n.s.k.).....	295	300	20,281	211	252	16,760
By thread count:						
195 and over.....	806	1,076	127,485	620	621	89,029
180 to 194.....	2,523	1,912	135,042	2,353	1,907	153,826
135 to 179.....	332	146	13,935	121	132	12,718
125 to 134.....	595	306	23,610	248	309	24,684
Under 125.....	911	714	42,905	883	748	50,199
Not specified by kind (n.s.k.).....	295	300	20,281	211	252	16,760
By fabrics:						
Chiefly polyester blends with cotton.....	3,134	2,346	188,347	2,507	2,242	176,878
All cotton and chiefly cotton.....	(D)	(D)	(D)	(D)	(D)	(D)
All other fabrics.....	(D)	(D)	(D)	(D)	(D)	(D)
By size:						
King.....	(X)	617	75,054	(X)	536	69,334
Queen.....	(X)	1,005	105,941	(X)	905	104,323
Full.....	(X)	975	75,922	(X)	932	75,019
Twin.....	(X)	1,415	75,977	(X)	1,246	75,016
Single and smaller.....	(X)	142	10,083	(X)	98	6,764
Not specified by kind (n.s.k.).....	(X)	300	20,281	(X)	252	16,760
Flannel sheets.....	(D)	(D)	(D)	(D)	(D)	(D)
Pillowcases, excluding crib size.....	3,979	3,800	110,768	3,366	3,861	106,750
By thread count:						
195 and over.....	703	1,038	47,106	560	831	35,086
180 to 194.....	1,895	1,684	39,855	1,769	1,884	44,436
135 to 179.....	243	119	3,079	76	94	2,682
125 to 134.....	405	212	4,163	189	248	5,251
Under 125.....	577	576	12,262	581	604	13,090
Not specified by kind (n.s.k.).....	156	171	4,303	191	200	6,205
By fabrics:						
Chiefly polyester blends with cotton.....	2,498	2,173	51,618	2,051	1,999	50,490
All cotton and chiefly cotton.....	(D)	(D)	(D)	(D)	(D)	(D)
All other fabrics.....	(D)	(D)	(D)	(D)	(D)	(D)
Flannel pillowcases.....	(D)	(D)	(D)	(D)	(D)	(D)
Branded retail shipments of sheets and pillowcases (except crib).....	(X)	5,007	303,388	(X)	5,100	314,395
Upstairs brand.....	(X)	2,454	179,187	(X)	2,255	172,730
Open brand.....	(X)	2,553	124,201	(X)	2,845	141,665
Sheet sets, excluding waterbed sheet sets.....	(X)	858	183,718	(X)	851	173,101
Waterbed sheet sets.....	(X)	21	4,596	(X)	53	3,292
Finished towels.....	10,839	11,457	319,540	12,145	12,057	291,848
By type:						
Sheared.....	688	1,007	17,495	1,892	1,672	22,830
Nonsheared.....	8,386	8,763	263,254	8,044	8,186	242,594
Not specified by kind (n.s.k.).....	1,765	1,687	38,791	2,209	2,199	26,424
By end use:						
Kitchen.....	796	692	11,183	940	1,090	8,460
Bath.....	5,638	6,012	206,423	5,710	5,715	182,308
Hand, face, guest, and fingertip.....	3,492	3,899	70,808	4,713	4,401	71,924
Bath/tub mats.....	192	191	6,553	156	165	6,313
All other types, including larger than bath (queen/king size bath towels, bath sheets, beach towels, and bath mats).....	721	663	24,573	626	686	22,843
Not specified by kind (n.s.k.).....	-	-	-	-	-	-

See footnotes at end of table.

Table 56. **Production and Shipments of Sheets, Pillowcases, and Terry Towels: 1996 and 1995—Con.**

[Production and shipments in thousands of dozens. Value in thousands of dollars]

Product description	1996			1995		
	Production	Shipments	Value of shipments	Production	Shipments	Value of shipments
<b>THIRD QUARTER—Con.</b>						
Terry towels sold for further processing.....	(X)	554	5,832	(X)	1,026	9,357
Washcloths .....	6,702	6,806	57,473	7,420	7,301	54,675
Branded shipments of towels and washcloths .....	(X)	10,863	232,543	(X)	11,522	220,931
Upstairs brand.....	(X)	1,909	65,681	(X)	1,829	67,029
Open brand .....	(X)	8,954	166,862	(X)	9,693	153,902
Huck and crash towels .....	(D)	(D)	(D)	(D)	(D)	(D)
Other terry products:						
Terry cloth sold by the yard <sup>1</sup> .....	1,192	1,158	3,315	1,246	1,401	3,747
Pot holders, aprons, dishcloths, etc.....	(X)	274	1,825	(X)	311	2,057
Knit and/or crocheted bedspreads .....	(D)	(D)	(D)	(D)	(D)	(D)
Tailored bedspreads (except knit) .....	'149	'156	'25,517	'223	'227	'41,440
Quilted:						
All cotton and chiefly cotton .....	'38	'42	'6,158	'87	'93	'16,896
All manmade and chiefly manmade .....	110	113	18,404	'132	'130	23,033
Nonquilted:						
All cotton and chiefly cotton .....	(D)	(D)	(D)	(D)	(D)	(D)
All manmade and chiefly manmade .....	(D)	(D)	(D)	(D)	(D)	(D)
Nontailored bedspreads .....	128	53	11,621	33	33	'17,368
All cotton and chiefly cotton .....	92	13	'4,330	(D)	(D)	(D)
All manmade and chiefly manmade .....	36	40	7,291	(D)	(D)	(D)
Comforters and quilts .....	796	871	245,769	'840	'889	211,284
All cotton and chiefly cotton .....	'268	'273	'74,894	'298	'278	'48,146
All manmade and chiefly manmade .....	493	563	144,587	'479	'547	140,208
Downfilled .....	'35	'35	'26,288	63	64	22,930
Blankets .....	1,275	1,982	'217,507	1,025	1,051	122,729
<b>SECOND QUARTER</b>						
Sheets and pillowcases.....	8,838	7,945	441,807	8,713	7,898	400,158
Crib size sheets and pillowcases .....	230	214	7,994	229	203	8,206
Sheets, excluding crib .....	4,967	4,044	336,258	4,825	3,998	299,325
By type:						
Flat sheets .....	2,597	2,061	171,555	2,583	2,116	159,130
Fitted sheets .....	2,076	1,612	137,464	2,026	1,625	122,899
Not specified by kind (n.s.k.) .....	'294	'371	'27,239	216	257	'17,296
By thread count:						
195 and over.....	726	887	103,426	551	515	63,468
180 to 194 .....	2,496	1,864	142,490	2,461	1,963	148,320
135 to 179 .....	201	102	'10,667	246	231	13,109
125 to 134 .....	304	296	23,799	567	601	32,348
Under 125 .....	946	524	'28,637	784	431	24,784
Not specified by kind (n.s.k.) .....	'294	'371	'27,239	216	257	'17,296
By fabrics:						
Chiefly polyester blends with cotton .....	2,707	2,394	186,733	2,829	2,543	166,167
All cotton and chiefly cotton .....	(D)	(D)	(D)	(D)	(D)	(D)
All other fabrics.....	(D)	(D)	(D)	(D)	(D)	(D)
By size:						
King .....	(X)	545	66,179	(X)	487	55,857
Queen .....	(X)	883	92,509	(X)	832	84,826
Full .....	(X)	924	72,271	(X)	1,088	70,834
Twin .....	(X)	1,212	70,795	(X)	1,252	65,330
Single and smaller .....	(X)	109	7,265	(X)	82	5,182
Not specified by kind (n.s.k.) .....	(X)	'371	'27,239	(X)	257	'17,296
Flannel sheets.....	(D)	(D)	(D)	(D)	(D)	(D)

See footnotes at end of table.

Table 56. Production and Shipments of Sheets, Pillowcases, and Terry Towels: 1996 and 1995—Con.

[Production and shipments in thousands of dozens. Value in thousands of dollars]

Product description	1996			1995		
	Production	Shipments	Value of shipments	Production	Shipments	Value of shipments
<b>SECOND QUARTER—Con.</b>						
Sheets and pillowcases—Con.						
Pillowcases, excluding crib size .....	3,641	3,687	97,555	3,659	3,697	92,627
By thread count:						
195 and over .....	662	853	35,373	464	554	25,119
180 to 194 .....	1,851	1,833	41,980	1,850	1,954	43,401
135 to 179 .....	162	101	'2,851	172	176	2,769
125 134 .....	191	188	3,920	402	437	6,459
Under 125 .....	587	460	'7,135	563	359	5,596
Not specified by kind (n.s.k.) .....	'188	'252	'6,296	'208	'217	'9,283
By fabrics:						
Chiefly polyester blends with cotton .....	2,208	2,195	49,664	2,284	2,224	48,642
All cotton and chiefly cotton .....	(D)	(D)	(D)	(D)	(D)	(D)
All other fabrics .....	(D)	(D)	(D)	(D)	(D)	(D)
Flannel pillowcases .....	(D)	(D)	(D)	(D)	(D)	(D)
Branded retail shipments of sheets and pillowcases (except crib) .....	(X)	4,342	259,879	(X)	4,374	244,566
Upstairs brand .....	(X)	2,085	149,510	(X)	1,926	134,720
Open brand .....	(X)	2,257	110,369	(X)	2,448	109,846
Sheet sets, excluding waterbed sheet sets .....	(X)	792	164,588	(X)	882	150,511
Waterbed sheet sets .....	(X)	19	3,999	(X)	34	3,858
Finished towels .....	11,685	12,223	306,320	12,458	12,527	291,021
By type:						
Sheared .....	1,432	1,861	24,092	1,999	1,978	26,526
Nonsheared .....	8,617	8,828	247,032	8,203	8,353	238,546
Not specified by kind (n.s.k.) .....	1,636	1,534	35,196	2,256	2,196	25,949
By end use:						
Kitchen .....	728	721	10,905	1,168	1,046	7,967
Bath .....	5,898	5,948	182,077	5,393	5,609	178,031
Hand, face, guest, and fingertip .....	4,089	4,550	72,530	4,890	4,888	74,446
Bath/tub mats .....	181	200	6,487	177	173	6,106
All other types, including larger than bath (queen/king size bath towels, bath sheets, beach towels, and bath mats) .....	789	804	34,321	830	811	24,471
Not specified by kind (n.s.k.) .....	-	-	-	-	-	-
Terry towels sold for further processing .....	(X)	891	8,945	(X)	1,366	12,072
Washcloths .....	7,211	7,916	55,614	7,212	7,173	48,193
Branded shipments of towels and washcloths .....	(X)	12,370	227,607	(X)	11,308	207,552
Upstairs brand .....	(X)	1,866	62,836	(X)	1,860	60,229
Open brand .....	(X)	10,504	164,771	(X)	9,448	147,323
Huck and crash towels .....	(D)	(D)	(D)	(D)	(D)	(D)
Other terry products:						
Terry cloth sold by the yard <sup>1</sup> .....	1,176	1,118	3,317	1,115	1,656	4,414
Pot holders, aprons, dishcloths, etc. ....	(X)	331	2,395	(X)	248	1,676
Knit and/or crocheted bedspreads .....	(D)	(D)	(D)	(D)	(D)	(D)
Tailored bedspreads (except knit) .....	'186	'160	'25,574	'253	'315	49,722
Quilted:						
All cotton and chiefly cotton .....	'40	'49	'7,335	'93	'154	23,256
All manmade and chiefly manmade .....	145	110	17,286	156	157	24,732
Nonquilted:						
All cotton and chiefly cotton .....	(D)	(D)	(D)	(D)	(D)	(D)
All manmade and chiefly manmade .....	(D)	(D)	(D)	(D)	(D)	(D)
Nontailored bedspreads .....	'51	'53	12,287	38	37	'18,518
All cotton and chiefly cotton .....	'7	'7	'2,865	(D)	(D)	(D)
All manmade and chiefly manmade .....	44	46	9,422	(D)	(D)	(D)
Comforters and quilts .....	944	828	230,447	'715	'744	201,872
All cotton and chiefly cotton .....	'370	'296	'74,835	'219	'194	'54,305
All manmade and chiefly manmade .....	'540	505	135,532	'444	'498	'132,325
Downfilled .....	34	27	'20,080	52	52	15,242
Blankets .....	'1,112	884	79,096	1,075	1,011	118,085

See footnotes at end of table.



Table 56. **Production and Shipments of Sheets, Pillowcases, and Terry Towels: 1996 and 1995—Con.**

[Production and shipments in thousands of dozens. Value in thousands of dollars]

Product description	1996			1995		
	Production	Shipments	Value of shipments	Production	Shipments	Value of shipments
<b>FIRST QUARTER</b>						
Sheets and pillowcases.....	7,424	6,875	388,695	7,774	7,058	386,523
Crib size sheets and pillowcases.....	195	190	7,690	235	226	9,333
Sheets, excluding crib.....	4,131	3,497	292,301	4,341	3,613	281,825
By type:						
Flat sheets.....	2,136	1,789	153,093	2,333	1,904	148,176
Fitted sheets.....	1,723	1,435	121,841	1,786	1,449	115,778
Not specified by kind (n.s.k.).....	'272	'273	17,367	'222	'260	'17,871
By thread count:						
195 and over.....	716	677	84,004	623	610	72,180
180 to 194.....	2,075	1,706	133,103	2,220	1,702	129,999
135 179.....	137	121	11,976	198	148	10,378
125 to 134.....	295	280	23,138	537	453	26,330
Under 125.....	636	440	22,713	541	440	25,067
Not specified by kind (n.s.k.).....	'272	'273	17,367	'222	'260	'17,871
By fabrics:						
Chiefly polyester blends with cotton.....	2,252	1,956	150,965	2,551	2,153	152,682
All cotton and chiefly cotton.....	(D)	(D)	(D)	(D)	(D)	(D)
All other fabrics.....	(D)	(D)	(D)	(D)	(D)	(D)
By size:						
King.....	(X)	481	61,562	(X)	468	55,712
Queen.....	(X)	790	86,134	(X)	797	81,724
Full.....	(X)	768	61,880	(X)	919	63,098
Twin.....	(X)	1,093	59,612	(X)	1,099	59,040
Single and smaller.....	(X)	92	5,746	(X)	70	4,380
Not specified by kind (n.s.k.).....	(X)	'273	17,367	(X)	'260	'17,871
Flannel sheets.....	(D)	(D)	(D)	(D)	(D)	(D)
Pillowcases, excluding crib size.....	3,098	3,188	88,704	3,198	3,219	95,365
By thread count:						
195 and over.....	608	684	33,366	508	548	26,941
180 to 194.....	1,547	1,633	37,700	1,587	1,613	46,125
135 to 179.....	105	96	2,921	132	105	2,199
125 to 134.....	238	216	3,963	357	321	5,052
Under 125.....	430	378	5,885	407	424	5,926
Not specified by kind (n.s.k.).....	'170	'181	'4,869	'207	'208	'9,122
By fabrics:						
Chiefly polyester blends with cotton.....	1,854	1,755	40,698	2,027	1,877	44,584
All cotton and chiefly cotton.....	(D)	(D)	(D)	(D)	(D)	(D)
All other fabrics.....	(D)	(D)	(D)	(D)	(D)	(D)
Flannel pillowcases.....	(D)	(D)	(D)	(D)	(D)	(D)
Branded retail shipments of sheets and pillowcases (except crib).....	(X)	4,193	256,201	(X)	4,421	253,680
Upstairs brand.....	(X)	2,005	149,141	(X)	1,959	141,721
Open brand.....	(X)	2,188	107,060	(X)	2,462	111,959
Sheet sets, excluding waterbed sheet sets.....	(X)	704	148,117	(X)	734	137,515
Waterbed sheet sets.....	(X)	282	6,434	(X)	10	2,076
Finished towels.....	12,430	12,194	287,382	12,695	11,424	275,151
By type:						
Sheared.....	1,672	1,684	23,274	1,940	1,795	24,184
Nonsheared.....	8,191	8,046	232,330	8,606	7,571	224,267
Not specified by kind (n.s.k.).....	2,567	2,464	31,778	2,149	2,058	26,700
By end use:						
Kitchen.....	1,261	1,253	10,250	1,185	1,177	9,004
Bath.....	5,883	5,825	176,351	5,899	5,192	170,869
Hand, face, guest, and fingertip.....	4,287	4,183	66,830	4,660	4,178	67,360
Bath/tub mats.....	151	160	5,741	159	156	5,848
All other types, including larger than bath (queen/king size bath towels, bath sheets, beach towels, and bath mats).....	848	773	28,210	792	721	22,070
Not specified by kind (n.s.k.).....	-	-	-	-	-	-

See footnotes at end of table.

Table 56. **Production and Shipments of Sheets, Pillowcases, and Terry Towels: 1996 and 1995—Con.**

[Production and shipments in thousands of dozens. Value in thousands of dollars]

Product description	1996			1995		
	Production	Shipments	Value of shipments	Production	Shipments	Value of shipments
<b>FIRST QUARTER—Con.</b>						
Terry towels sold for further processing .....	(X)	661	6,351	(X)	1,200	10,339
Washcloths .....	7,312	7,041	50,223	7,475	6,830	46,408
Branded shipments of towels and washcloths .....	(X)	11,022	209,416	(X)	11,022	204,380
Upstairs brand .....	(X)	1,822	60,722	(X)	1,887	66,395
Open brand .....	(X)	9,200	148,694	(X)	9,135	137,985
Huck and crash towels .....	(D)	(D)	(D)	(D)	(D)	(D)
Other terry products:						
Terry cloth sold by the yard <sup>1</sup> .....	1,070	1,146	3,378	1,603	1,508	3,418
Pot holders, aprons, dish cloths, etc. ....	(X)	266	1,815	(X)	483	2,800
Knit and/or crocheted bedspreads .....	(D)	(D)	(D)	(D)	(D)	(D)
Tailored bedspreads (except knit) .....	'188	'183	36,905	'219	'271	48,570
Quilted:						
All cotton and chiefly cotton .....	'65	'71	16,757	'91	'144	22,570
All manmade and chiefly manmade .....	'122	'111	19,194	123	122	24,136
Nonquilted:						
All cotton and chiefly cotton .....	(D)	(D)	(D)	(D)	(D)	(D)
All manmade and chiefly manmade .....	(D)	(D)	(D)	(D)	(D)	(D)
Nontailored bedspreads .....	'33	'30	'8,035	39	37	18,702
All cotton and chiefly cotton .....	'7	'7	'3,153	(D)	(D)	(D)
All manmade and chiefly manmade .....	26	23	4,882	(D)	(D)	(D)
Comforters and quilts .....	'803	'818	228,259	'780	'805	225,368
All cotton and chiefly cotton .....	'264	'256	'69,467	'276	'260	'70,633
All manmade and chiefly manmade .....	'477	'507	136,915	'472	'513	140,811
Downfilled .....	62	55	'21,877	32	32	13,924
Blankets .....	1,291	'883	'79,959	1,028	975	115,519

- Represents zero.    D Withheld to avoid disclosing data for individual companies.    n.s.k. Not specified by kind.    'Revised by 5 percent or more from previously published data.    X Not applicable.

<sup>1</sup>To extent that terry cloth yard goods are fabricated into towels and washcloths, duplication exists in production of these items.

Table 57. Quantity and Value of Shipments of Sheets, Pillowcases, and Terry Towels by Distribution Channel: 1996

[Quantity in thousands of dozens. Value in thousands of dollars]

Product description	Total shipments		Branded retail		Private ticket retail		Export		Institutional and other		Total n.s.k. shipments	
	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
<b>TOTAL</b>												
Sheets, flat and fitted (except crib) . . . . .	16,277	1,342,858	9,456	834,504	2,289	218,826	623	50,344	2,577	148,297	1,332	90,887
Less than 180 count . . . . .	4,163	289,031	2,535	186,161	339	31,982	323	20,800	966	50,088	-	-
180 count and greater . . . . .	10,782	962,940	6,921	648,343	1,950	186,844	300	29,544	1,611	98,209	-	-
Not specified by kind (n.s.k.) . . . . .	1,332	90,887	-	-	-	-	-	-	-	-	1,332	90,887
Pillowcases (except crib) . . . . .	14,330	398,804	8,698	267,311	2,185	65,541	581	12,020	2,117	35,071	749	18,861
Less than 180 count . . . . .	3,316	67,771	2,213	46,591	335	7,794	305	4,648	463	8,738	-	-
180 count and greater . . . . .	10,265	312,172	6,485	220,720	1,850	57,747	276	7,372	1,654	26,333	-	-
Not specified by kind (n.s.k.) . . . . .	749	18,861	-	-	-	-	-	-	-	-	749	18,861
Terry towels . . . . .	46,955	1,223,646	27,003	747,248	3,554	135,000	806	26,922	8,358	172,212	7,234	142,264
Washcloths, terry . . . . .	28,582	220,150	17,408	139,983	2,126	21,638	332	3,096	5,455	27,483	3,261	27,950
<b>FOURTH QUARTER</b>												
Sheets, flat and fitted (except crib) . . . . .	4,282	351,041	2,397	213,219	654	60,718	167	13,517	676	37,587	'388	'26,000
Less than 180 count . . . . .	1,234	87,651	755	56,961	136	12,018	88	5,649	255	13,023	-	-
180 count and greater . . . . .	2,660	237,390	1,642	156,258	518	48,700	79	7,868	421	24,564	-	-
Not specified by kind (n.s.k.) . . . . .	388	26,000	-	-	-	-	-	-	-	-	'388	'26,000
Pillowcases (except crib) . . . . .	3,655	101,777	2,215	69,128	623	17,573	152	3,157	520	8,526	145	3,393
Less than 180 count . . . . .	970	21,592	638	15,061	134	3,109	82	1,254	116	2,168	-	-
180 count and greater . . . . .	2,540	76,792	1,577	54,067	489	14,464	70	1,903	404	6,358	-	-
Not specified by kind (n.s.k.) . . . . .	145	3,393	-	-	-	-	-	-	-	-	145	3,393
Terry towels . . . . .	11,081	310,404	6,357	184,259	1,145	45,332	249	8,657	1,781	35,657	1,549	36,499
Washcloths, terry . . . . .	6,819	56,840	3,799	33,406	652	8,498	106	959	1,456	6,546	806	7,431
<b>THIRD QUARTER</b>												
Sheets, flat and fitted (except crib) . . . . .	4,454	363,258	2,696	229,631	645	64,714	137	11,110	676	37,522	300	20,281
Less than 180 count . . . . .	1,166	80,450	740	53,389	91	8,944	66	4,060	269	14,057	-	-
180 count and greater . . . . .	2,988	262,527	1,956	176,242	554	55,770	71	7,050	407	23,465	-	-
Not specified by kind (n.s.k.) . . . . .	300	20,281	-	-	-	-	-	-	-	-	300	20,281
Pillowcases (except crib) . . . . .	3,800	110,768	2,311	73,757	604	20,386	125	2,729	589	9,593	'171	'4,303
Less than 180 count . . . . .	907	19,504	629	13,986	84	2,192	57	919	137	2,407	-	-
180 count and greater . . . . .	2,722	86,961	1,682	59,771	520	18,194	68	1,810	452	7,186	-	-
Not specified by kind (n.s.k.) . . . . .	171	4,303	-	-	-	-	-	-	-	-	'171	'4,303
Terry towels . . . . .	11,457	319,540	6,736	195,758	784	32,994	171	5,706	2,079	46,291	1,687	38,791
Washcloths, terry . . . . .	6,806	57,473	4,127	36,785	489	5,266	65	599	1,291	7,086	834	7,737
<b>SECOND QUARTER</b>												
Sheets, flat and fitted (except crib) . . . . .	4,044	336,258	2,224	197,250	592	'56,035	166	13,554	691	42,180	'371	'27,239
Less than 180 count . . . . .	922	63,103	542	39,438	'60	'5,817	85	5,548	235	12,300	-	-
180 count and greater . . . . .	2,751	245,916	1,682	157,812	532	'50,218	81	8,006	456	29,880	-	-
Not specified by kind (n.s.k.) . . . . .	371	27,239	-	-	-	-	-	-	-	-	'371	'27,239
Pillowcases (except crib) . . . . .	3,687	97,555	2,118	62,629	566	'15,741	161	3,219	590	9,670	'252	'6,296
Less than 180 count . . . . .	749	13,906	496	9,314	59	'1,193	88	1,286	106	2,113	-	-
180 count and greater . . . . .	2,686	77,353	1,622	53,315	'507	'14,548	73	1,933	484	7,557	-	-
Not specified by kind (n.s.k.) . . . . .	252	6,296	-	-	-	-	-	-	-	-	'252	'6,296
Terry towels . . . . .	12,223	306,320	7,252	190,877	745	25,899	217	6,739	2,475	47,609	1,534	35,196
Washcloths, terry . . . . .	7,916	55,614	5,118	36,730	474	3,646	97	883	1,467	7,165	760	7,190
<b>FIRST QUARTER</b>												
Sheets, flat and fitted (except crib) . . . . .	3,497	292,301	2,139	194,404	398	37,359	153	12,163	534	31,008	'273	'17,367
Less than 180 count . . . . .	841	57,827	498	36,373	52	5,203	84	5,543	207	10,708	-	-
180 count and greater . . . . .	2,383	217,107	1,641	158,031	346	32,156	69	6,620	327	20,300	-	-
Not specified by kind (n.s.k.) . . . . .	273	17,367	-	-	-	-	-	-	-	-	'273	'17,367
Pillowcases (except crib) . . . . .	3,188	88,704	2,054	61,797	392	11,841	143	2,915	418	7,282	'181	'4,869
Less than 180 count . . . . .	690	12,769	450	8,230	58	1,300	78	1,189	104	2,050	-	-
180 count and greater . . . . .	2,317	71,066	1,604	53,567	334	10,541	65	1,726	314	5,232	-	-
Not specified by kind (n.s.k.) . . . . .	181	4,869	-	-	-	-	-	-	-	-	'181	'4,869
Terry towels . . . . .	12,194	287,382	6,658	176,354	880	30,775	169	5,820	2,023	42,655	2,464	31,778
Washcloths, terry . . . . .	7,041	50,223	4,364	33,062	511	4,228	64	655	1,241	6,686	861	5,592

See footnotes at end of Table 60.

Table 58. Quantity and Value of Shipments of Sheets, Pillowcases, and Terry Towels by Distribution Channel: 1995

[Quantity in thousands of dozens. Value in thousands of dollars]

Product description	Total shipments		Branded retail		Private ticket retail		Export		Institutional and other		Total n.s.k. shipments	
	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
<b>TOTAL</b>												
Sheets, flat and fitted (except crib) . . . . .	15,282	1,242,271	9,403	835,926	1,772	164,869	545	43,010	2,535	131,008	'1,027	'67,458
Less than 180 count . . . . .	4,556	300,098	2,715	196,248	348	32,166	302	19,734	1,191	51,950	-	-
180 count and greater . . . . .	9,699	874,715	6,688	639,678	1,424	132,703	243	23,276	1,344	79,058	-	-
Not specified by kind (n.s.k.) . . . . .	'1,027	'67,458	-	-	-	-	-	-	-	-	'1,027	'67,458
Pillowcases (except crib) . . . . .	14,232	388,185	9,321	268,747	1,744	48,174	479	9,819	1,864	31,304	'824	'30,141
Less than 180 count . . . . .	3,667	66,586	2,547	47,082	355	6,942	271	4,135	494	8,427	-	-
180 count and greater . . . . .	9,741	291,458	6,774	221,665	1,389	41,232	208	5,684	1,370	22,877	-	-
Not specified by kind (n.s.k.) . . . . .	'824	'30,141	-	-	-	-	-	-	-	-	'824	'30,141
Terry towels . . . . .	47,939	1,147,510	27,506	712,064	3,720	137,519	712	25,848	7,252	166,477	8,749	105,602
Washcloths, terry . . . . .	28,529	199,978	17,606	134,047	2,125	19,170	270	2,807	5,087	26,327	3,441	17,627
<b>FOURTH QUARTER</b>												
Sheets, flat and fitted (except crib) . . . . .	3,702	313,905	2,438	222,575	350	34,564	145	12,731	511	28,504	258	15,531
Less than 180 count . . . . .	1,063	80,481	701	56,777	72	7,421	72	5,158	218	11,125	-	-
180 count and greater . . . . .	2,381	217,893	1,737	165,798	278	27,143	73	7,573	293	17,379	-	-
Not specified by kind (n.s.k.) . . . . .	258	15,531	-	-	-	-	-	-	-	-	258	15,531
Pillowcases (except crib) . . . . .	3,455	93,443	2,391	69,457	344	9,049	124	2,889	397	6,517	199	5,531
Less than 180 count . . . . .	899	17,562	670	13,120	71	1,534	64	1,090	94	1,818	-	-
180 count and greater . . . . .	2,357	70,350	1,721	56,337	273	7,515	60	1,799	303	4,699	-	-
Not specified by kind (n.s.k.) . . . . .	199	5,531	-	-	-	-	-	-	-	-	199	5,531
Terry towels . . . . .	11,931	289,490	6,759	179,183	959	37,076	176	6,606	1,741	40,096	2,296	26,529
Washcloths, terry . . . . .	7,225	50,702	4,501	34,065	556	5,031	71	788	1,262	6,116	835	4,702
<b>THIRD QUARTER</b>												
Sheets, flat and fitted (except crib) . . . . .	3,969	347,216	2,525	238,302	528	51,259	118	9,706	546	31,189	252	'16,760
Less than 180 count . . . . .	1,189	87,601	760	58,270	115	11,812	71	4,772	243	12,747	-	-
180 count and greater . . . . .	2,528	242,855	1,765	180,032	413	39,447	47	4,934	303	18,442	-	-
Not specified by kind (n.s.k.) . . . . .	252	'16,760	-	-	-	-	-	-	-	-	252	'16,760
Pillowcases (except crib) . . . . .	3,861	106,750	2,575	76,093	530	14,779	99	2,097	457	7,576	'200	'6,205
Less than 180 count . . . . .	946	21,023	677	15,484	104	2,608	62	981	103	1,950	-	-
180 count and greater . . . . .	2,715	79,522	1,898	60,609	426	12,171	37	1,116	354	5,626	-	-
Not specified by kind (n.s.k.) . . . . .	'200	'6,205	-	-	-	-	-	-	-	-	'200	'6,205
Terry towels . . . . .	12,057	291,848	7,009	184,239	924	34,090	157	5,445	1,768	41,650	2,199	26,424
Washcloths, terry . . . . .	7,301	54,675	4,513	36,692	506	5,664	46	486	1,289	7,119	947	4,714
<b>SECOND QUARTER</b>												
Sheets, flat and fitted (except crib) . . . . .	3,998	299,325	2,153	186,203	453	41,805	154	10,303	981	43,718	257	'17,296
Less than 180 count . . . . .	1,263	70,241	596	41,090	80	7,377	89	5,180	498	16,594	-	-
180 count and greater . . . . .	2,478	211,788	1,557	145,113	373	34,428	65	5,123	483	27,124	-	-
Not specified by kind (n.s.k.) . . . . .	257	'17,296	-	-	-	-	-	-	-	-	257	'17,296
Pillowcases (except crib) . . . . .	3,697	92,627	2,221	58,363	469	12,483	147	2,486	643	10,012	'217	'9,283
Less than 180 count . . . . .	972	14,824	589	9,195	102	1,672	86	1,136	195	2,821	-	-
180 count and greater . . . . .	2,508	68,520	1,632	49,168	367	10,811	61	1,350	448	7,191	-	-
Not specified by kind (n.s.k.) . . . . .	'217	'9,283	-	-	-	-	-	-	-	-	'217	'9,283
Terry towels . . . . .	12,527	291,021	7,057	176,104	964	35,197	221	7,821	2,089	45,950	2,196	25,949
Washcloths, terry . . . . .	7,173	48,193	4,251	31,448	563	4,591	92	906	1,412	7,138	855	4,110
<b>FIRST QUARTER</b>												
Sheets, flat and fitted (except crib) . . . . .	3,613	281,825	2,287	188,846	441	37,241	128	10,270	497	27,597	'260	'17,871
Less than 180 count . . . . .	1,041	61,775	658	40,111	81	5,556	70	4,624	232	11,484	-	-
180 count and greater . . . . .	2,312	202,179	1,629	148,735	360	31,685	58	5,646	265	16,113	-	-
Not specified by kind (n.s.k.) . . . . .	'260	'17,871	-	-	-	-	-	-	-	-	'260	'17,871
Pillowcases (except crib) . . . . .	3,219	95,365	2,134	64,834	401	11,863	109	2,347	367	7,199	'208	'9,122
Less than 180 count . . . . .	850	13,177	611	9,283	78	1,128	59	928	102	1,838	-	-
180 count and greater . . . . .	2,161	73,066	1,523	55,551	323	10,735	50	1,419	265	5,361	-	-
Not specified by kind (n.s.k.) . . . . .	'208	'9,122	-	-	-	-	-	-	-	-	'208	'9,122
Terry towels . . . . .	11,424	275,151	6,681	172,538	873	31,156	158	5,976	1,654	38,781	2,058	26,700
Washcloths, terry . . . . .	6,830	46,408	4,341	31,842	500	3,884	61	627	1,124	5,954	804	4,101

See footnotes at end of Table 60.

Table 59. Quantity and Value of Shipments of Sheets, Pillowcases, and Terry Towels by Type and Finish: 1996

[Quantity in thousands of dozens. Value in thousands of dollars]

Product description	Total shipments		White		Solid colors		Fancies		Total n.s.k. shipments	
	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
<b>TOTAL</b>										
Sheets, flat and fitted (except crib) . . . . .	16,277	1,342,858	2,426	177,027	4,849	412,501	7,670	662,443	1,332	90,887
Less than 180 count . . . . .	4,163	289,031	514	32,137	1,132	73,980	2,517	182,914	-	-
180 count and greater . . . . .	10,782	962,940	1,912	144,890	3,717	338,521	5,153	479,529	-	-
Not specified by kind (n.s.k.) . . . . .	1,332	90,887	-	-	-	-	-	-	1,332	90,887
Pillowcases (except crib) . . . . .	14,330	398,804	2,432	50,872	4,397	134,151	6,752	194,920	749	18,861
Less than 180 count . . . . .	3,316	67,771	442	8,617	900	22,280	1,974	36,874	-	-
180 count and greater . . . . .	10,265	312,172	1,990	42,255	3,497	111,871	4,778	158,046	-	-
Not specified by kind (n.s.k.) . . . . .	749	18,861	-	-	-	-	-	-	749	18,861
Terry towels . . . . .	46,955	1,223,646	11,288	210,335	21,541	693,189	6,892	177,858	7,234	142,264
Washcloths, terry . . . . .	28,582	220,150	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)
<b>FOURTH QUARTER</b>										
Sheets, flat and fitted (except crib) . . . . .	4,282	351,041	558	38,347	1,241	110,794	2,095	175,900	388	26,000
Less than 180 count . . . . .	1,234	87,651	123	7,351	346	23,412	765	56,888	-	-
180 count and greater . . . . .	2,660	237,390	435	30,996	895	87,382	1,330	119,012	-	-
Not specified by kind (n.s.k.) . . . . .	388	26,000	-	-	-	-	-	-	388	26,000
Pillowcases (except crib) . . . . .	3,655	101,777	560	10,606	1,078	34,976	1,872	52,802	145	3,393
Less than 180 count . . . . .	970	21,592	105	2,066	255	6,614	610	12,912	-	-
180 count and greater . . . . .	2,540	76,792	455	8,540	823	28,362	1,262	39,890	-	-
Not specified by kind (n.s.k.) . . . . .	145	3,393	-	-	-	-	-	-	145	3,393
Terry towels . . . . .	11,081	310,404	2,523	51,142	5,562	184,379	1,447	38,384	1,549	36,499
Washcloths, terry . . . . .	6,819	56,840	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)
<b>THIRD QUARTER</b>										
Sheets, flat and fitted (except crib) . . . . .	4,454	363,258	787	57,338	1,245	106,774	2,122	178,865	300	20,281
Less than 180 count . . . . .	1,166	80,450	165	10,270	320	20,161	681	50,019	-	-
180 count and greater . . . . .	2,988	262,527	622	47,068	925	86,613	1,441	128,846	-	-
Not specified by kind (n.s.k.) . . . . .	300	20,281	-	-	-	-	-	-	300	20,281
Pillowcases (except crib) . . . . .	3,800	110,768	766	18,043	1,097	35,384	1,766	53,038	171	4,303
Less than 180 count . . . . .	907	19,504	156	2,956	263	6,182	488	10,366	-	-
180 count and greater . . . . .	2,722	86,961	610	15,087	834	29,202	1,278	42,672	-	-
Not specified by kind (n.s.k.) . . . . .	171	4,303	-	-	-	-	-	-	171	4,303
Terry towels . . . . .	11,457	319,540	2,936	56,297	5,319	179,422	1,515	45,030	1,687	38,791
Washcloths, terry . . . . .	6,806	57,473	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)
<b>SECOND QUARTER</b>										
Sheets, flat and fitted (except crib) . . . . .	4,044	336,258	613	44,766	1,354	111,854	1,706	152,399	371	27,239
Less than 180 count . . . . .	922	63,103	124	7,756	268	16,475	530	38,872	-	-
180 count and greater . . . . .	2,751	245,916	489	37,010	1,086	95,379	1,176	113,527	-	-
Not specified by kind (n.s.k.) . . . . .	371	27,239	-	-	-	-	-	-	371	27,239
Pillowcases (except crib) . . . . .	3,687	97,555	632	12,107	1,260	35,161	1,543	43,991	252	6,296
Less than 180 count . . . . .	749	13,906	92	1,817	224	4,609	433	7,480	-	-
180 count and greater . . . . .	2,686	77,353	540	10,290	1,036	30,552	1,110	36,511	-	-
Not specified by kind (n.s.k.) . . . . .	252	6,296	-	-	-	-	-	-	252	6,296
Terry towels . . . . .	12,223	306,320	3,253	55,585	5,568	169,782	1,868	45,757	1,534	35,196
Washcloths, terry . . . . .	7,916	55,614	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)
<b>FIRST QUARTER</b>										
Sheets, flat and fitted (except crib) . . . . .	3,497	292,301	468	36,576	1,009	83,079	1,747	155,279	273	17,367
Less than 180 count . . . . .	841	57,827	102	6,760	198	13,932	541	37,135	-	-
180 count and greater . . . . .	2,383	217,107	366	29,816	811	69,147	1,206	118,144	-	-
Not specified by kind (n.s.k.) . . . . .	273	17,367	-	-	-	-	-	-	273	17,367
Pillowcases (except crib) . . . . .	3,188	88,704	474	10,116	962	28,630	1,571	45,089	181	4,869
Less than 180 count . . . . .	690	12,769	89	1,778	158	4,875	443	6,116	-	-
180 count and greater . . . . .	2,317	71,066	385	8,338	804	23,755	1,128	38,973	-	-
Not specified by kind (n.s.k.) . . . . .	181	4,869	-	-	-	-	-	-	181	4,869
Terry towels . . . . .	12,194	287,382	2,576	47,311	5,092	159,606	2,062	48,687	2,464	31,778
Washcloths, terry . . . . .	7,041	50,223	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)

See footnotes at end of Table 60.

Table 60. Quantity and Value of Shipments of Sheets, Pillowcases, and Terry Towels by Type and Finish: 1995

[Quantity in thousands of dozens. Value in thousands of dollars]

Product description	Total shipments		White		Solid colors		Fancies		Total n.s.k. shipments	
	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
<b>TOTAL</b>										
Sheets, flat and fitted (except crib) . . . . .	15,282	1,242,271	1,885	138,709	4,542	379,100	7,828	657,004	'1,027	'67,458
Less than 180 count . . . . .	4,556	300,098	434	27,260	1,178	74,045	2,944	198,793	-	-
180 count and greater . . . . .	9,699	874,715	1,451	111,449	3,364	305,055	4,884	458,211	-	-
Not specified by kind (n.s.k.) . . . . .	'1,027	'67,458	-	-	-	-	-	-	'1,027	'67,458
Pillowcases (except crib) . . . . .	14,232	388,185	1,981	40,494	4,380	129,017	7,047	188,533	'824	'30,141
Less than 180 count . . . . .	3,667	66,586	374	7,325	925	20,851	2,368	38,410	-	-
180 count and greater . . . . .	9,741	291,458	1,607	33,169	3,455	108,166	4,679	150,123	-	-
Not specified by kind (n.s.k.) . . . . .	'824	'30,141	-	-	-	-	-	-	'824	'30,141
Terry towels . . . . .	47,939	1,147,510	10,385	186,078	21,009	649,391	7,796	206,439	8,749	105,602
Washcloths, terry . . . . .	28,529	199,978	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)
<b>FOURTH QUARTER</b>										
Sheets, flat and fitted (except crib) . . . . .	3,702	313,905	441	33,057	1,136	96,189	1,867	169,128	258	15,531
Less than 180 count . . . . .	1,063	80,481	96	6,292	313	21,211	654	52,978	-	-
180 count and greater . . . . .	2,381	217,893	345	26,765	823	74,978	1,213	116,150	-	-
Not specified by kind (n.s.k.) . . . . .	258	15,531	-	-	-	-	-	-	258	15,531
Pillowcases (except crib) . . . . .	3,455	93,443	466	9,208	1,088	31,795	1,702	46,909	199	5,531
Less than 180 count . . . . .	899	17,562	87	1,700	244	5,809	568	10,053	-	-
180 count and greater . . . . .	2,357	70,350	379	7,508	844	25,986	1,134	36,856	-	-
Not specified by kind (n.s.k.) . . . . .	199	5,531	-	-	-	-	-	-	199	5,531
Terry towels . . . . .	11,931	289,490	2,580	47,561	5,274	166,388	1,781	49,012	2,296	26,529
Washcloths, terry . . . . .	7,225	50,702	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)
<b>THIRD QUARTER</b>										
Sheets, flat and fitted (except crib) . . . . .	3,969	347,216	458	36,092	1,222	107,146	2,037	187,218	252	'16,760
Less than 180 count . . . . .	1,189	87,601	110	7,444	336	22,648	743	57,509	-	-
180 count and greater . . . . .	2,528	242,855	348	28,648	886	84,498	1,294	129,709	-	-
Not specified by kind (n.s.k.) . . . . .	252	'16,760	-	-	-	-	-	-	252	'16,760
Pillowcases (except crib) . . . . .	3,861	106,750	521	10,748	1,235	37,115	1,905	52,682	'200	'6,205
Less than 180 count . . . . .	946	21,023	81	2,029	259	6,512	606	12,482	-	-
180 count and greater . . . . .	2,715	79,522	440	8,719	976	30,603	1,299	40,200	-	-
Not specified by kind (n.s.k.) . . . . .	'200	'6,205	-	-	-	-	-	-	'200	'6,205
Terry towels . . . . .	12,057	291,848	2,551	45,398	5,429	170,631	1,878	49,395	2,199	26,424
Washcloths, terry . . . . .	7,301	54,675	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)
<b>SECOND QUARTER</b>										
Sheets, flat and fitted (except crib) . . . . .	3,998	299,325	536	38,272	1,097	85,661	2,108	158,096	257	'17,296
Less than 180 count . . . . .	1,263	70,241	110	6,418	289	15,429	864	48,394	-	-
180 count and greater . . . . .	2,478	211,788	426	31,854	808	70,232	1,244	109,702	-	-
Not specified by kind (n.s.k.) . . . . .	257	'17,296	-	-	-	-	-	-	257	'17,296
Pillowcases (except crib) . . . . .	3,697	92,627	557	10,587	1,062	29,152	1,861	43,605	'217	'9,283
Less than 180 count . . . . .	972	14,824	101	1,712	203	4,430	668	8,682	-	-
180 count and greater . . . . .	2,508	68,520	456	8,875	859	24,722	1,193	34,923	-	-
Not specified by kind (n.s.k.) . . . . .	'217	'9,283	-	-	-	-	-	-	'217	'9,283
Terry towels . . . . .	12,527	291,021	2,907	50,859	5,336	159,509	2,088	54,704	2,196	25,949
Washcloths, terry . . . . .	7,173	48,193	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)
<b>FIRST QUARTER</b>										
Sheets, flat and fitted (except crib) . . . . .	3,613	281,825	450	31,288	1,087	90,104	1,816	142,562	'260	'17,871
Less than 180 count . . . . .	1,041	61,775	118	7,106	240	14,757	683	39,912	-	-
180 count and greater . . . . .	2,312	202,179	332	24,182	847	75,347	1,133	102,650	-	-
Not specified by kind (n.s.k.) . . . . .	'260	'17,871	-	-	-	-	-	-	'260	'17,871
Pillowcases (except crib) . . . . .	3,219	95,365	437	9,951	995	30,955	1,579	45,337	'208	'9,122
Less than 180 count . . . . .	850	13,177	105	1,884	219	4,100	526	7,193	-	-
180 count and greater . . . . .	2,161	73,066	332	8,067	776	26,855	1,053	38,144	-	-
Not specified by kind (n.s.k.) . . . . .	'208	'9,122	-	-	-	-	-	-	'208	'9,122
Terry towels . . . . .	11,424	275,151	2,347	42,260	4,970	152,863	2,049	53,328	2,058	26,700
Washcloths, terry . . . . .	6,830	46,408	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)

- Represents zero. 'Revised by 5 percent or more from previously published data. n.s.k. Not specified by kind. X Not applicable.

**HISTORICAL NOTE**

Data on sheets, pillowcases, and towels have been collected by the Bureau of the Census since 1960. Historical data may be obtained from Current Industrial Reports available at your local Federal Depository Library. Historical data are also available on microfiche; contact Customer Services, 301-457-4100.

**CONTACT FOR DATA USERS**

For additional information about these data, contact Karen Harshbarger, 301-457-4674.

## CARPET AND RUGS (MA22Q)

### INTRODUCTION

The data shown for carpet and rugs represent primary production and shipments of carpet and rugs. Data are not included for those rugs or carpet tiles that are cut from purchased roll goods. Data from those establishments that are dyeing and/or finishing carpets or rugs only are excluded

also. Data are shown for type of carpet or rug and by fiber of face yarn for woven carpet and rugs and for tufted roll goods.

### EXPLANATION OF TERMS

See explanation of terms at the beginning of this chapter.

Table 61. Shipments of Carpet and Rugs: 1986 to 1996

[Millions of dollars]

Year	Rugs, carpet, and carpeting	Woven carpet and rugs	Tufted carpet and rugs	Other carpet and rugs
1996.....	10,117.5	290.0	9,306.4	521.1
1995.....	9,769.7	311.2	9,100.1	358.3
1994.....	9,530.6	307.3	8,885.9	337.4
1993.....	9,282.5	281.6	8,653.2	347.8
1992.....	8,749.3	301.1	8,135.9	312.3
1991.....	7,980.4	295.6	7,407.3	277.5
1990.....	8,527.1	293.2	7,977.5	256.4
1989.....	8,431.1	299.0	7,932.8	199.3
1988.....	8,417.3	286.3	7,891.3	239.7
1987.....	7,929.1	266.3	7,415.4	247.4
1986.....	7,311.6	240.2	6,890.0	181.4

<sup>1</sup>Revised by 5 percent or more from previously published data.

Table 62. Shipments, Exports, Imports, and Apparent Consumption of Carpet and Rugs: 1996 and 1995

[Quantity in millions of square meters. Value and calculated import duty in millions of dollars]

Product code	Product description	Manufacturers' shipments		Exports of domestic merchandise <sup>1</sup>		Percent exports to manufacturers' shipments		Imports for consumption <sup>2</sup>		Apparent consumption <sup>4</sup>		Percent imports to apparent consumption	
		Quantity	Value	Quantity	Value at port	Quantity	Value	Quantity	Value <sup>3</sup>	Quantity	Value	Quantity	Value
<b>1996</b>													
22731	Carpet and rugs .....	1,371.5	10,117.5	110.6	754.5	8.1	7.5	61.6	746.0	1,322.5	10,109.0	4.7	7.4
22732	Woven carpet and rugs .	18.5	290.0	9.0	71.7	48.5	24.7	36.2	308.0	45.7	526.3	79.1	58.5
22732	Tufted carpet and rugs .	1,245.1	9,306.4	76.9	531.4	6.2	5.7	14.2	110.7	1,182.4	8,885.7	1.2	1.2
22733	Other carpet and rugs ..	107.9	521.1	24.7	151.4	22.9	29.1	11.2	327.3	94.4	697.0	11.9	47.0
<b>1995</b>													
22731	Carpet and rugs .....	1,328.6	9,769.7	95.6	686.4	7.2	7.0	73.7	950.7	1,306.7	10,034.0	5.6	9.5
22732	Woven carpet and rugs .	20.8	311.2	5.9	60.3	28.4	19.4	38.9	308.5	53.8	559.4	72.3	55.1
22732	Tufted carpet and rugs .	1,222.0	9,100.1	70.1	479.9	5.7	5.3	23.6	289.2	1,175.5	8,909.4	2.0	3.2
22733	Other carpet and rugs ..	85.8	358.3	19.6	146.2	22.8	40.8	11.2	353.0	77.4	565.1	14.5	62.5

<sup>1</sup>Source: Bureau of the Census report EM 545, *U.S. Exports*.

<sup>2</sup>Source: Bureau of the Census report IM 145, *U.S. Imports for Consumption*.

<sup>3</sup>Dollar value represents c.i.f. (cost, insurance, and freight) value at first port of entry in the United States plus U.S. import duties.

<sup>4</sup>Apparent consumption is derived by subtracting exports from the total manufacturers' shipments plus imports.

Note: For comparison of SIC-based codes with Schedule B export numbers and HTSUSA import numbers, see "Contact for Data Users" at end of this subsection.



Table 63. Shipments of Carpet and Rugs: 1996 and 1995

[Quantity in thousands of square yards. Value in thousands of dollars]

Product code	Product description	1996		1995	
		Quantity	Value	Quantity	Value
	<b>Total .....</b>	<b>1,640,561</b>	<b>10,117,451</b>	<b>1,589,236</b>	<b>9,769,691</b>
22731 00	Woven carpet and rugs .....	22,180	289,958	24,869	311,242
	By fiber of face yarn:				
22731 01	Cotton .....	(D)	(D)	(D)	(D)
22731 03	Manmade .....	18,416	196,360	20,762	222,235
22731 05	Wool .....	(D)	(D)	(D)	(D)
22731 07	Other .....	(D)	(D)	(D)	(D)
22732 20	Tufted carpet and rugs .....	1,489,348	9,306,392	1,461,698	9,100,107
	By type:				
22732 01	Washable scatter rugs, bathmats, and sets (rugs 6' x 9' and smaller) .....	86,467	699,172	82,615	664,464
22732 02	Hard-backed nonwashable accent/area rugs (6' x 9' and smaller) .....	(D)	(D)	(D)	(D)
22732 03	Room size rugs over 6' x 9' .....	(D)	(D)	(D)	(D)
22732 04	Roll goods and rugs larger than 6' x 9', excluding artificial grass .....	1,281,058	7,926,391	1,267,321	7,794,261
22732 05	Tufted artificial grass for nonathletic surface .....	36,639	83,684	21,012	44,492
22732 07	Automobile and aircraft carpeting .....	53,770	389,853	62,085	413,685
	By fiber of face yarn:				
22732 11	Nylon .....	986,304	6,715,827	954,116	6,573,263
22732 13	Polyester .....	70,696	426,904	78,428	463,973
22732 17	Polypropylene .....	286,966	1,256,257	290,582	1,258,671
22732 19	All other .....	145,382	907,404	138,572	804,200
	Other carpet and rugs .....	129,033	521,101	102,669	358,342
22733 10	Knitted .....	(D)	(D)	(D)	(D)
22733 20	Needle punched .....	113,852	348,442	89,183	212,725
22733 30	Felt .....	-	-	-	-
22733 90	Braided, hooked, and other carpet and rugs, n.e.c. ....	(D)	(D)	(D)	(D)

- Represents zero. D Withheld to avoid disclosing data for individual companies. n.e.c. Not elsewhere classified. †Revised by 5 percent or more from previously published data.

## HISTORICAL NOTE

The annual MA22Q, Carpet and Rugs, was published for 6 years, 1962 to 1967. The semiannual, M22L, Tufted Textile Products, was initiated in 1951 and was published for 17 consecutive years. Both of these surveys were discontinued at the end of 1967 when the quarterly survey, MQ22Q, was established. The collection of data on a quarterly basis, for this series, began with the first quarter of 1968 and continued until 1985. (Also, for the years 1988

and 1989, the quarterly survey was conducted.) Since 1986, the series has been published as an annual, MA22Q, Carpet and Rugs. Historical data are also available on microfiche; contact Customer Services, 301-457-4100.

## CONTACT FOR DATA USERS

For additional information about these data, contact Kay Hanks, 301-457-4620.

## FOOTWEAR (MQ31A/MA31A)

### INTRODUCTION

The "Footwear" series includes data on the production, quantity, and value of shipments for various types of footwear. Included in these data are footwear that are cut in the United States, exported for sewing, and imported under special tariff provisions number 9802.

These data are intended to represent domestic manufacturing. In some cases, domestic manufacturers who also import completed products have difficulty separating their shipment data. Every effort is made to ensure that the shipment data include only domestically manufactured footwear, but the data user should be aware that the shipment data could include some imported footwear.

### SUMMARY OF FINDINGS

Nonrubber footwear production for 1996 totaled 127.3 million pairs, a 13.4 percent decrease from the 1995 production of 147.0 million pairs. Of the total 1996 production, 36.9 million pairs were men's, 0.3 million pairs were youth's and boys', 39.1 million were women's, 0.3 million were misses', and 2.3 million were children's shoes.

In 1996, 36.4 million pairs of slippers were produced, a 22.1 percent decrease from the 1995 production of 46.7 million pairs.

### EXPLANATION OF TERMS

**Athletic shoes.** Includes skating shoes, shoes with cleats, and joggers whether for organized sports or street wear.

#### Footwear With Rubber or Plastics Soles/Fabrics Uppers

*Fabric upper espadrilles.* Footwear with open toes or open heels, or of the slip on type, that is, held to the foot without the use of laces or buckles or other fasteners, except footwear having foxing or foxing-like band that is wholly or almost wholly of rubber or plastics applied or molded at the sole and overlapping the upper.

*Fabrics upper cement process shoes.* Footwear having soles (or midsoles, if any) of rubber or plastics that are affixed to the upper exclusively with an adhesive (any midsoles also being affixed exclusively to one another and to the out sole with an adhesive), except footwear having a foxing or foxing-like band applied to or molded at the sole and overlapping the upper and except footwear with soles that overlap the upper other than the toe or heel.

*Other fabrics shoes.* This includes all fabrics shoes with rubber or plastics soles vulcanized or molded to a fabrics upper, except slippers primarily intended for indoor household use, and sandals. Includes sneakers.

**Men's workshoes.** Includes safety shoes with sole that is an inch or more thick.

**Nonrubber footwear.** Includes shoes made by conventional processes such as cemented, welt, slip-lasted, and shoes with rubber sole vulcanized to leather uppers. Includes slippers, except slipper socks, regardless of material or construction. Excludes all other rubber or plastics boots and shoes, whether sold for over-the-foot wear or not.

**Other footwear, except footwear with rubber or plastics soles/fabrics uppers.** Includes ballet and other theatrical shoes.

**Protective footwear.** Boots, lumberman and PACS, arctics and gaiters, rubbers, and other footwear designed to be worn over, or in lieu of, other footwear as a protection against water, oil, grease, or chemicals, or cold or inclement weather.

*Boots.* These are worn over the foot or over the sock and are normally worn for industrial, commercial, or sporting use, but boots for dress or commuter use are also included if they are over the sock and not over the shoe. No distinction is made to reflect varying processes of manufacture.

*Lumberman and PACS.* These are worn over the foot and are normally used for industrial, commercial, or sporting purposes. They include PACS, work shoes, and lumberman overs, with or without tops. No distinction is made to reflect varying processes of manufacture.

*Arctics and gaiters.* These are worn over the shoes and are above ankle height, all weights, work and dress, with or without fasteners.

*Light and heavy rubbers.* These are worn over the shoe and are ankle height or below and include work and dress weights, with or without fasteners.

*Protective footwear with fabrics upper.* Boots, lumberman and PACS, and arctics and gaiters designed to be worn over, or in lieu of, other footwear as a protection against water, oil, grease, chemicals, or cold or inclement weather, having upper of more than 10 percent fabrics.

### Sizes

Men's shoes: sizes 6 and over, including big boys' shoes.

Youth's and boys' shoes: sizes 12-1/2 to 5-1/2.

Women's shoes: sizes 4 and over, including growing girls' shoes.

Misses' shoes: sizes 12-1/2 to 3-1/2.

Children's shoes: sizes 8-1/2 to 12, including little boys' shoes.

Infants' shoes: sizes 0 to 8.

**Slippers.** Includes foldable and packable slippers.

Table 64. Footwear Production: 1982 to 1996

[Million pairs]

Year	Total	Nonrubber footwear	Rubber or plastics soles/fabrics uppers	Rubber and plastics footwear
1996.....	192.7	127.3	48.7	16.6
1995.....	220.4	147.0	<sup>1</sup> 56.1	17.4
1994.....	242.5	163.0	59.3	20.2
1993 <sup>1</sup> .....	252.0	171.7	62.5	17.8
1992.....	273.6	164.8	92.7	16.1
1991.....	282.1	169.0	97.5	15.6
1990.....	290.3	184.6	89.7	16.0
1989.....	312.8	221.9	76.8	14.1
1988.....	325.3	234.8	76.7	13.8
1987.....	312.1	230.0	71.0	11.1
1986.....	310.9	240.9	57.9	12.1
1985.....	336.5	265.1	54.9	16.5
1984.....	383.5	303.2	62.8	17.5
1983.....	432.8	339.2	78.1	15.5
1982.....	465.9	359.1	92.9	13.9

<sup>1</sup>Revised by 5 percent or more from previously published data.

<sup>1</sup>For 1993, a number of companies were added based on information in the 1992 Census of Manufactures. Data were not collected from these establishments for 1992; therefore, information shown for years prior to 1992 may not be directly comparable. These changes represent approximately 2.7 percent of total rubber and plastics footwear production. Puerto Rican manufacturing facilities, also newly included for 1993, represent approximately 1.3 percent of nonrubber footwear production and less than 1 percent of total footwear production.

Note: For 1994, Puerto Rican manufacturing facilities accounted for approximately 1 percent of nonrubber footwear production and less than 1 percent of total footwear production.

Table 65. Quantity and Value of Shipments of Nonrubber Footwear: 1996 and 1995

[Production and quantity in thousands of pairs. Value in thousands of dollars]

Product description	1996			1995		
	Production	Quantity	Value	Production	Quantity	Value
Footwear (except rubber).....	127,315	134,761	2,989,400	146,979	147,707	3,218,442
Shoes (except slippers).....	90,914	94,617	2,823,219	100,247	103,619	3,033,718
Men's (except athletic).....	36,928	38,291	1,770,987	39,353	40,207	1,861,917
Dress and casual.....	18,955	19,432	705,220	20,079	20,129	684,315
Boots, dress and casual (except western style).....	766	867	45,889	1,037	1,086	<sup>1</sup> 47,893
Western style boots <sup>4</sup> .....	4,763	5,163	372,418	5,847	5,994	450,098
Work oxfords.....	1,687	1,741	76,536	1,792	1,895	79,085
Workboots, ankle height or higher.....	10,757	11,088	570,924	10,598	11,103	600,526
Youth's and boys' (except athletic).....	283	259	5,179	625	638	13,046
Women's (except athletic).....	39,059	41,323	876,017	41,175	43,737	942,983
Sandals.....	1,735	1,833	38,279	2,242	2,177	43,887
Dress and casual (except sandals).....	35,279	37,190	710,604	36,740	39,325	774,274
Uniform duty shoes.....	611	630	17,913	413	438	12,953
Boots, ankle height or higher.....	1,434	1,670	109,221	<sup>1</sup> 1,780	<sup>1</sup> 1,797	<sup>1</sup> 111,869
Misses' shoes and boots (except athletic).....	332	321	4,953	602	618	8,948
Children's shoes and boots (except athletic).....	2,279	2,141	37,032	3,530	3,521	55,629
Infants' and babies'.....	5,610	5,772	40,754	6,882	6,762	46,066
Athletic.....	4,505	4,515	67,601	5,880	5,893	84,742
Men's.....	290	298	30,528	401	410	39,264
Women's.....	174	176	8,850	(D)	(D)	(D)
All other.....	(D)	(D)	(D)	(D)	(D)	(D)
Not specified by kind (n.s.k.).....	(D)	(D)	(D)	(D)	(D)	(D)
All other shoes (ballet, theatrical, etc.).....	1,918	1,995	20,696	2,200	2,243	20,387
Slippers.....	36,401	40,144	166,181	46,732	44,088	184,724
Men's.....	4,601	4,839	41,306	<sup>1</sup> 6,047	<sup>1</sup> 5,953	<sup>1</sup> 49,696
Women's.....	29,256	32,592	115,759	38,729	36,162	127,672
All other.....	2,544	2,713	9,116	1,956	1,973	7,356

D Withheld to avoid disclosing data for individual companies. <sup>1</sup>Revised by 5 percent or more from previously published data.

Note: Some companies are unable to exclude resales from their shipments' data.

Table 66. Production of Shoes and Slippers: 1996 and 1995

[Thousands of pairs]

Product description	Total	First quarter	Second quarter	Third quarter	Fourth quarter	
<b>1996</b>						
Shoes and slippers . . . . .	As published..	143,854	37,808	36,092	33,688	36,266
	As revised..	127,315	33,434	31,894	29,875	32,112
Shoes, including athletics . . . . .	As published..	103,158	27,266	26,171	24,032	25,689
	As revised..	90,914	24,005	23,020	21,238	22,651
Men's shoes (except athletic) . . . . .	As published..	36,661	9,938	8,999	8,269	9,455
	As revised..	36,928	9,922	9,120	8,437	9,449
Work shoes . . . . .	As published..	14,902	4,347	3,468	2,990	4,097
	As revised..	12,444	3,630	2,896	2,497	3,421
Shoes and boots (except work and athletic) . . . . .	As published..	21,759	5,591	5,531	5,279	5,358
	As revised..	24,484	6,292	6,224	5,940	6,028
Youth's and boys' . . . . .	As published..	548	107	119	167	155
	As revised..	283	55	61	87	80
Women's . . . . .	As published..	49,995	12,800	13,079	11,758	12,358
	As revised..	39,059	10,001	10,218	9,185	9,655
Misses' . . . . .	As published..	716	205	191	172	148
	As revised..	332	94	89	80	69
Children's . . . . .	As published..	2,774	763	671	792	548
	As revised..	2,279	627	551	651	450
Infants' and babies' . . . . .	As published..	5,540	1,319	1,175	1,424	1,622
	As revised..	5,610	1,336	1,190	1,441	1,643
Athletic shoes . . . . .	As published..	(D)	(D)	1,452	948	1,005
	As revised..	4,505	1,456	1,300	849	900
All other footwear . . . . .	As published..	(D)	(D)	485	502	398
	As revised..	1,918	513	492	509	404
Slippers . . . . .	As published..	40,696	10,542	9,921	9,656	10,577
	As revised..	36,401	9,429	8,874	8,637	9,461
<b>1995</b>						
Shoes and slippers . . . . .	As published..	147,550	37,326	38,347	35,024	36,853
	As revised..	146,979	37,216	38,250	34,841	36,672
Shoes, including athletics . . . . .	As published..	99,307	26,098	27,074	22,282	23,853
	As revised..	100,247	26,340	27,330	22,498	24,079
Men's shoes (except athletic) . . . . .	As published..	38,729	10,164	10,609	8,840	9,116
	As revised..	39,353	10,328	10,780	8,982	9,263
Work shoes . . . . .	As published..	12,389	3,157	3,302	2,964	2,966
	As revised..	12,390	3,155	3,300	2,967	2,968
Shoes and boots (except work and athletic) . . . . .	As published..	26,340	7,007	7,307	5,876	6,150
	As revised..	26,963	7,173	7,480	6,015	6,295
Youth's and boys' . . . . .	As published..	609	167	183	155	104
	As revised..	625	171	188	159	107
Women's . . . . .	As published..	41,272	10,991	11,315	8,901	10,065
	As revised..	41,175	10,965	11,288	8,880	10,042
Misses' . . . . .	As published..	602	117	163	129	193
	As revised..	(NC)	(NC)	(NC)	(NC)	(NC)
Children's . . . . .	As published..	3,474	862	817	900	895
	As revised..	3,530	876	830	915	909
Infants' and babies' . . . . .	As published..	6,882	1,782	1,817	1,661	1,622
	As revised..	(NC)	(NC)	(NC)	(NC)	(NC)
Athletic shoes . . . . .	As published..	5,558	1,405	1,520	1,236	1,397
	As revised..	5,880	1,486	1,608	1,308	1,478
All other footwear . . . . .	As published..	2,181	610	650	460	461
	As revised..	2,200	615	656	464	465
Slippers . . . . .	As published..	48,243	11,228	11,273	12,742	13,000
	As revised..	46,732	10,876	10,920	12,343	12,593

D Withheld to avoid disclosing data for individual companies. NC No change.

Note: Detail may not add to total because of independent rounding.

Table 67. **Production for Nonrubber Footwear by State: 1996 and 1995**

[Thousands of pairs]

State	Production	
	1996	1995
<b>United States</b> .....	<b>127,315</b>	<b>146,979</b>
Arkansas .....	(D)	7,635
California .....	2,909	3,183
Georgia .....	(D)	(D)
Illinois .....	1,163	1,129
Maine .....	15,386	21,513
Missouri .....	4,307	9,267
New Hampshire .....	2,856	3,637
New York .....	5,123	6,387
North Carolina .....	2,561	2,729
Ohio .....	(D)	(D)
Pennsylvania .....	6,321	7,799
Tennessee .....	3,553	5,810
Texas .....	30,641	33,691
Wisconsin .....	2,613	2,782
All other States .....	41,302	36,663

D Withheld to avoid disclosing data for individual companies.

Note: Each state not shown separately has been withheld to avoid disclosing data for individual companies.

Table 68. **Quantity and Value of Shipments of Shoes and Slippers: 1996 and 1995**

[Quantity in thousands of pairs. Value in thousands of dollars]

Item	Total	First quarter	Second quarter	Third quarter	Fourth quarter
<b>1996</b>					
Quantity .....					
As published..	136,466	30,485	28,816	35,205	41,960
As revised..	134,761	30,104	28,456	34,765	41,436
Value .....					
As published..	2,727,018	652,693	594,373	705,712	774,240
As revised..	2,989,400	715,492	651,561	773,613	848,734
<b>1995</b>					
Quantity .....					
As published..	149,465	40,099	35,974	33,591	39,801
As revised..	147,707	39,627	35,551	33,196	39,333
Value .....					
As published..	3,219,469	836,426	842,587	763,211	777,245
As revised..	3,218,442	836,159	842,318	762,968	776,997

Table 69. **Production and Shipments of Shoes With Rubber or Plastics Soles/Fabrics Uppers and Rubber and Plastics Footwear: 1996 and 1995**

[Production and quantity in thousands of pairs. Value in thousands of dollars]

Product description	1996			1995		
	Production	Shipments		Production	Shipments	
		Quantity	Value		Quantity	Value
<b>SHOES WITH RUBBER OR PLASTICS SOLES/ FABRICS UPPERS</b>						
<b>Total</b> .....	<b>48,747</b>	<b>51,163</b>	<b>448,643</b>	<b>'55,994</b>	<b>'58,839</b>	<b>514,596</b>
Athletic .....	26,073	25,763	288,639	'27,151	'27,579	'297,821
Men's .....	18,919	18,362	210,408	17,956	18,627	219,237
Women's .....	3,418	3,640	58,181	'4,184	'4,063	'51,147
Other .....	3,736	3,761	20,050	'5,011	'4,889	'27,437
Nonathletic .....	22,674	25,400	160,004	'28,843	'31,260	'216,775
Men's .....	4,184	4,387	54,876	'5,225	'4,925	'50,956
Women's .....	11,570	12,238	70,175	'13,820	'13,603	'74,224
Other .....	6,920	8,775	34,953	'9,798	'12,732	'91,595
<b>RUBBER AND PLASTICS FOOTWEAR</b>						
<b>Total</b> .....	<b>16,618</b>	<b>16,474</b>	<b>253,894</b>	<b>17,370</b>	<b>16,865</b>	<b>252,687</b>
Rubber upper protective footwear .....	4,599	4,018	92,357	4,748	3,974	92,922
Boots, lumberman, and PACS .....	(D)	(D)	(D)	(D)	(D)	(D)
Arctics and gaiters, light and heavy rubbers ...	(D)	(D)	(D)	(D)	(D)	(D)
Plastics or fabrics protective footwear .....	12,019	12,456	161,537	12,622	12,891	159,765
Slush molded .....	(D)	(D)	(D)	(D)	(D)	(D)
Injection molded .....	8,039	8,039	81,231	8,374	8,321	77,116
Other .....	(D)	(D)	(D)	(D)	(D)	(D)

D Withheld to avoid disclosing data for individual companies.

'Revised by 5 percent or more from previously published data.

Table 70. **Production of Shoes With Rubber or Plastics Soles/Fabrics Uppers and Rubber and Plastics Protective Footwear by Quarter: 1996 and 1995**

[Thousand of pairs]

Product description	Total	First quarter	Second quarter	Third quarter	Fourth quarter
<b>1996</b>					
Shoes with rubber or plastics soles/fabrics uppers . . .As published..	60,356	18,743	15,085	11,046	15,482
As revised..	48,747	15,138	12,184	8,921	12,504
Rubber and plastics protective footwear . . . . .As published..	15,901	4,175	4,200	3,388	4,138
As revised..	16,618	4,363	4,389	3,541	4,325
<b>1995</b>					
Shoes with rubber or plastics soles/fabrics uppers . .As published..	62,177	16,539	15,370	13,651	16,617
As revised..	55,994	14,894	13,842	12,294	14,965
Rubber and plastics protective footwear . . . . .As published..	17,381	4,907	4,456	4,096	3,922
As revised..	17,370	4,904	4,453	4,093	3,920

Table 71. **Production of Footwear by Type of Upper and Type of Sole: 1996 and 1995**

[Thousands of pairs]

Product description	1996	1995
<b>Total. . . . .</b>	<b>192,680</b>	<b>220,343</b>
Rubber or plastics uppers and rubber or plastics soles, including rubber or plastics coated fabrics uppers . . . . .	25,074	30,391
Waterproof . . . . .	12,934	13,216
Made with steel safety toes. . . . .	(D)	2,102
Boots (except with steel safety toes). . . . .	8,649	9,013
All other. . . . .	(D)	2,101
Not waterproof . . . . .	12,140	17,175
Athletic:		
Made with cleats, spikes, sprigs, stops, etc. . . . .	(D)	(D)
Other . . . . .	(D)	(D)
Made with steel safety toes. . . . .	(D)	(D)
Boots (except with steel safety toes). . . . .	770	1,050
All other. . . . .	4,950	8,883
Leather uppers. . . . .	77,562	83,801
Athletic. . . . .	5,055	6,511
Made with cleats, spikes, sprigs, stops, etc. . . . .	485	456
Other . . . . .	4,570	6,055
Leather soles . . . . .	25,962	27,072
Made with steel safety toes. . . . .	1,545	1,579
Boots (except with steel safety toes). . . . .	6,355	7,626
Shoes (except with steel safety toes) . . . . .	17,572	17,867
Other soles . . . . .	46,545	50,218
Made with steel safety toes. . . . .	1,998	2,670
Boots (except with steel safety toes). . . . .	7,103	9,069
Shoes (except with steel safety toes) . . . . .	37,444	38,479
Fabrics uppers . . . . .	86,381	<sup>1</sup> 104,803
Rubber or plastics soles. . . . .	58,095	68,405
Athletic. . . . .	(D)	<sup>1</sup> 16,521
All other. . . . .	(D)	51,884
With all other soles . . . . .	27,286	<sup>1</sup> 36,398
Footwear not specified by type of material. . . . .	3,663	<sup>1</sup> 3,348

D Withheld to avoid disclosing data for individual companies.

<sup>1</sup>Revised by 5 percent or more from previously published data.

Table 72. Production, Exports, Imports, and Apparent Consumption of Footwear: 1996 and 1995

[Quantity in thousands of pairs. Value in thousands of dollars]

Product description	Manufacturers' shipments <sup>1</sup> (quantity)	Exports of domestic merchandise <sup>2</sup>		Percent exports to domestic production	Imports for consumption <sup>3</sup>		Apparent consumption <sup>5</sup>	Percent imports to apparent consumption
		Quantity	Value		Quantity	Value <sup>4</sup>		
<b>1996</b>								
<b>Total</b> .....	<b>192,680</b>	<b>27,904</b>	<b>414,615</b>	<b>14.5</b>	<b>1,351,683</b>	<b>13,839,766</b>	<b>1,516,459</b>	<b>89.1</b>
Rubber or plastics uppers and rubber or plastics soles, including rubber or plastics coated fabrics uppers .....	25,074	4,954	48,146	19.8	468,874	2,977,616	488,994	95.9
Waterproof .....	12,934	502	5,571	3.9	2,927	20,901	15,359	19.1
Made with steel safety toes .....	(D)	229	3,172	(D)	131	2,378	(D)	(D)
All other .....	(D)	273	2,399	(D)	2,796	18,523	(D)	(D)
Not waterproof .....	12,140	4,452	42,575	36.7	465,947	2,956,715	473,635	98.4
Athletic:								
Made with cleats, spikes, sprigs, stops, etc. ....	(D)	642	6,201	(D)	9,856	110,456	(D)	(D)
Other .....	(D)	779	11,398	(D)	32,912	187,452	(D)	(D)
Made with steel safety toes .....	(D)	245	1,269	(D)	703	8,377	(D)	(D)
Boots (except with steel safety toes) .....	770	340	3,496	44.2	76,347	838,923	76,777	99.4
All other .....	4,950	2,446	20,211	49.4	346,129	1,811,507	348,633	99.3
Leather uppers .....	77,562	12,078	285,534	15.6	587,077	9,040,167	652,561	90.0
Athletic .....	5,055	7,454	158,522	147.5	415,187	5,613,759	412,788	100.6
Made with cleats, spikes, sprigs, stops etc. ....	485	3,604	75,716	743.1	8,047	184,419	4,928	163.3
Other .....	4,570	3,850	82,806	84.2	407,140	5,429,340	407,860	99.8
Leather soles .....	25,962	3,040	85,349	11.7	54,080	1,384,093	77,002	70.2
Made with steel safety toes .....	1,545	199	10,585	12.9	6,925	147,212	8,271	83.7
Boots (except with steel safety toes) .....	6,355	484	15,248	7.6	4,024	101,116	9,895	40.7
Shoes (except with steel safety toes) .....	17,572	2,357	59,516	13.4	43,131	1,135,765	58,346	73.9
Other soles .....	46,545	1,584	41,663	3.4	117,810	2,042,315	162,771	72.4
Made with steel safety toes .....	1,998	-	-	(NA)	-	-	1,998	(NA)
Boots (except with steel safety toes) .....	7,103	1,584	41,663	22.3	117,810	2,042,315	123,329	95.5
Shoes (except with steel safety toes) .....	37,444	-	-	(NA)	-	-	37,444	(NA)
Fabrics uppers .....	86,381	10,872	80,935	12.6	295,732	1,821,983	371,241	79.7
Rubber or plastics soles .....	59,095	6,210	66,269	10.5	246,525	1,538,385	299,410	82.3
Athletic .....	(D)	4,662	47,219	(D)	82,655	929,803	(D)	(D)
All other .....	(D)	1,548	19,050	(D)	163,870	608,582	(D)	(D)
With all other soles .....	27,286	4,662	14,666	17.1	49,207	283,598	71,831	68.5
Footwear not specified by type of material .....	3,663	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
<b>1995</b>								
<b>Total</b> .....	<b>220,343</b>	<b>27,679</b>	<b>387,685</b>	<b>12.6</b>	<b>1,390,614</b>	<b>13,365,237</b>	<b>1,583,278</b>	<b>87.8</b>
Rubber or plastics uppers and rubber or including rubber or plastics coated fabrics uppers .....	30,391	4,938	50,927	16.2	458,744	2,950,431	484,197	94.7
Waterproof .....	13,216	434	5,662	3.3	3,110	21,427	15,892	19.6
Made with steel safety toes .....	11,114	178	2,432	1.6	92	1,238	11,028	0.8
All other .....	2,102	256	3,230	12.2	3,018	20,189	4,864	62.0
Not waterproof .....	17,175	4,504	45,265	26.2	455,634	2,929,004	468,305	97.3
Athletic:								
Made with cleats, spikes, sprigs, stops, etc. ....	(D)	814	7,972	(D)	12,590	220,213	(D)	(D)
Other .....	(D)	877	17,010	(D)	29,860	168,467	(D)	(D)
Made with steel safety toes .....	(D)	276	1,590	(D)	868	9,600	(D)	(D)
Boots (except with steel safety toes) .....	1,050	321	3,357	30.6	91,842	945,518	92,571	99.2
All other .....	8,883	2,216	15,336	24.9	320,474	1,585,206	327,141	98.0

See footnotes at end of table.



Table 72. **Production, Exports, Imports, and Apparent Consumption of Footwear: 1996 and 1995—Con.**

[Quantity in thousands of pairs. Value in thousands of dollars]

Product description	Manufacturers' shipments <sup>1</sup> (quantity)	Exports of domestic merchandise <sup>2</sup>		Percent exports to domestic production	Imports for consumption <sup>3</sup>		Apparent consumption <sup>5</sup>	Percent imports to apparent consumption
		Quantity	Value		Quantity	Value <sup>4</sup>		
<b>1995—Con.</b>								
Leather uppers .....	83,801	9,515	242,353	11.4	579,078	8,512,081	653,364	88.6
Athletic .....	6,511	4,426	155,767	68.0	405,706	5,193,728	407,791	99.5
Made with cleats, spikes, sprigs, stops, etc. ....	456	4,241	79,564	930.0	8,240	200,882	4,455	185.0
Other .....	6,055	3,496	76,203	57.7	397,466	4,992,846	400,025	99.4
Leather soles .....	27,072	3,454	44,907	12.8	51,374	1,255,710	74,992	68.5
Made with steel safety toes .....	1,579	233	12,147	14.8	6,068	126,875	7,414	81.8
Boots (except with steel safety toes) .....	7,626	552	16,380	7.2	5,213	123,236	12,287	42.4
Shoes (except with steel safety toes) .....	17,867	2,669	16,380	14.9	40,093	1,005,599	55,291	72.5
Other soles .....	50,218	1,635	41,679	3.3	121,998	2,062,643	170,581	71.5
Made with steel safety toes .....	2,670	-	-	(NA)	-	-	2,670	(NA)
Boots (except with steel safety toes) .....	9,069	1,635	41,679	18.0	121,998	2,062,643	129,432	94.3
Shoes (except with steel safety toes) .....	38,479	-	-	(NA)	-	-	38,479	(NA)
Fabrics uppers .....	104,803	13,226	94,405	12.6	352,792	1,902,725	444,369	79.4
Rubber or plastics soles .....	68,405	11,894	83,987	17.4	300,445	1,630,495	356,956	84.2
Athletic .....	16,521	6,757	68,289	40.9	83,382	813,208	93,146	89.5
All other .....	51,884	5,137	15,698	9.9	217,063	817,287	263,810	82.3
With all other soles .....	36,398	1,332	10,418	3.7	52,347	272,230	87,413	59.9
Footwear not specified by type of material .....	1,348	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)

- Represents zero. D Withheld to avoid disclosing data for individual companies. NA Not available.

<sup>1</sup>Represents production.<sup>2</sup>Source: Bureau of the Census report EM 545, *U.S. Exports*.<sup>3</sup>Source: Bureau of the Census report EM 145, *U.S. Imports for Consumption*.<sup>4</sup>Dollar value represents c.i.f. (cost, insurance, and freight) value at first port of entry in the United States plus import duties.<sup>5</sup>Apparent consumption is derived by subtracting exports from total production plus imports.

Note: For comparison of SIC-based codes with Schedule B export numbers and HTSUSA import numbers, see "Contact for Data Users" at end of this subsection.

## HISTORICAL NOTE

Data on footwear have been collected in this program since 1921. For some period, data were collected monthly, with a more comprehensive survey done annually. In 1991, due to budget reductions, the monthly program was canceled and replaced with a quarterly survey that collected similar data. Historical data may be obtained from Current

Industrial Reports available at your local Federal Depository Library. Historical data are also available on microfiche; contact Customer Services, 301-457-4100.

## CONTACT FOR DATA USERS

For additional information about these data, contact Venita Powell, 301-457-1320.

## Chapter 3. Building Materials

### LUMBER PRODUCTION AND MILL STOCKS (MA24T)

#### INTRODUCTION

The Current Industrial Report on lumber production and mill stocks is a cut-off sample survey that canvasses approximately 2,000 establishments engaging in sawmill activity. Establishments are included in this survey even if the operation of the sawmill is a secondary activity. For example, a furniture manufacturer that manufactures the lumber they use to make furniture is considered as operating a sawmill and is in scope of this survey.

All sawmills producing lumber, sawed ties, and timbers from roundwood, whether sawed for their own use, sawed on contract for others, custom sawed, or sawed for sale are considered in scope of this survey. All sawmills with hardwood lumber production greater than or equal to 2 million board feet or softwood lumber production greater than or equal to 5 million board feet are included in this survey.

Since the MA24T survey is a cut-off sample, the panel does not include the entire universe of lumber manufacturers. The universe was calculated for 1994 based on the MA24T database, the 1992 Census of Manufactures, and state sawmill directories. The difference between the universe and the sample is the block estimate. The block estimate is carried forward by multiplying each cell of the block estimate by the rate of change of each cell for the sample. This new block estimate is added to the figures for the sample and any new lumber producers to calculate subsequent total production and inventories for all U.S. sawmills.

#### SUMMARY OF FINDINGS

Production of lumber in the United States amounted to 44.7 billion board feet in 1996, 1.7 percent above the 1995 level of 44.0 billion board feet.

Eastern lumber production was 28.1 billion board feet in 1996, 0.5 percent above the 1995 level of 28.0 billion board feet. Southern yellow pine production amounted to 15.0 billion board feet in 1996, a 2.2-percent increase from the 14.7 billion board feet in 1995. Production of eastern hardwoods, at 10.2 billion board feet in 1996, was 2.4 percent below the 1995 level of 10.5 billion board feet.

Western lumber production was 16.6 billion board feet in 1996, an increase of 3.8 percent, from the 1995 production level of 16.0 billion board feet. Production of western softwoods increased in 1996 by 3.9 percent to 16.1 billion board feet. Total western hardwood production was unchanged.

#### EXPLANATION OF TERMS

**Lumber.** Timber sawed into beams, planks, boards, pallets stock, etc., of convenient sizes. Lumber is collected in this report in board feet. A board foot is a linear measure of lumber equal to a board 1-foot square and 1-inch thick.

**Hardwood lumber.** Wood obtained from a class of trees known as angiosperms (having seeds produced within a closed pod). These trees are characterized by broad leaves and are usually deciduous in the temperate zones. Some examples of hardwood lumber include such trees as oak, yellow-poplar, maple, gum, and ash.

**Softwood lumber.** Wood from coniferous trees whose leaves are needle-like. Some examples of softwood trees are pine, fir, cedar, redwood, and spruce.

**Eastern hardwoods and softwoods.** Those species of trees that are grown and harvested in states considered part of the eastern United States.

**Western softwoods.** Those species of trees that are grown and harvested in states considered part of the western United States.

## LUMBER INDUSTRY REGIONS

### Eastern Lumber Regions

#### Southern Pine:

Southern yellow pine.

#### Southern Hardwood:

All hardwoods in Alabama, Arkansas, Delaware, Florida, Louisiana, Mississippi, Missouri, Oklahoma, and Texas; and the lowland counties of Georgia, Kentucky, Maryland, North Carolina, South Carolina, Tennessee, and Virginia.

#### Appalachian:

All hardwoods and softwoods, except southern yellow pine, in West Virginia, and the Appalachian range counties of Georgia, Kentucky, Maryland, North Carolina, South Carolina, Tennessee, and Virginia.

#### Northern Hemlock and Hardwood:

All hardwoods and softwoods, except southern yellow pine, in Michigan and the Wisconsin.

#### Northeastern:

All hardwoods and softwoods, except southern yellow pine, in Connecticut, Maine, Massachusetts, New Hampshire, New York, Pennsylvania, Rhode Island, and Vermont.

#### Other:

All hardwoods and softwoods, except southern yellow pine, in Illinois, Indiana, Iowa, Kansas, Minnesota,

Nebraska, New Jersey, North Dakota, and Ohio; all softwoods, except southern yellow pine, in the lowland counties of Georgia, Kentucky, Maryland, North Carolina, South Carolina, Tennessee, and Virginia; and all softwoods, except southern yellow pine, in Alabama, Arkansas, Delaware, Florida, Louisiana, Mississippi, Missouri, Oklahoma, and Texas.

### Western Lumber Regions

#### Douglas Fir:

All softwoods and hardwoods in Oregon and Washington west of the Cascades, and in Jackson and Josephine counties in Oregon.

#### Western Pine:

All softwoods and hardwoods in Oregon and Washington east of the Cascades; in California, except the Redwood Region counties; and in Arizona, Colorado, Idaho, Montana, Nevada, New Mexico, South Dakota, Utah, and Wyoming.

#### California Redwood:

All softwoods and hardwoods in the following 15 counties of California: Alameda, Contra Costa, Del Norte, Humboldt, Marin, Mendocino, Monterey, Napa, San Benito, San Francisco, San Mateo, Santa Clara, Santa Cruz, Solano, and Sonoma.

#### Alaska and Hawaii:

All softwoods and hardwoods in Alaska and Hawaii.

Table 1. **Production and Mill Stocks of Lumber: 1993 to 1996**

[Millions of board feet, lumber tally]

Year	Production					Mill stocks		
	Total production	Softwoods			Total hardwoods	Total mill stocks	Softwoods	Hardwoods
		Total softwoods	Southern yellow pine	Other				
1996.....	44,699	34,025	15,027	18,998	10,674	4,246	2,958	1,288
1995.....	43,971	33,043	14,700	18,343	10,928	4,633	3,297	1,336
1994.....	46,466	35,556	15,221	20,335	10,910	4,600	3,302	1,298
1993.....	45,356	34,725	14,698	20,027	10,631	4,420	3,069	1,351

Table 2. **Production of Softwoods and Hardwoods by Geographic Area: 1996 and 1995**

[Millions of board feet, lumber tally]

Geographic area	Total		Softwoods		Hardwoods	
	1996	1995	1996	1995	1996	1995
<b>United States .....</b>	<b>44,699</b>	<b>43,971</b>	<b>34,025</b>	<b>33,043</b>	<b>10,674</b>	<b>10,928</b>
<b>Eastern United States .....</b>	<b>28,110</b>	<b>27,984</b>	<b>17,877</b>	<b>17,497</b>	<b>10,233</b>	<b>10,487</b>
Alabama .....	2,464	2,522	2,111	2,148	353	374
Arkansas .....	2,299	2,226	1,837	1,762	462	464
Connecticut .....	40	37	6	5	34	32
Delaware .....	15	15	(D)	(D)	(D)	(D)
Florida .....	773	720	761	708	12	12
Georgia .....	3,004	2,876	2,646	2,514	358	362
Illinois .....	85	88	-	-	85	88
Indiana .....	356	375	(Z)	(Z)	356	375
Iowa .....	73	74	(Z)	(Z)	73	74
Kansas .....	10	10	-	-	10	10
Kentucky .....	744	774	7	12	737	762
Louisiana .....	1,255	1,221	1,030	1,006	225	215
Maine .....	1,069	1,032	939	894	130	138
Maryland .....	241	244	83	83	158	161
Massachusetts .....	(D)	(D)	(D)	(D)	(D)	(D)
Michigan .....	652	654	140	138	512	516
Minnesota .....	313	310	161	164	152	146
Mississippi .....	2,773	2,718	2,280	2,219	493	499
Missouri .....	546	574	27	28	519	546
Nebraska .....	25	27	2	5	23	22
New Hampshire .....	275	275	244	235	31	40
New Jersey .....	8	8	1	1	7	7
New York .....	534	518	91	87	443	431
North Carolina .....	2,233	2,205	1,648	1,638	585	567
North Dakota .....	3	4	(Z)	(Z)	3	4
Ohio .....	383	412	3	3	380	409
Oklahoma .....	(D)	(D)	(D)	(D)	(D)	(D)
Pennsylvania .....	1,033	1,079	37	39	996	1,040
Rhode Island .....	11	10	3	3	8	7
South Carolina .....	1,415	1,327	1,308	1,219	107	108
Tennessee .....	911	919	130	123	781	796
Texas .....	1,478	1,558	1,333	1,399	145	159
Vermont .....	228	243	124	137	104	106
Virginia .....	1,258	1,284	567	578	691	706
West Virginia .....	653	700	1	3	652	697
Wisconsin .....	617	635	88	98	529	537
<b>Western United States .....</b>	<b>16,589</b>	<b>15,987</b>	<b>16,148</b>	<b>15,546</b>	<b>441</b>	<b>441</b>
Alaska .....	(D)	(D)	(D)	(D)	-	-
Arizona .....	121	118	121	118	-	-
California .....	3,333	3,283	(D)	(D)	(D)	(D)
Colorado .....	113	116	113	116	(Z)	(Z)
Hawaii .....	(Z)	(Z)	-	-	(Z)	(Z)
Idaho .....	1,835	1,693	1,835	1,693	-	-
Montana .....	1,251	1,284	1,251	1,284	-	-
Nevada .....	(Z)	(Z)	(Z)	(Z)	-	-
New Mexico .....	90	95	90	95	-	-
Oregon .....	5,324	4,920	5,219	4,828	105	92
South Dakota .....	(D)	(D)	(D)	(D)	(Z)	(Z)
Utah .....	36	43	(D)	(D)	(D)	(D)
Washington .....	4,053	3,991	3,721	3,646	332	345
Wyoming .....	227	226	227	226	-	-

- Represents zero. D Withheld to avoid disclosing data for individual companies. † Revised by 5 percent or more from previously published data. Z Represents less than 500,000 board feet.

Table 3. Lumber Production by Species: 1993 to 1996

[Millions of board feet, lumber talley]

Product description	1996	1995	1994	1993
<b>United States</b> .....	<b>44,699</b>	<b>43,971</b>	<b>46,466</b>	<b>45,356</b>
<b>All eastern species</b> .....	<b>28,110</b>	<b>27,984</b>	<b>28,486</b>	<b>27,797</b>
Eastern softwoods .....	17,877	17,497	18,021	17,604
Pine, southern yellow .....	15,027	14,700	15,221	14,698
Pine, eastern white .....	466	464	464	460
Pine, other <sup>1</sup> .....	240	250	226	241
Spruce or fir <sup>2</sup> .....	614	585	586	613
Other eastern softwood <sup>3</sup> .....	154	148	159	149
Eastern softwoods, n.s.k. ....	1,376	1,350	1,365	1,443
Eastern hardwoods .....	10,233	10,487	10,465	10,193
Ash .....	198	208	192	196
Beech .....	61	70	72	75
Birch .....	63	68	70	62
Cherry .....	187	184	170	184
Cottonwood .....	84	95	100	83
Aspen .....	130	137	162	155
Gum, black, tupelo, and sweet .....	187	217	243	249
Hickory and pecan .....	99	98	103	103
Hard maple .....	376	383	349	345
Soft maple .....	223	231	233	224
Oak, red .....	1,968	1,945	1,914	1,831
Oak, white .....	875	933	884	886
Black walnut .....	27	34	33	36
Yellow-poplar .....	866	871	858	805
Other eastern hardwoods <sup>4</sup> .....	317	330	336	339
Mixed hardwoods <sup>5</sup> .....	1,180	1,248	1,376	1,473
Eastern hardwoods, n.s.k. ....	3,392	3,435	3,370	3,147
<b>All western species</b> .....	<b>16,589</b>	<b>15,987</b>	<b>17,980</b>	<b>17,559</b>
Western softwoods .....	16,148	15,546	17,535	17,121
Cedar, western red .....	657	619	673	612
Cedar, other <sup>6</sup> .....	165	186	178	170
Douglas fir .....	6,792	6,386	6,959	7,059
Fir, white, hemfir, and other .....	3,117	2,801	3,382	3,122
Pine, ponderosa .....	2,325	2,395	2,819	2,906
Pine, western white .....	40	49	68	58
Pine, lodgepole .....	605	599	814	715
Pine, sugar .....	160	131	166	169
Redwood .....	714	762	808	714
Spruce <sup>7</sup> .....	331	307	355	370
Other western softwoods <sup>8</sup> .....	800	885	853	883
Western softwoods, n.s.k. ....	442	426	460	343
Western hardwoods <sup>9</sup> .....	441	441	445	438

n.s.k. Not specified by kind.

<sup>1</sup>Includes jack and red (Norway) pines.<sup>2</sup>Includes balsam fir and eastern spruce.<sup>3</sup>Includes eastern red cedar, northern white cedar, southern white cedar, cypress, eastern hemlock, tamarack, and mixed woods.<sup>4</sup>Includes basswood, boxwood, butternut, elm, hackberry, and sycamore.<sup>5</sup>"Mixed hardwoods" includes mixed, ungraded hardwoods sawn for ties, timbers, blocking cants, and pallet stock.<sup>6</sup>Includes Alaska, incense, and Port Orford cedars.<sup>7</sup>Includes Sitka and western/Engelmann spruce.<sup>8</sup>Includes western hemlock, western larch, and mixed woods.<sup>9</sup>Includes alder, aspen, birch, cottonwood, maple, oak, mixed woods, and western hardwoods not specified.

Table 4. **Production of Softwoods and Hardwoods by Lumber Industry Regions: 1996 and 1995**

[Millions of board feet, lumber talley]

Lumber industry region	Total		Softwoods		Hardwoods	
	1996	1995	1996	1995	1996	1995
<b>United States</b> .....	<b>44,699</b>	<b>43,971</b>	<b>34,025</b>	<b>33,043</b>	<b>10,674</b>	<b>10,928</b>
<b>Eastern lumber regions</b> .....	<b>28,110</b>	<b>27,984</b>	<b>17,877</b>	<b>17,497</b>	<b>10,233</b>	<b>10,487</b>
Southern pine .....	15,027	14,700	15,027	14,700	-	-
Southern hardwood .....	4,539	4,638	-	-	4,539	4,638
Appalachian .....	(D)	(D)	(D)	(D)	(D)	(D)
Northern hemlock and hardwood .....	1,269	1,289	228	236	1,041	1,053
Northeastern .....	(D)	(D)	(D)	(D)	(D)	(D)
Other .....	2,127	2,147	1,038	1,012	1,089	1,135
<b>Western lumber regions</b> .....	<b>16,589</b>	<b>15,987</b>	<b>16,148</b>	<b>15,546</b>	<b>441</b>	<b>441</b>
Douglas fir .....	7,528	6,927	7,091	6,491	437	436
Western pine .....	7,876	7,893	(D)	(D)	(D)	(D)
California redwood .....	(D)	(D)	(D)	(D)	(D)	(D)
Alaska and Hawaii .....	(D)	(D)	(D)	(D)	(Z)	(Z)

- Represents zero. D Withheld to avoid disclosing data for individual companies. † Revised by 5 percent or more from previously published data. Z Represents less than 500,000 board feet.

Table 5. **Production, Exports, Imports, and Apparent Consumption of Softwoods and Hardwoods: 1996 and 1995**

[Thousands of cubic meters]

Product code	Product description	Production <sup>1</sup>	Exports of domestic merchandise <sup>2</sup>	Percent exports to production	Imports for consumption <sup>2</sup>	Apparent consumption <sup>3</sup>	Percent imports to apparent consumption
	<b>1996</b>						
	<b>Total softwoods and hardwoods</b> ..	<b>105,490</b>	<b>6,955</b>	<b>6.6</b>	<b>43,420</b>	<b>141,955</b>	<b>30.6</b>
	Softwoods <sup>4</sup> .....	80,299	4,387	5.5	42,530	118,442	35.9
	Pine .....	44,517	1,170	2.6	1,372	44,719	3.1
24212 74	Lodgepole pine .....	1,428	43	3.0	85	1,470	5.8
24212 71	Ponderosa pine .....	5,487	102	1.9	219	5,604	3.9
24212 14, 16, 17, 72, 76	Other pine, including southern yellow and eastern white pine .....	37,602	1,025	2.7	1,068	37,645	2.8
24212 63	Douglas fir .....	16,029	1,605	10.0	624	15,048	4.1
24212 60	Western red cedar .....	1,551	66	4.3	1,643	3,128	52.5
24212 18, 20, 62, 66, 75, 78-80	Other softwoods, including hemlock, spruce, fir (other than Douglas fir), cedar (other than western red cedar), and mixed softwoods .....	13,912	1,546	11.1	38,891	51,257	75.9
24212 00	Softwoods, n.s.k. ....	4,290	(NA)	(NA)	(NA)	4,290	(NA)
	Hardwoods <sup>4</sup> .....	25,191	2,568	10.2	890	23,513	3.8
24211 51	Ash .....	467	147	31.5	8	328	2.4
24211 53	Beech .....	144	32	22.2	5	117	4.3
24211 55	Birch .....	149	25	16.8	56	180	31.1
24211 57	Cherry .....	441	86	19.5	5	360	1.4
24211 65	Hickory and pecan .....	234	15	6.4	1	220	0.5
24211 67, 69	Maple .....	1,414	321	22.7	170	1,263	13.5
24211 71	Red oak .....	4,644	631	13.6	14	4,027	0.3
24211 73	White oak .....	2,065	592	28.7	9	1,482	0.6
24211 75	Black walnut .....	64	18	28.1	4	50	8.0
24211 77	Yellow-poplar .....	2,044	162	7.9	1	1,883	0.1
24211 59, 61, 63, 79, 83, 99	Other hardwoods, including cottonwood, aspen, gum, and mixed hardwoods ....	5,480	539	9.8	617	5,558	11.1
24211 00	Hardwoods, n.s.k. ....	8,045	(NA)	(NA)	(NA)	8,045	(NA)

See footnotes at end of table.

Table 5. **Production, Exports, Imports, and Apparent Consumption of Softwoods and Hardwoods: 1996 and 1995—Con.**

[Thousands of cubic meters]

Product code	Product description	Production <sup>1</sup>	Exports of domestic merchandise <sup>2</sup>	Percent exports to production	Imports for consumption <sup>2</sup>	Apparent consumption <sup>3</sup>	Percent imports to apparent consumption
<b>1995</b>							
	<b>Total softwoods and hardwoods..</b>	<b>103,771</b>	<b>6,885</b>	<b>6.6</b>	<b>41,118</b>	<b>138,004</b>	<b>29.8</b>
	Softwoods <sup>4</sup> .....	77,982	4,419	5.7	40,519	114,082	35.5
	Pine .....	43,868	1,270	2.9	1,306	43,904	3.0
24212 74	Lodgepole pine.....	1,414	48	3.4	48	1,414	3.4
24212 71	Ponderosa pine .....	5,652	141	2.5	199	5,710	3.5
24212 14, 16, 17, 72, 76	Other pine, including southern yellow and eastern white pine .....	36,802	1,081	2.9	1,059	36,780	2.9
24212 63	Douglas fir .....	15,071	1,506	10.0	933	14,498	6.4
24212 60	Western red cedar .....	1,461	61	4.2	1,748	3,148	55.5
24212 18, 20, 62, 66, 75, 78-80	Other softwoods, including hemlock, spruce, fir (other than Douglas fir), cedar (other than western red cedar), and mixed softwoods .....	13,391	1,582	11.8	36,532	48,341	75.6
24212 00	Softwoods, n.s.k. ....	4,191	(NA)	(NA)	(NA)	4,191	(NA)
	Hardwoods <sup>4</sup> .....	25,789	2,466	9.6	599	23,922	2.5
24211 51	Ash .....	491	158	32.2	10	343	2.9
24211 53	Beech .....	165	22	13.3	5	148	3.4
24211 55	Birch .....	160	25	15.6	51	186	27.4
24211 57	Cherry .....	434	75	17.3	8	367	2.2
24211 65	Hickory and pecan .....	231	15	6.5	1	217	0.5
24211 67, 69	Maple .....	1,449	313	21.6	129	1,265	10.2
24211 71	Red oak .....	4,590	638	13.9	16	3,968	0.4
24211 73	White oak .....	2,202	600	27.2	6	1,608	0.4
24211 75	Black walnut .....	80	21	26.3	1	60	1.7
24211 77	Yellow-poplar .....	2,056	162	7.9	3	1,897	0.2
24211 59, 61, 63, 79, 83, 99	Other hardwoods, including cottonwood, aspen, gum, and mixed hardwoods ....	5,803	437	7.5	369	5,735	6.4
24211 00	Hardwoods, n.s.k. ....	8,128	(NA)	(NA)	(NA)	8,128	(NA)

NA Not available. n.s.k. Not specified by kind.

<sup>1</sup>Harmonized import and export data for 1995 and 1994 were collected in cubic meters. A conversion factor (1 thousand cubic meters)/(.423729 million board feet) was used to convert from millions of board feet to thousands of cubic meters.

<sup>2</sup>Import and export numbers for 1995 do not include tropical woods (e.g. meranti and mahogany), cross-ties, or treated lumber; import and export data for 1996 do not include cross-ties.

<sup>3</sup>Apparent consumption is equal to production plus imports minus exports.

<sup>4</sup>Totals for "Hardwoods and Softwoods" include n.s.k. production figures.

Note: For comparison of SIC-based codes with Schedule B export numbers and HTSUSA import numbers, see "Contact for Data Users" at end of this subsection.

## HISTORICAL NOTE

Data on lumber production and stocks have been collected by the Bureau of the Census since 1904. Historical data may be obtained from Current Industrial Reports (called Facts for Industry before 1959) available at your local Federal Depository Library. Historical data are also

available on microfiche; contact the Bureau of the Census, Customer Services, 301-457-4100.

## CONTACT FOR DATA USERS

For additional information about these data, contact Jim Jamski, 301-457-1603.

## REFRACTORIES (MA32C)

### INTRODUCTION

The data in this section are from a survey of all companies engaged in the manufacture of refractories. The survey panel for this survey includes all known manufacturers of refractories, approximately 200 companies. Data are collected in quantity and value of shipments. Quantity of shipments is measured in short tons, metric tons, and M bricks (thousand 9-inch equivalent). Related imports and exports are also shown.

### SUMMARY OF FINDINGS

In 1996, total manufacturers' shipments of refractories amounted to \$2,296 million, an increase of 3.3 percent, from \$2,222 million in 1995.

Shipments of clay refractories increased 0.4 percent to \$945 million in 1996, from \$941 million in 1995. Clay refractories shipments accounted for 41 percent of total refractories shipments in 1996, down from 42 percent in 1995.

Shipments of nonclay refractories increased 5.4 percent to \$1,351 million in 1996, from \$1,282 million in 1995. Nonclay refractories shipments accounted for 59 percent of total refractories shipments in 1996, up from 58 percent in 1995.

Brick and shapes continue to be the dominate form of refractories, showing an increase of 1.3 percent to \$1,283 million in 1996, from \$1,266 million in 1995. Unshaped clay refractories increased 3.6 percent to \$330 million in 1996, from \$318 million in 1995. Mortars decreased 4.1 percent to \$37 million in 1996, from \$38 million in 1995. Plastic refractories and ramming mixes increased 14.6 percent to \$155 million in 1996, from \$135 million in 1995.

### EXPLANATION OF TERMS

**Unit of measure.** Data for quantity of shipments have been collected in two distinct units of measure. Shipments of all refractories are collected in metric tons, and shipments of brick and shapes are also collected in thousand 9-inch equivalents. (A 9-inch equivalent is a solid volume of 101.25 cubic inches.) For ease of comparison, the metric tons data have been multiplied by the appropriate factor (1.103) to derive the short tons figures.

**High alumina brick and shapes (50 percent to 87.5 percent  $Al_2O_3$ ).** Brick and shapes made substantially of calcined diaspore or bauxite. Calcined as applied to diaspore and bauxite implies heat treatment short of fusion for volume stability prior to use in a refractory product. In the process, volatile materials are driven off and chemical changes take place.

**Ladle brick.** Alumina ladle brick less than 50 percent  $Al_2O_3$ .

**High alumina ladle brick.** Ladle brick containing 50 percent or more  $Al_2O_3$ .

**Sleeves, nozzles, runner brick, tuyeres, and side grate brick.** Includes nozzles and sleeves described in American Society of Testing and Materials (ASTM) C-435, runner brick, tuyeres, and slide gate brick, externally applied, all compositions.

**Refractory bonding mortars, wet and dry tapes.** Includes both air-setting and heatsetting bonding mortars that contain up to 60 percent  $Al_2O_3$ , dry basis, by analysis.

**Plastic refractories and ramming mixes.** Includes products referred to as plastic fire brick and the less-plastic materials intended for ramming into place after the addition of water (when shipped in dry form) containing less than 50 percent  $Al_2O_3$ .

**High alumina plastic refractories and ramming mixes.** Plastic refractories and ramming mixes containing 50 percent to 87.5 percent  $Al_2O_3$ .

**Clay castable refractories (hydraulic setting).** Hydraulic setting castables containing up to 50 percent  $Al_2O_3$  and made from calcined fireclay, diaspore or bauxite base, and Portland or calcium aluminate cements. Castables based on mullite, fused or tabular alumina, or other nonclay materials are excluded.

**High alumina castable refractories (hydraulic setting).** Castable refractories containing more than 50 percent  $Al_2O_3$  excluding those based on mullite or extra high alumina.

**Insulating castables.** Hydraulic setting castables designed for low thermal conductivity and having bulk densities as defined in ASTM Classification C-401 no greater than 105 pounds per cubic foot.

**Fireclay gunning mixes.** Alumina-silicate compositions up to 50 percent  $Al_2O_3$ , specifically engineered for gunning applications; may include hydraulic setting or other chemical bonding agents.

**Molten cast refractories.** Products made by fusing refractory oxides, as in an electric furnace, and pouring the molten material into molds to form finished shapes.

**Magnesite and magnesite-chrome brick and shapes (magnesite predominating; products analyzing greater than 55 percent Mg).** Pitch-bonded magnesite and magnesite-dolomite brick (magnesite predominating), not including burned impregnated brick, molten cast magnesite and magnesite-chrome brick and shapes, or those made of fused magnesia.



**Chrome and chrome-magnesite brick and shapes.** Chrome predominating products analyzing no more than 55 percent Mg. Molten cast chrome and shapes are excluded.

**Mullite brick and shapes.** Mullite brick and shapes made predominantly of kyanite, sillimanite, and alusite, or synthetic mullite (excluding molten cast).

**Extra-high alumina brick and shapes (over 87.5 percent  $Al_2O_3$ ).** Products made predominantly of fused bauxite or fused or dense-sintered alumina. Molten cast extra-high alumina brick and shapes are excluded.

**Fused.** As applied to bauxite and alumina, fused means melting, as in an electric furnace; after cooling, the product is crushed and graded for use in the refractory.

**Dense-sintered alumina.** Refers to heat treatment (short of melting) of alumina to render it relatively volume-stable for use in a refractory.

**High alumina mortars.** Mortars containing more than 60 percent  $Al_2O_3$ .

**Other nonclay mortars.** Includes sterite, zircon, zirconia, and mullite.

**Nonclay castable refractories (hydraulic setting).** Hydraulic setting castables made from nonclay refractory materials and Portland or calcium aluminate cements.

**Basic nonclay gunning mixes.** Includes chrome, chrome-magnesia, and dolomite gunning mixes.

**Other nonclay gunning mixes.** Includes extra-high alumina, mullite, zircon, and other gunning mixes.

Table 6. Value of Shipments of Refractories: 1989 to 1996

[Thousands of dollars]

Year	Total	Clay	Nonclay
1996 .....	2,295,688	944,926	1,350,762
1995 .....	2,222,384	940,835	1,281,549
1994 .....	2,046,979	906,165	1,140,814
1993 .....	1,930,233	772,986	1,157,247
1992 .....	1,956,083	786,078	1,170,005
1991 .....	1,946,842	784,331	1,162,511
1990 .....	2,002,833	771,315	1,231,518
1989 .....	2,010,947	823,266	1,187,681

Table 7. Quantity and Value of Shipments of Refractories by Type: 1996 and 1995

[Value in thousands of dollars]

Product code	Product description	Number of companies	Quantity shipped (unit of measure)			Value of shipments
			Short tons	Metric tons	M bricks (1,000 9-inch equivalent)	
<b>1996</b>						
3255—	Clay and nonclay refractories .....	(X)	(X)	(X)	(X)	2,295,688
	Clay refractories .....	(X)	(X)	(X)	(X)	944,926
32550 11	Brick and shapes .....	(X)	898,495	814,592	279,606	559,275
32550 14	Fireclay, including semisilica, bloating and superduty fireclay brick and shapes, fireclay and high alumina pouring pit refractories; clay kiln furniture; radiant heater elements; and other miscellaneous clay refractory shapes .....	30	425,966	386,189	127,559	209,325
32550 35	High alumina brick and shapes containing 50 percent alumina and over, including glass-house pots, tank blocks, feeder parts, and upper structure shapes, made predominantly of calcined bauxite, kyanite, andalusite, and similar raw materials. Includes high alumina pouring pit refractories (containing 50 percent alumina and over), sleeves, nozzles, runners, and ladle gate parts <sup>1</sup> .....	30	409,242	371,026	100,153	285,617
32550 55	Insulating brick and shapes .....	14	63,287	57,377	51,894	64,333
32550 61	Unshaped clay refractories .....	(X)	714,576	647,848	(X)	329,747
32550 65	Refractory bonding mortars, wet and dry, including clay and high alumina .....	32	53,211	48,242	(X)	25,370
32550 70	Plastic refractories and ramming mixes, less than 50 percent alumina; high alumina plastic refractories and ramming mixes, 50 percent alumina and over; and high alumina phosphate bonded plastic refractories and ramming mixes, 50 percent alumina and over <sup>2</sup> .....	27	158,654	143,839	(X)	76,816
32550 85	Castable refractories less than 50 percent alumina; high alumina castables 50 percent alumina and over; and insulating castables (hydraulic setting), density up to 105 pounds/cubic foot <sup>3</sup> .....	37	322,348	292,247	(X)	165,858
32550 95	Fireclay gunning mixes, including hydraulic setting gunning mixes, less than 50 percent alumina; high alumina gunning mixes, 50 percent alumina and over; and insulating gunning mixes (hydraulic setting) .....	29	180,363	163,520	(X)	61,703
32550 00	Other refractory raw materials and refractory materials sold in lump or ground form, either for direct use by customer as a finished refractory product or as exported material .....	(X)	213,980	193,998	(X)	23,950
3297—	Clay and high alumina refractory raw materials <sup>4</sup> .....	17	205,294	186,123	(X)	21,660
32970 12	Clay and high alumina refractory materials <sup>5</sup> .....	10	8,686	7,875	(X)	2,290
32970 13	Clay refractories, n.s.k. <sup>6</sup> .....	(X)	(X)	(X)	(X)	31,954
32970 15	Nonclay refractories .....	(X)	(X)	(X)	(X)	1,350,762
32970 19	Brick and shapes .....	(X)	486,625	441,184	109,248	723,770
32970 48	All silica brick and shapes, excluding semisilica .....	16	58,000	52,584	25,515	37,675
32970 50	Magnesite-carbon brick and shapes, both less than 7 percent carbon, 7 percent carbon and over, predominantly pitch and resin bonded, and carbon magnesite brick .....	8	93,374	84,655	17,420	101,535
32970 55	Magnesite brick and shapes, burned and unburned .....	9	31,252	28,334	5,938	24,879
32970 58	Magnesite-chrome, chrome-magnesite, including high fires, burned and unburned brick, and chrome brick .....	6	49,411	44,797	8,864	67,931
32970 61	Silicon-carbide brick and shapes (made predominantly of silicon carbide), including kiln furniture .....	13	10,962	9,938	1,447	57,678
32970 65	Extra-high alumina brick and shapes containing 87.5 percent alumina and higher, and extra-high alumina pouring pit refractories, including sleeves, nozzles, runners, tuyeres, ladle gate parts, and mullite brick and shapes .....	27	36,027	32,663	8,691	116,753
32970 70	Zircon and zirconia brick and shapes (made predominantly of either of these materials, including electrocast) .....	15	7,349	6,663	2,527	58,341
32970 75	All other brick and shapes, including dolomite, dolomite-magnesite, forsterite, pyrophyllite-zircon, carbon and graphite crucibles, retorts, stopper heads, natural graphite, refractories, and molten cast .....	20	200,250	181,550	38,846	258,978
32970 80	Mortars .....	(X)	78,926	71,556	(X)	36,501
32970 85	Unshaped nonclay refractories basic bonding mortars made predominantly of magnesite or chrome ore, dolomite, and other nonclay mortars (made predominantly of forsterite, zircon, and silica) .....	11	(D)	(D)	(X)	28,061

See footnotes at end of table.

Table 7. Quantity and Value of Shipments of Refractories by Type: 1996 and 1995—Con.

[Value in thousands of dollars]

Product code	Product description	Number of companies	Quantity shipped (unit of measure)			Value of shipments
			Short tons	Metric tons	M bricks (1,000 9-inch equivalent)	
<b>1996—Con.</b>						
Clay and nonclay refractories—Con.						
Nonclay refractories—Con.						
Mortars—Con.						
32970 63	Extra-high alumina refractory mortars (made predominantly of fused or synthetic alumina and mullite) . . . . .	21	(D)	(D)	(X)	8,440
32970 65	Plastic refractories and ramming mixes . . . . .	(X)	176,142	159,694	(X)	154,785
32970 67	Basic castable mixes, including chrome, chrome-magnesia, magnesia-chrome, magnesia, and dolomite . . . . .	12	52,306	47,422	(X)	39,793
32970 70	Extra-high alumina plastic refractories and ramming mixes, 87.5 percent alumina and higher (made predominantly of fused or synthetic aluminas and mullites), and extra-high alumina phosphate bonded plastic refractories and ramming mixes . . . . .	22	70,224	63,666	(X)	70,933
32970 69	Extra-high alumina castable and gunning mixes . . . . .	10	9,603	8,706	(X)	12,553
32970 68	Other nonclay plastic refractories and ramming mixes . . . . .	13	31,777	28,810	(X)	15,494
32970 68	Other nonclay refractory castables and plastic refractories . . . . .	15	12,232	11,090	(X)	16,012
Gunning mixes:						
32970 72	Basic nonclay gunning mixes, including chrome, chrome-magnesia, magnesia-chrome, magnesia, and dolomite and other nonclay gunning mixes . . . . .	17	255,746	231,864	(X)	103,776
32970 75	Ceramic refractory fibers, 1,500° F and higher . . . . .	11	43,249	39,210	(X)	145,728
32970 94	Other nonclay refractory materials sold in lump or ground form, including ground silica . . . . .	(X)	373,527	338,646	(X)	159,631
32970 96	Domestic shipments for direct use by customers as a finished refractory and all exported material <sup>5</sup> . . . . .	18	(D)	(D)	(X)	78,646
32970 00	All other domestic shipments of nonclay refractory materials sold in lump or ground form as a refractory raw material <sup>4</sup> . . . . .	9	(D)	(D)	(X)	80,985
32950 23	Nonclay refractories, n.s.k. <sup>6</sup> . . . . .	(X)	(X)	(X)	(X)	26,571
32950 25	Dead-burned magnesia or magnesite . . . . .	(X)	(D)	(D)	(X)	(D)
32950 23	Domestic shipments for direct use as finished refractory products and all exported material <sup>5</sup> . . . . .	7	(D)	(D)	(X)	(D)
32950 25	All other domestic shipments predominantly for use as a refractory raw material . . . . .	7	(D)	(D)	(X)	(D)
32740 71	Dead-burned dolomite . . . . .	4	408,488	370,343	(X)	27,077
<b>1995</b>						
3255—	Clay and nonclay refractories . . . . .	(X)	(X)	(X)	(X)	2,222,384
32550 11	Clay refractories . . . . .	(X)	(X)	(X)	(X)	940,835
32550 11	Brick and shapes . . . . .	(X)	980,539	888,975	305,315	572,804
32550 14	Fireclay, including semisilica, bloating and superduty fireclay brick and shapes, fireclay and high alumina pouring pit refractories; clay kiln furniture; radiant heater elements; and other miscellaneous clay refractory shapes . . . . .	31	481,134	436,205	147,029	212,569
32550 35	High alumina brick and shapes containing 50 percent alumina and over, including glass-house pots, tank blocks, feeder parts, and upper structure shapes, made predominantly of calcined bauxite, kyanite, andalusite, and similar raw materials. Includes high alumina pouring pit refractories (containing 50 percent alumina and over), sleeves, nozzles, runners, and ladle gate parts <sup>1</sup> . . . . .	31	439,349	398,322	109,213	301,734
32550 55	Insulating brick and shapes . . . . .	15	60,056	54,448	49,073	58,501
32550 61	Unshaped clay refractories . . . . .	(X)	659,219	597,659	(X)	318,106
32550 55	Refractory bonding mortars, wet and dry, including clay and high alumina . . . . .	31	52,128	47,260	(X)	28,844
32550 61	Plastic refractories and ramming mixes, less than 50 percent alumina; high alumina plastic refractories and ramming mixes, 50 percent alumina and over; and high alumina phosphate bonded plastic refractories and ramming mixes, 50 percent alumina and over <sup>2</sup> . . . . .	25	169,943	154,073	(X)	82,750

See footnotes at end of table.

Table 7. Quantity and Value of Shipments of Refractories by Type: 1996 and 1995—Con.

[Value in thousands of dollars]

Product code	Product description	Number of companies	Quantity shipped (unit of measure)			Value of shipments
			Short tons	Metric tons	M bricks (1,000 9-inch equivalent)	
<b>1995—Con.</b>						
Clay and nonclay refractories—Con.						
Clay refractories—Con.						
32550 65	Castable refractories less than 50 percent alumina; high alumina castables 50 percent alumina and over; and insulating castables (hydraulic setting), density up to 105 pounds/cubic foot <sup>3</sup> .....	38	311,827	282,708	(X)	159,871
32550 70	Fireclay gunning mixes, including hydraulic setting gunning mixes, less than 50 percent alumina; high alumina gunning mixes, 50 percent alumina and over; and insulating gunning mixes (hydraulic setting).....	28	125,321	113,618	(X)	46,641
	Other refractory raw materials and refractory materials sold in lump or ground form, either for direct use by customer as a finished refractory product or as exported material.....	(X)	191,545	173,658	(X)	22,522
32550 85	Clay and high alumina refractory raw materials <sup>4</sup> .....	16	171,960	155,902	(X)	17,546
32550 95	Clay and high alumina refractory materials <sup>5</sup> .....	11	19,585	17,756	(X)	4,976
32550 00	Clay refractories, n.s.k. <sup>6</sup> .....	(X)	(X)	(X)	(X)	27,403
3297—	Nonclay refractories.....	(X)	(X)	(X)	(X)	1,281,549
	Brick and shapes.....	(X)	484,751	439,485	110,802	692,950
32970 12	All silica brick and shapes, excluding semisilica.....	17	61,897	56,117	27,988	40,358
32970 13	Magnesite-carbon brick and shapes, both less than 7 percent carbon, 7 percent carbon and over, predominantly pitch and resin bonded, and carbon magnesite brick.....	8	96,725	87,693	18,131	104,756
32970 15	Magnesite brick and shapes, burned and unburned.....	10	30,395	27,557	5,623	23,508
32970 19	Magnesite-chrome, chrome-magnesite, including high fires, burned and unburned brick, and chrome brick.....	7	40,151	36,402	7,354	51,466
32970 48	Silicon carbide brick and shapes made predominately of silicon carbide), including kiln furniture.....	13	11,276	10,223	1,356	61,065
32970 50	Extra-high alumina brick and shapes containing 87.5 percent alumina and higher, and extra-high alumina pouring pit refractories, including sleeves, nozzles, runners, tuyeres, ladle gate parts, and mullite brick and shapes.....	29	32,199	29,192	7,804	122,230
32970 55	Zircon and zirconia brick and shapes (made predominantly of either of these materials, including electrocast).....	16	3,476	3,151	1,655	38,821
32970 58	All other brick and shapes, including dolomite, dolomite-magnesite, forsterite, pyrophyllite-zircon, carbon and graphite crucibles, retorts, stopper heads, natural graphite, refractories, and molten cast.....	21	208,632	189,150	40,891	250,746
32970 61	Mortars.....	(X)	85,174	77,221	(X)	38,049
	Unshaped nonclay refractories basic bonding mortars made predominantly of magnesite or chrome ore, dolomite, and other nonclay mortars (made predominantly of forsterite, zircon, and silica).....	12	(D)	(D)	(X)	30,735
32970 63	Extra-high alumina refractory mortars (made predominantly of fused or synthetic alumina and mullite).....	21	(D)	(D)	(X)	7,314
32970 65	Plastic refractories and ramming mixes.....	(X)	169,258	153,451	(X)	135,013
	Basic castable mixes, including chrome, chrome-magnesia, magnesia-chrome, magnesia, and dolomite.....	14	54,396	49,316	(X)	36,006
32970 67	Extra-high alumina plastic refractories and ramming mixes, 87.5 percent alumina and higher (made predominantly of fused or synthetic aluminas and mullites), and extra-high alumina phosphate bonded plastic refractories and ramming mixes.....	23	60,350	54,714	(X)	56,750
32970 70	Extra-high alumina castable and gunning mixes.....	10	9,087	8,238	(X)	11,066
32970 69	Other nonclay plastic refractories and ramming mixes.....	14	30,720	27,851	(X)	12,284
32970 68	Other nonclay refractory castables and plastic refractories.....	13	14,705	13,332	(X)	18,907
32970 72	Gunning mixes: Basic nonclay gunning mixes, including chrome, chrome-magnesia, magnesia-chrome, magnesia, and dolomite and other nonclay gunning mixes.....	15	220,634	200,031	(X)	91,192
32970 75	Ceramic refractory fibers, 1,500 <sup>0</sup> F and higher.....	11	45,529	41,277	(X)	154,574

See footnotes at end of table.

Table 7. Quantity and Value of Shipments of Refractories by Type: 1996 and 1995—Con.

[Value in thousands of dollars]

Product code	Product description	Number of companies	Quantity shipped (unit of measure)			Value of shipments
			Short tons	Metric tons	M bricks (1,000 9-inch equivalent)	
<b>1995—Con.</b>						
Clay and nonclay refractories—Con.						
Nonclay refractories—Con.						
	Other nonclay refractory materials sold in lump or ground form, including ground silica. ....	(X)	384,057	348,193	(X)	144,643
32970 94	Domestic shipments for direct use by customers as a finished refractory and all exported material <sup>5</sup> .....	18	(D)	(D)	(X)	80,238
32970 96	All other domestic shipments of nonclay refractory materials sold in lump or ground form as a refractory raw material <sup>4</sup> .....	9	(D)	(D)	(X)	64,405
32970 00	Nonclay refractories, n.s.k. <sup>6</sup> .....	(X)	(X)	(X)	(X)	25,128
	Dead-burned magnesia or magnesite .....	(X)	(D)	(D)	(X)	(D)
32950 23	Domestic shipments for direct use as finished refractory products and all exported material <sup>5</sup> .....	6	(D)	(D)	(X)	(D)
32950 25	All other domestic shipments predominantly for use as a refractory raw material .....	7	(D)	(D)	(X)	(D)
32740 71	Dead-burned dolomite .....	4	340,509	308,712	(X)	22,798

D Withheld to avoid disclosing data for individual companies. n.s.k. Not specified by kind. <sup>1</sup>Revised by 5 percent or more from previously published data. X Not applicable.

<sup>1</sup>Excludes data for mullite and extra-high alumina refractories. These products are included in the nonclay refractories section.

<sup>2</sup>Includes products referred to as plastic firebrick and the less plastic materials intended for ramming into place after the addition of water (when shipped in dry form).

<sup>3</sup>Includes hydraulic setting castables designed for low thermal conductivity and having bulk densities as defined in ASTM classification C-401, not greater than 105 pounds/cubic foot.

<sup>4</sup>Includes shipments to refractory producers for reprocessing in the manufacture of brick and other refractories.

<sup>5</sup>Includes shipments for direct use as finished refractory products by establishments classified in manufacturing industries and excludes shipments to refractory producers for reprocessing in the manufacture of brick and other refractories. Includes all exports.

<sup>6</sup>Not specified by kind (n.s.k.) represents the value of shipments for establishments that did not report detailed information and establishments, typically with less than five employees that were not included on the MA32C mailing panel.

Table 8. Shipments, Exports, Imports, and Apparent Consumption of Refractories by Type: 1996 and 1995

[Value in thousands of dollars]

Product code <sup>1</sup>	Product description	Unit of measure	Manufacturers' shipments		Exports of domestic merchandise <sup>1 2</sup>		Percent exports to manufacturers' shipments	
			Quantity	Value	Quantity	Value at port <sup>2</sup>	Quantity	Value
<b>1996</b>								
32550 11,14,35	Clay and nonclay refractories <sup>3</sup> .....	.....(X) .....	(X)	2,053,582	(X)	381,057	(X)	19.0
	Clay refractories .....	.....(X) .....	(X)	889,022	(X)	70,714	(X)	8.0
	Brick and shapes .....	1,000 standard brick equivalent .....	279,606	559,275	(NA)	59,305	(NA)	11.0
32550 55,61,65,70	Unshaped clay refractories and gunning mixes .....	Metric tons. ....	647,848	329,747	10,128	11,409	2.0	3.0
32970 13,15,19	Nonclay refractories .....	.....(X) .....	(X)	1,164,560	(X)	310,343	(X)	27.0
	Nonclay magnesite and magnesite-chrome brick and shapes and chrome brick .....	1,000 standard brick equivalent .....	32,222	194,345	(NA)	86,452	(NA)	44.0
32970 12,48,50, 55,58	All other brick and shapes .....	.....do.....	77,026	529,425	(NA)	119,172	(NA)	23.0
32970 61,63,65, 67,68,69,70,72,75	Unshaped nonclay refractories and gunning mixes .....	Metric tons. ....	502,324	440,790	149,362	104,719	30.0	24.0
			Imports for consumption <sup>1 4</sup>		Apparent consumption <sup>6</sup>		Percent imports to apparent consumption	
			Quantity	Value <sup>5</sup>	Quantity	Value	Quantity	Value
32550 11,14,35	Clay and nonclay refractories <sup>3</sup> .....	.....(X) .....	(X)	234,859	(X)	1,907,384	(X)	12.3
	Clay refractories .....	.....(X) .....	(X)	26,649	(X)	844,957	(X)	3.2
	Brick and shapes .....	1,000 standard brick equivalent .....	(NA)	25,442	(NA)	525,412	(NA)	4.8
32550 55,61,65,70	Unshaped clay refractories and gunning mixes .....	Metric tons. ....	1,061	1,207	638,781	319,545	0.2	0.4
32970 13,15,19	Nonclay refractories .....	.....(X) .....	(X)	208,210	(X)	1,062,427	(X)	19.6
	Nonclay magnesite and magnesite-chrome brick and shapes and chrome brick .....	1,000 standard brick equivalent .....	(NA)	86,806	(NA)	194,699	(NA)	44.6
32970 12,48,50, 55,58	All other brick and shapes .....	.....do.....	(NA)	94,693	(NA)	504,946	(NA)	18.8
32970 61,63,65, 67,68,69,70,72,75	Unshaped nonclay refractories and gunning mixes .....	Metric tons. ....	38,237	26,711	391,199	362,782	9.8	7.4

See footnotes at end of table.

Table 8. Shipments, Exports, Imports and Apparent Consumption of Refractories by Type: 1996 and 1995—Con.

[Value in thousands of dollars]

Product code <sup>1</sup>	Product description	Unit of measure	Manufacturers <sup>1</sup>		Exports of domestic merchandise <sup>1 2</sup>		Percent exports to manufacturers' shipments	
			Quantity	Value	Quantity	Value at port <sup>2</sup>	Quantity	Value
<b>1995</b>								
32550 11,14,35	Clay and nonclay refractories <sup>3</sup> .....	.....(X) .....	(X)	2,002,688	(X)	363,991	(X)	18.0
	Clay refractories .....	.....(X) .....	(X)	890,910	(X)	74,620	(X)	8.0
	Brick and shapes .....	1,000 standard brick equivalent .....	305,315	572,804	(NA)	60,367	(NA)	11.0
32550 55,61,65,70	Unshaped clay refractories and gunning mixes .....	Metric tons. ....	597,659	318,106	21,317	14,253	4.0	4.0
32970 13,15,19	Nonclay refractories .....	.....(X) .....	(X)	1,111,778	(X)	289,371	(X)	26.0
	Nonclay magnesite and magnesite-chrome brick and shapes and chrome brick .....	1,000 standard brick equivalent .....	31,108	179,730	(NA)	90,460	(NA)	50.0
	All other brick and shapes .....	.....do.....	79,694	513,220	(NA)	100,896	(NA)	20.0
32970 12,48,50,55,58	Unshaped nonclay refractories and gunning mixes .....	Metric tons. ....	471,980	418,828	134,279	98,015	28.0	23.0
			Imports for consumption <sup>1 4</sup>		Apparent consumption <sup>6</sup>		Percent imports to apparent consumption	
			Quantity	Value <sup>5</sup>	Quantity	Value	Quantity	Value
32550 11,14,35	Clay and nonclay refractories <sup>3</sup> .....	.....(X) .....	(X)	225,138	(X)	1,863,835	(X)	12.1
	Clay refractories .....	.....(X) .....	(X)	32,222	(X)	848,512	(X)	3.8
	Brick and shapes .....	1,000 standard brick equivalent .....	(NA)	31,565	(NA)	544,002	(NA)	5.8
32550 55,61,65,70	Unshaped clay refractories and gunning mixes .....	Metric tons. ....	677	657	577,019	304,510	0.1	0.2
32970 13,15,19	Nonclay refractories .....	.....(X) .....	(X)	192,916	(X)	1,015,323	(X)	19.0
	Nonclay magnesite and magnesite-chrome brick and shapes and chrome brick .....	1,000 standard brick equivalent .....	(NA)	84,208	(NA)	173,478	(NA)	48.5
	All other brick and shapes .....	.....do.....	(NA)	85,838	(NA)	498,162	(NA)	17.2
32970 12,48,50,55,58	Unshaped nonclay refractories and gunning mixes .....	Metric tons. ....	32,931	22,870	370,632	343,683	8.9	6.7

NA Not available. X Not applicable.

<sup>1</sup>For comparison of SIC-based codes with Schedule B export numbers and HTSUSA import numbers, see "Contact for Data Users" at end of this subsection.<sup>2</sup>Source: Bureau of the Census report EM 545, *U.S. Exports*.<sup>3</sup>"Clay and nonclay refractories" total shown here excludes product codes 32550 00, 32550 85, 32550 95, 32970 00, 32970 94, and 32970 96; therefore, they differ from totals shown in Tables 6 and 7.<sup>4</sup>Source: Bureau of the Census report IM 146, *U.S. Imports for Consumption and General Imports*.<sup>5</sup>"Value at port" includes both import value and duty value.<sup>6</sup>Apparent consumption is derived by subtracting exports from total of shipments plus imports (including duty).

**HISTORICAL NOTE**

Data on refractories have been collected by the Bureau of the Census since 1947. Historical data may be obtained from Current Industrial Reports (called Facts for Industry before 1959) available at your local Federal

Depository Library. Historical data are also available on microfiche; contact Customer Services, 301-457-4100.

**CONTACT FOR DATA USERS**

For additional information about these data, contact Robert Miller, 301-457-4787.



## CLAY CONSTRUCTION PRODUCTS (MQ32D)

### INTRODUCTION

The data in this section are from a survey of manufacturers of clay products, including brick, tile, pipe, and fittings. The panel for this survey consists of all known producers of clay construction products, approximately 220 establishments. This survey supplies a regional state break-out of production, quantity of shipments, and value of shipments for brick (building or common and face), by quarter. The tile, pipe, and fittings products are available on an overall industry basis, by quarter. Related imports and exports are also shown.

### SUMMARY OF FINDINGS

Shipments of the principal clay product, brick (building or common), increased 13.1 percent to \$1,235 million in 1996, from \$1,092 million in 1995. The South Atlantic region accounted for approximately 33 percent of the total value of brick shipments in 1996. More specifically, North Carolina accounted for approximately 13 percent of the total value of brick shipments in 1996.

Shipments of facing tile decreased 9.7 percent to \$14.9 million in 1996, from \$16.5 million in 1995.

Shipments of clay floor and wall tile increased 6.6 percent to \$775.7 million in 1996, from \$728.0 million in 1995. Of this, shipments of glazed floor and wall tile increased 3.2 percent to \$552.6 million in 1996, from \$535.5 million in 1995.

Shipments of vitrified clay sewer pipe and fittings increased 2.5 percent to \$36.2 million in 1996, from \$35.3 million in 1995.

### EXPLANATION OF TERMS

**Building or common brick.** Any brick made primarily for building purposes and not especially treated for texture or color.

**Facing brick.** Brick made especially for facing purposes, often treated to produce surface texture, and made of selected clays or otherwise treated to produce desired color.

**Production and shipments.** Due to breakage and inventory adjustments, production (quantity) and shipments (quantity) may vary widely on a quarterly basis.

**Facing tile.** Tile designed for use in exterior or interior walls, partitions, or columns where the face of the tile is to be left exposed.

**Ceramic glazed brick.** Brick having a glaze of bright satin or glass finish obtained by spraying the clay body with a compound of metallic oxides, chemicals, and clays, and burning at high temperature, thus fusing the glaze to the body to make them inseparable.

**Structural clay tile.** A hollow masonry building unit composed of burned clay, shale, fireclay, or mixtures thereof, and having parallel air cells.

**Quarry tile.** Glazed or unglazed tile made by the process from natural clay or shale, usually having 6 square inches (39 square centimeters) or more of facial area.

**Vitrified.** This characteristic of a clay product results when the temperature in the kiln is sufficient to fuse all the grains and close all the pores of the clay, making the mass impervious.

Table 9. Production and Shipments of Clay Construction Products: 1993 to 1996

Product code	Product description	Production (quantity)	Shipments	
			Quantity	Value (million dollars)
32510 11	Brick (building or common and face) (million standard brick):			
	1996 .....	7,426.4	7,619.3	1,235.1
	1995 .....	7,243.9	6,890.3	1,092.2
	1994 .....	7,200.6	7,238.0	1,102.3
	1993 .....	6,623.3	6,655.4	989.9
32510 31	Facing tile (structural) and ceramic glazed brick, including unglazed and salt glazed (million brick equivalent):			
	1996 .....	23.9	23.0	14.9
	1995 .....	25.8	24.1	16.5
	1994 .....	26.9	26.6	15.1
	1993 .....	31.2	28.8	16.6
32510 61	Structural clay tile (except facing) (thousand short tons):			
	1996 .....	49.2	51.0	8.3
	1995 .....	54.5	53.7	8.1
	1994 .....	(D)	(D)	(D)
	1993 .....	(D)	(D)	(D)
32530 00	Clay floor and wall tile, including quarry tile (million sq ft):			
	1996 .....	575.0	579.6	775.7
	1995 .....	580.8	568.1	728.0
	1994 .....	604.5	604.4	755.7
	1993 .....	536.6	558.7	686.7
32591 00	Vitrified clay sewer pipe and fittings (short tons):			
	1996 .....	128.3	137.8	36.2
	1995 .....	138.1	135.8	35.3
	1994 .....	159.1	134.9	33.3
	1993 .....	151.9	135.9	32.5

D Withheld to avoid disclosing data for individual companies. <sup>1</sup>Revised by 5 percent or more from previously published data.

Note: Detail data may not add to totals because of independent rounding.

Table 10. **Production of Brick (Building or Common and Face) by Divisions and States: 1996 and 1995**

[Thousands of brick: 2-1/4 inch x 3-5/8 inch x 7-5/8 inch brick equivalent]

Division and state	1996					1995				
	Total	Fourth quarter	Third quarter	Second quarter	First quarter	Total	Fourth quarter	Third quarter	Second quarter	First quarter
<b>United States</b> .....	<b>7,426,402</b>	<b>1,919,101</b>	<b>2,002,124</b>	<b>1,933,331</b>	<b>1,571,846</b>	<b>7,243,872</b>	<b>1,651,169</b>	<b>1,834,271</b>	<b>1,912,543</b>	<b>1,845,889</b>
New England <sup>1</sup> .....	72,294	'15,983	'20,612	'20,208	'15,491	74,352	15,905	20,071	19,498	18,878
Middle Atlantic <sup>2</sup> .....	352,029	86,358	107,690	97,997	59,984	382,377	74,703	102,972	105,241	99,461
East North Central .....	668,305	173,202	184,631	173,184	137,288	654,126	140,132	173,016	175,191	165,787
Ohio .....	418,928	106,425	113,021	107,064	92,418	412,705	90,071	112,495	107,487	102,652
Other (Illinois, Indiana, Michigan, and Wisconsin) ....	249,377	66,777	71,610	66,120	44,870	241,421	50,061	60,521	67,704	63,135
West North Central .....	349,557	87,463	95,195	92,330	74,569	337,114	72,203	88,729	93,024	83,158
Kansas and Missouri .....	120,094	30,955	30,633	30,753	27,753	116,053	22,962	30,328	32,393	30,370
Other (Iowa, Minnesota, Nebraska, North Dakota, and South Dakota) .....	229,463	56,508	64,562	61,577	46,816	221,061	49,241	58,401	60,631	52,788
South Atlantic .....	2,712,904	705,371	725,369	'718,978	'563,186	2,550,092	611,443	638,949	671,724	627,976
Virginia .....	371,873	101,687	108,391	94,903	66,892	360,278	80,458	81,050	92,696	106,074
North Carolina .....	1,084,772	291,783	290,248	291,723	211,018	1,080,566	257,171	271,776	296,810	254,809
South Carolina .....	501,610	123,693	131,521	'144,321	'102,075	'478,987	'105,618	'119,245	'127,647	'126,477
Other (Delaware, District of Columbia, Florida, Georgia, Maryland, and West Virginia) .....	754,649	188,208	195,209	188,031	183,201	630,261	168,196	166,878	154,571	140,616
East South Central .....	1,402,992	368,691	373,546	352,045	308,710	1,389,203	299,102	348,157	363,513	378,431
Alabama .....	686,583	'169,930	'180,719	'176,379	'159,555	713,509	147,614	186,696	188,823	190,376
Other (Kentucky, Mississippi, and Tennessee) .....	716,409	198,761	192,827	175,666	149,155	675,694	151,488	161,461	174,690	188,055
West South Central .....	1,344,870	345,077	350,303	338,864	310,626	1,343,155	320,315	325,485	346,572	350,783
Arkansas .....	237,677	59,405	61,231	60,484	56,557	242,989	54,527	58,379	67,400	62,683
Louisiana .....	75,572	19,145	21,112	20,300	15,015	75,839	18,528	18,638	18,991	19,682
Oklahoma .....	251,722	66,268	64,804	63,876	56,774	239,726	57,834	57,625	61,341	62,926
Texas .....	779,899	200,259	203,156	194,204	182,280	'784,601	'189,426	'190,843	'198,840	'205,492
Mountain .....	315,415	'84,468	'85,956	'83,631	'61,360	'306,589	'69,797	'81,013	'81,710	'74,069
Colorado .....	157,448	'42,342	'42,158	'42,440	'30,508	151,013	29,580	38,883	43,277	39,273
Other (Arizona, Idaho, Montana, Nevada, New Mexico, Utah, and Wyoming) .....	157,967	42,126	43,798	41,191	30,852	'155,576	'40,217	'42,130	'38,433	'34,796
Pacific <sup>3</sup> .....	208,036	52,488	58,822	56,094	40,632	'206,864	'47,569	'55,879	'56,070	'47,346

See footnotes at end of Table 12.

Table 11. Quantity of Shipments of Brick (Building or Common and Face) by Divisions and States: 1996 and 1995

[Thousands of brick: 2-1/4 inch x 3-5/8 inch x 7-5/8 inch brick equivalent]

Division and state	1996					1995				
	Total	Fourth quarter	Third quarter	Second quarter	First quarter	Total	Fourth quarter	Third quarter	Second quarter	First quarter
<b>United States</b> .....	<b>7,619,279</b>	<b>1,845,548</b>	<b>2,157,469</b>	<b>2,145,630</b>	<b>1,470,632</b>	<b>6,890,321</b>	<b>1,617,943</b>	<b>1,873,997</b>	<b>1,845,324</b>	<b>1,553,057</b>
New England <sup>1</sup> .....	77,617	19,890	21,635	21,537	14,555	67,396	16,546	20,117	16,699	14,034
Middle Atlantic <sup>2</sup> .....	365,011	92,974	114,787	111,417	45,833	365,970	75,096	108,750	110,760	71,364
East North Central .....	676,251	166,277	214,795	189,730	105,449	619,768	143,979	180,237	173,805	121,747
Ohio .....	426,827	105,114	134,380	121,713	65,620	389,177	90,381	112,998	111,674	74,124
Other (Illinois, Indiana, Michigan, and Wisconsin) .....	249,424	61,163	80,415	68,017	39,829	230,591	53,598	67,239	62,131	47,623
West North Central .....	327,061	81,944	100,510	86,423	58,184	297,950	68,378	85,205	79,277	65,090
Kansas and Missouri .....	114,614	28,666	35,670	29,584	20,694	102,869	23,537	28,563	28,200	22,569
Other (Iowa, Minnesota, Nebraska, North Dakota, and South Dakota) .....	212,447	53,278	64,840	56,839	37,490	195,081	44,841	56,642	51,077	42,521
South Atlantic .....	2,832,849	688,673	770,605	809,304	564,267	2,437,814	585,616	650,970	647,949	553,279
Virginia .....	376,924	95,747	113,532	107,573	60,072	331,906	73,780	90,132	91,061	76,933
North Carolina .....	1,118,246	281,563	306,832	321,565	208,286	1,033,666	239,114	280,232	280,506	233,814
South Carolina .....	526,867	122,839	132,688	156,743	114,597	469,607	109,255	123,776	126,815	109,761
Other (Delaware, District of Columbia, Florida, Georgia, Maryland, and West Virginia) .....	810,812	188,524	217,553	223,423	181,312	602,635	163,467	156,830	149,567	132,771
East South Central .....	1,452,185	353,586	419,564	398,027	281,008	1,337,960	289,573	362,244	357,003	329,140
Alabama .....	726,900	172,528	204,627	200,998	148,747	687,111	136,887	187,263	189,927	173,034
Other (Kentucky, Mississippi, and Tennessee) .....	725,285	181,058	214,937	197,029	132,261	650,849	152,686	174,981	167,076	156,106
West South Central .....	1,362,589	314,755	363,707	382,578	301,549	1,247,577	316,402	325,466	319,642	286,067
Arkansas .....	236,471	58,122	67,585	63,028	47,736	215,505	52,743	57,799	55,331	49,632
Louisiana .....	75,265	18,249	20,064	20,408	16,544	67,850	16,560	18,125	16,895	16,270
Oklahoma .....	248,577	55,937	62,364	75,155	55,121	219,561	59,515	59,188	53,860	46,998
Texas .....	802,276	182,447	213,694	223,987	182,148	744,661	187,584	190,354	193,556	173,167
Mountain .....	311,371	76,065	90,417	86,186	58,703	297,348	70,043	81,985	80,854	64,466
Colorado .....	154,315	37,681	45,114	42,495	29,025	145,874	32,914	38,817	39,491	34,652
Other (Arizona, Idaho, Montana, Nevada, New Mexico, Utah, and Wyoming) .....	157,056	38,384	45,303	43,691	29,678	151,474	37,129	43,168	41,363	29,814
Pacific <sup>3</sup> .....	214,345	51,384	61,449	60,428	41,084	218,538	52,310	59,023	59,335	47,870

See footnotes at end of Table 12.

Table 12. Value of Shipments of Brick (Building or Common and Face) by Divisions and States: 1996 and 1995

[Thousands of brick: 2-1/4 inch x 3-5/8 inch x 7-5/8 inch brick equivalent]

Division and state	1996					1995				
	Total	Fourth quarter	Third quarter	Second quarter	First quarter	Total	Fourth quarter	Third quarter	Second quarter	First quarter
<b>United States</b> .....	<b>1,235,139</b>	<b>301,419</b>	<b>353,116</b>	<b>349,364</b>	<b>231,240</b>	<b>1,092,231</b>	<b>258,370</b>	<b>299,792</b>	<b>293,432</b>	<b>240,637</b>
New England <sup>1</sup> .....	17,322	4,286	4,958	4,916	3,162	15,149	3,631	4,524	3,851	3,143
Middle Atlantic <sup>2</sup> .....	73,438	18,641	23,004	22,464	9,329	73,437	15,208	21,545	22,387	14,297
East North Central .....	121,445	29,831	38,838	33,901	18,875	109,535	25,610	32,095	31,132	20,698
Ohio .....	80,503	19,810	25,671	22,705	12,317	71,468	16,752	20,849	20,879	12,988
Other (Illinois, Indiana, Michigan, and Wisconsin) .....	40,942	10,021	13,167	11,196	6,558	38,067	8,858	11,246	10,253	7,710
West North Central .....	53,335	13,283	16,201	14,090	9,761	50,659	11,908	14,677	13,375	10,699
Kansas and Missouri .....	18,089	4,399	5,531	4,964	3,195	16,033	3,741	4,489	4,398	3,405
Other (Iowa, Minnesota, Nebraska, North Dakota, and South Dakota) .....	35,246	8,884	10,670	9,126	6,566	34,626	8,167	10,188	8,977	7,294
South Atlantic .....	405,846	99,295	110,650	115,394	80,507	348,318	83,917	93,603	91,805	78,993
Virginia .....	49,565	12,630	15,035	14,204	7,696	44,187	9,621	12,070	12,324	10,172
North Carolina .....	156,572	39,203	42,982	45,719	28,668	146,151	33,435	39,123	39,147	34,446
South Carolina .....	86,065	20,709	22,108	24,531	18,717	72,538	17,627	19,664	19,235	16,012
Other (Delaware, District of Columbia, Florida, Georgia, Maryland, and West Virginia) .....	113,644	26,753	30,525	30,940	25,426	85,442	23,234	22,746	21,099	18,363
East South Central .....	211,215	52,876	62,540	59,061	36,738	173,329	37,804	47,409	46,400	41,716
Alabama .....	94,114	22,459	26,405	25,904	19,346	88,239	17,803	24,114	24,563	21,759
Other (Kentucky, Mississippi, and Tennessee) .....	117,101	30,417	36,135	33,157	17,392	85,090	20,001	23,295	21,837	19,957
West South Central .....	233,212	54,236	62,188	65,994	50,794	208,261	53,479	54,932	53,581	46,269
Arkansas .....	37,993	9,183	10,831	11,008	6,971	35,049	8,359	9,315	9,645	7,730
Louisiana .....	11,448	2,790	3,093	3,084	2,481	10,317	2,512	2,769	2,576	2,460
Oklahoma .....	45,303	10,395	11,635	13,080	10,193	34,535	9,538	9,406	8,498	7,093
Texas .....	138,468	31,868	36,629	38,822	31,149	128,360	33,070	33,442	32,862	28,986
Mountain .....	63,788	15,614	18,708	17,713	11,753	30,718	6,994	8,180	8,315	7,229
Colorado .....	33,036	8,098	9,786	9,075	6,077	59,179	14,011	16,346	16,102	12,720
Other (Arizona, Idaho, Montana, Nevada, New Mexico, Utah, and Wyoming) .....	30,752	7,516	8,922	8,638	5,676	28,461	7,017	8,166	7,787	5,491
Pacific <sup>3</sup> .....	55,538	13,357	16,029	15,831	10,321	54,364	12,802	14,661	14,799	12,102

<sup>1</sup>Revised by 5 percent or more from previously published data.<sup>1</sup>Represents a combined total for Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, and Vermont.<sup>2</sup>Represents a combined total for New Jersey, New York, and Pennsylvania.<sup>3</sup>Represents a combined total for California, Oregon, and Washington. No production or shipments were reported for Alaska or Hawaii.

Table 13. Production of Clay Construction Products: 1996 and 1995

Product description	Total	Fourth quarter	Third quarter	Second quarter	First quarter
<b>1996</b>					
Brick (building or common and face) . . . . .	7,426,402	1,919,101	2,002,124	1,933,331	1,571,846
Facing tile (structural) and ceramic glazed brick, including unglazed and salt glazed . . . . .	23,927	6,008	6,452	'7,505	3,962
Structural clay tile (except facing) . . . . .	49,220	11,310	13,466	14,695	9,749
Clay floor and wall tile, including quarry tile . . . . .	'574,956	'156,066	151,599	'141,028	'126,263
Glazed floor and wall tile having a facial area greater than 6 and less than 59 square inches . . . . .	318,391	'87,962	'85,127	'76,875	'68,427
Glazed floor and wall tile having a facial area 59 square inches or greater . . . . .	125,397	'33,198	'30,372	'30,637	'31,190
Glazed and unglazed ceramic mosaic tile having a facial area of less than 6 square inches <sup>1</sup> . . . . .	(D)	(D)	(D)	(D)	(D)
Unglazed tile, including unglazed quarry tile having a facial area greater than 6 square inches <sup>1</sup> . . . . .	131,168	'34,906	'36,100	'33,516	'26,646
Vitrified clay sewer pipe and fittings . . . . .	'128,314	'36,952	'38,213	'32,398	'20,751
<b>1995</b>					
Brick (building or common and face) . . . . .	7,243,872	1,651,169	1,834,271	1,912,543	1,845,889
Facing tile (structural) and ceramic glazed brick, including unglazed and salt glazed . . . . .	25,797	5,255	6,080	6,610	7,852
Structural clay tile (except facing) . . . . .	54,468	13,836	14,807	12,537	13,288
Clay floor and wall tile, including quarry tile . . . . .	580,797	133,847	135,655	157,599	153,696
Glazed floor and wall tile having a facial area greater than 6 and less than 59 square inches . . . . .	'379,227	84,981	'91,496	'102,827	'99,923
Glazed floor and wall tile having a facial area 59 square inches or greater . . . . .	84,383	21,877	15,403	23,152	23,951
Glazed and unglazed ceramic mosaic tile having a facial area of less than 6 square inches <sup>1</sup> . . . . .	(D)	(D)	(D)	(D)	(D)
Unglazed tile, including unglazed quarry tile having a facial area greater than 6 square inches <sup>1</sup> . . . . .	117,187	26,989	28,756	31,620	29,822
Vitrified clay sewer pipe and fittings . . . . .	'138,056	'29,639	33,381	'41,162	'33,874

See footnotes at end of Table 15.

Table 14. Quantity of Shipments of Clay Construction Products: 1996 and 1995

Product description	Total	Fourth quarter	Third quarter	Second quarter	First quarter
<b>1996</b>					
Brick (building or common and face) . . . . .	7,619,279	1,845,548	2,157,469	2,145,630	'1,470,632
Facing tile (structural) and ceramic glazed brick, including unglazed and salt glazed . . . . .	22,974	5,032	5,837	6,451	5,654
Structural clay tile (except facing) . . . . .	50,990	13,143	14,807	13,284	9,756
Clay floor and wall tile, including quarry tile . . . . .	'579,578	'156,616	'151,285	'145,197	'126,480
Glazed floor and wall tile having a facial area greater than 6 and less than 59 square inches . . . . .	318,992	'83,613	'83,811	'80,511	'71,057
Glazed floor and wall tile having a facial area 59 square inches or greater . . . . .	132,496	'39,049	'33,020	'31,950	'28,477
Glazed and unglazed ceramic mosaic tile having a facial area of less than 6 square inches <sup>1</sup> . . . . .	(D)	(D)	(D)	(D)	(D)
Unglazed tile, including unglazed quarry tile having a facial area greater than 6 square inches <sup>1</sup> . . . . .	128,090	'33,954	34,454	'32,736	'26,946
Vitrified clay sewer pipe and fittings . . . . .	137,804	32,548	45,285	38,508	21,463
<b>1995</b>					
Brick (building or common and face) . . . . .	6,890,321	1,617,943	1,873,997	1,845,324	1,553,057
Facing tile (structural) and ceramic glazed brick, including unglazed and salt glazed . . . . .	24,086	5,218	6,475	6,270	6,123
Structural clay tile (except facing) . . . . .	53,727	13,333	15,117	12,958	12,319
Clay floor and wall tile, including quarry tile . . . . .	'568,094	130,779	'140,567	'153,819	'142,929
Glazed floor and wall tile having a facial area greater than 6 and less than 59 square inches . . . . .	'368,987	84,269	'92,001	'99,437	'93,280
Glazed floor and wall tile having a facial area 59 square inches or greater . . . . .	82,833	20,641	19,060	21,528	21,604
Glazed and unglazed ceramic mosaic tile having a facial area of less than 6 square inches <sup>1</sup> . . . . .	(D)	(D)	(D)	(D)	(D)
Unglazed tile, including unglazed quarry tile having a facial area greater than 6 square inches <sup>1</sup> . . . . .	'116,274	'25,869	'29,506	'32,854	'28,045
Vitrified clay sewer pipe and fittings . . . . .	135,795	30,259	41,338	35,416	28,782

See footnotes at end of Table 15.

Table 15. Value of Shipments of Clay Construction Products: 1996 and 1995

Product description	Total	Fourth quarter	Third quarter	Second quarter	First quarter
<b>1996</b>					
Brick (building or common and face) . . . . .	1,235,139	301,419	353,116	349,364	'231,240
Facing tile (structural) and ceramic glazed brick, including unglazed and salt glazed . . . . .	14,905	2,722	4,596	4,411	3,176
Structural clay tile (except facing) . . . . .	8,320	2,138	2,477	2,148	1,557
Clay floor and wall tile, including quarry tile . . . . .	775,719	209,912	200,773	195,552	169,482
Glazed floor and wall tile having a facial area greater than 6 and less than 59 square inches . . . . .	414,235	'109,146	'107,880	'105,021	'92,188
Glazed floor and wall tile having a facial area 59 square inches or greater . . . . .	138,373	'39,944	'34,955	'33,839	'29,635
Glazed and unglazed ceramic mosaic tile having a facial area of less than 6 square inches <sup>1</sup> . . . . .	(D)	(D)	(D)	(D)	(D)
Unglazed tile, including unglazed quarry tile having a facial area greater than 6 square inches <sup>1</sup> . . . . .	223,111	60,822	'57,938	56,692	'47,659
Vitrified clay sewer pipe and fittings . . . . .	'36,223	7,667	12,180	'11,030	'5,346
<b>1995</b>					
Brick (building or common and face) . . . . .	1,092,231	258,370	299,792	293,432	240,637
Facing tile (structural) and ceramic glazed brick, including unglazed and salt glazed . . . . .	16,458	3,636	4,318	4,221	4,283
Structural clay tile (except facing) . . . . .	8,066	1,976	2,267	1,941	1,882
Clay floor and wall tile, including quarry tile . . . . .	727,978	169,081	179,744	194,613	184,540
Glazed floor and wall tile having a facial area greater than 6 and less than 59 square inches . . . . .	460,562	105,187	113,528	123,595	118,252
Glazed floor and wall tile having a facial area 59 square inches or greater . . . . .	74,967	18,827	17,852	19,120	19,168
Glazed and unglazed ceramic mosaic tile having a facial area of less than 6 square inches <sup>1</sup> . . . . .	(D)	(D)	(D)	(D)	(D)
Unglazed tile, including unglazed quarry tile having a facial area greater than 6 square inches <sup>1</sup> . . . . .	192,449	45,067	48,364	51,898	47,120
Vitrified clay sewer pipe and fittings . . . . .	35,279	7,817	10,936	9,386	7,140

D Withheld to avoid disclosing data for individual companies. 'Revised by 5 percent or more from previously published data.

<sup>1</sup>"Glazed and unglazed ceramic mosaic tile having a facial area of less than 6 square inches" and "Unglazed tile, including unglazed quarry tile having a facial area greater than 6 square inches" are combined to avoid disclosing data for individual companies.

Note: Units of measure for Tables 13 and 14 are: Brick (building or common and face), thousand brick; structural clay tile and vitrified clay sewer pipe and fittings, short tons; clay floor and wall tile, thousand square feet. Unit of measure for Table 15 is value in thousands of dollars.



Table 16. Shipments, Exports, and Imports of Selected Clay Construction Products: 1996 and 1995

[Value in thousands of dollars]

Product description	Unit of measure	Manufacturers' shipments		Exports of domestic merchandise <sup>1 2</sup>		Percent exports to manufacturers' shipments <sup>1</sup>	
		Quantity	Value (f.o.b. plant)	Quantity	Value (at port)	Quantity	Value <sup>3</sup>
<b>1996</b>							
Brick (building or common and face) . . . . .	1,000 bricks .	7,619,279	1,235,139	42,759	7,235	0.6	0.6
Facing tile and structural clay tile . . . . .	. . . .do . . . .	(X)	23,225	(X)	4,600	(X)	19.8
Clay floor and wall tile . . . . .	1,000 sq meters . . . .	53,914	775,719	(X)	23,894	(X)	3.1
Vitrified clay sewer pipe and fittings . . . . .	Metric tons . .	124,936	36,223	1,461	3,025	1.2	8.4
<b>1995</b>							
Brick (building or common and face) . . . . .	1,000 bricks .	6,890,321	1,092,231	43,627	8,042	0.6	0.7
Facing tile and structural clay tile . . . . .	. . . .do . . . .	(X)	24,524	(X)	3,487	(X)	14.2
Clay floor and wall tile . . . . .	1,000 sq meters . . . .	52,846	727,978	(X)	26,115	(X)	3.6
Vitrified clay sewer pipe and fittings . . . . .	Metric tons . .	123,114	35,279	1,400	2,276	1.1	6.5
		Imports for consumption <sup>4</sup>		Apparent consumption <sup>6</sup>		Percent imports to apparent consumption	
		Quantity	Value <sup>5</sup>	Quantity	Value <sup>3</sup>	Quantity	Value
<b>1996</b>							
Brick (building or common and face) . . . . .	1,000 bricks .	20,629	4,943	7,597,149	1,232,847	0.3	0.4
Facing tile and structural clay tile . . . . .	. . . .do . . . .	(X)	1,013	(X)	19,638	(X)	5.2
Clay floor and wall tile . . . . .	1,000 sq meters . . . .	82,131	734,089	(X)	1,485,914	(X)	49.4
Vitrified clay sewer pipe and fittings . . . . .	Metric tons . .	313	299	123,788	33,497	0.3	0.9
<b>1995</b>							
Brick (building or common and face) . . . . .	1,000 bricks .	16,867	5,580	6,863,561	1,089,769	0.2	0.5
Facing tile and structural clay tile . . . . .	. . . .do . . . .	(X)	1,200	(X)	22,237	(X)	5.4
Clay floor and wall tile . . . . .	1,000 sq meters . . . .	71,960	662,470	(X)	1,364,333	(X)	48.6
Vitrified clay sewer pipe and fittings . . . . .	Metric tons . .	352	301	122,066	33,304	0.3	0.9

X Not applicable.

<sup>1</sup>For comparison of SIC-based codes with Schedule B export numbers and HTSUSA import numbers, see "Contact for Data Users" at end of this subsection.

<sup>2</sup>Source: Bureau of the Census report EM 545, *U.S. Exports*.

<sup>3</sup>Value calculations are based on the estimated producers' value of exports.

<sup>4</sup>Source: Bureau of the Census report IM 146, *U.S. Imports for Consumption*.

<sup>5</sup>Represents c.i.f. (cost, insurance, and freight) value at first port of entry in the United States.

<sup>6</sup>Apparent consumption is derived by subtracting exports from total of shipments plus imports.

**HISTORICAL NOTE**

Data on clay products have been collected by the Bureau of the Census since 1947. Historical data may be obtained from Current Industrial Reports (called Facts for Industry before 1959) available at your local Federal

Depository Library. Historical data are also available on microfiche; contact Customer Services, 301-457-4100.

**CONTACT FOR DATA USERS**

For additional information about these data, contact Robert Miller, 301-457-4787.

## PLUMBING FIXTURES (MQ34E)

### INTRODUCTION

The data in this section are from a survey of all companies engaged in the manufacture of plumbing fixtures in the United States. The statistics were collected by mail on Bureau of the Census quarterly Form MQ34E, Plumbing Fixtures. The survey panel includes all known manufacturers of plumbing fixtures, approximately 179 companies.

### SUMMARY OF FINDINGS

Manufacturers' shipments of plumbing fixtures during 1996 were valued at \$3,102 million. This represents a 5-percent increase from the 1995 level of \$2,954 million.

Shipments of low consumption water closet bowls (1.6 or less g.p.f.) increased from 6.2 million in 1995 to 6.8 million in 1996. Bathtub shipments increased 14 percent, from 3.9 million in 1995 to 4.4 million in 1996.

Shipments of kitchen sinks increased 3.0 percent from the 5.0 million in 1995 to 5.13 million in 1996.

### EXPLANATION OF TERMS

**Definitions of plumbing fixtures.** The products covered are classified by the standards set by the American National Standards Institute.

Table 17. Shipments of Selected Types of Plumbing Fixtures: 1992 to 1996

[Quantity in thousands of units]

Product description	1996	1995	1994	1993	1992
Lavatories.....	7,458	7,129	6,982	6,958	6,262
Vitreous china and other nonmetals <sup>1</sup> .....	5,686	5,494	5,402	5,447	4,471
Cast iron (enameled) <sup>1</sup> .....	(D)	(D)	(D)	(D)	489
Steel.....	1,838	1,635	1,579	1,512	1,302
Water closet bowls.....	8,623	8,829	9,685	8,845	8,682
Flush tanks.....	7,163	6,652	7,559	7,434	7,516
Kitchen sinks <sup>2</sup> .....	5,131	4,961	5,034	4,810	4,505
Cast iron (enameled).....	(NA)	(NA)	(NA)	(NA)	696
Steel and other materials.....	(NA)	(NA)	(NA)	(NA)	3,809
Cast-iron (enameled) and all other materials <sup>2</sup> .....	(D)	(D)	(D)	(D)	(NA)
Steel.....	4,166	4,086	4,056	3,918	(NA)
Bathtubs <sup>3</sup> .....	4,342	3,904	3,826	3,507	3,215
Cast iron (enameled) <sup>3 4</sup> .....	(D)	(D)	(D)	(D)	1,301
Steel (enameled) <sup>4</sup> .....	977	880	928	864	(D)
Plastics and all other materials <sup>3</sup> .....	(D)	(D)	(D)	(D)	1,914
Fiberglass, and cultured marble.....	2,440	2,203	2,125	1,859	(NA)
Whirlpool baths.....	483	442	426	385	343

D Withheld to avoid disclosing data for individual companies. NA Not available.

<sup>1</sup>For 1993 through 1996, "Lavatories, cast iron (enameled)" are included with "Lavatories, vitreous china, and other nonmetals" to avoid disclosing data for individual companies.

<sup>2</sup>"Kitchen sinks, cast iron (enameled), and all other materials" are included with "Kitchen sinks, total" to avoid disclosing data for individual companies.

<sup>3</sup>For 1993 through 1996, "Bathtubs, cast iron (enameled)" and "Bathtubs, all other materials" are included with "Bathtubs, total" to avoid disclosing data for individual companies.

<sup>4</sup>For 1992, data for "Bathtubs, steel (enameled)" are included with "Bathtubs, cast iron (enameled)" to avoid disclosing data for individual companies.

Table 18. Value of Shipments of Plumbing Fixtures by Material: 1993 to 1996

[Value in thousands of dollars]

Product description	1996	1995	1994 <sup>1</sup>	1993 <sup>1</sup>
<b>Total</b> .....	<b>3,102,170</b>	<b>2,953,621</b>	<b>2,912,992</b>	<b>2,670,165</b>
Metal .....	643,775	578,319	585,625	578,455
Cast iron (enameled) .....	270,529	239,962	247,277	247,476
Steel and other metal .....	373,246	338,357	338,348	330,979
Vitreous china .....	859,693	891,869	941,060	843,388
Fiberglass .....	1,069,722	996,465	928,463	836,733
Gel coat .....	507,479	458,510	428,964	388,176
Acrylic .....	562,243	537,955	499,499	448,557
Plastics .....	362,469	337,156	302,584	271,509
Cultured marble .....	167,363	168,326	137,617	135,698
Other .....	195,106	168,830	164,967	135,811
All other materials, nonmetal <sup>2</sup> .....	166,511	149,812	155,260	140,080

<sup>1</sup>Data for 1993 and 1994 were revised.<sup>2</sup>Includes plumbing fixtures, n.s.k. (not specified by kind).

Table 19. Quantity of Shipments of Plumbing Fixtures: 1993 to 1996

[Quantity in thousands of units]

Quarter and year	Lavatories	Water closet bowls	Flush tanks	Kitchen sinks	Bathtubs	Whirlpool baths
<b>1996</b>						
<b>Total</b> .....	<b>7,457</b>	<b>8,623</b>	<b>7,166</b>	<b>5,130</b>	<b>4,342</b>	<b>482</b>
First quarter .....	1,775	2,093	1,695	1,238	1,017	105
Second quarter .....	1,899	2,241	1,856	1,324	1,171	132
Third quarter .....	1,927	2,166	1,811	1,275	1,150	138
Fourth quarter .....	1,856	2,123	1,804	1,293	1,004	107
<b>1995</b>						
<b>Total</b> .....	<b>7,129</b>	<b>8,829</b>	<b>6,652</b>	<b>4,961</b>	<b>3,904</b>	<b>442</b>
First quarter .....	1,899	2,442	1,843	1,356	954	114
Second quarter .....	1,786	2,265	1,678	1,245	965	103
Third quarter .....	1,784	2,124	1,639	1,239	990	120
Fourth quarter .....	1,660	1,998	1,492	1,122	995	105
<b>1994</b>						
<b>Total</b> .....	<b>6,982</b>	<b>9,685</b>	<b>7,559</b>	<b>5,034</b>	<b>3,826</b>	<b>426</b>
First quarter .....	1,710	2,275	1,801	1,258	893	98
Second quarter .....	1,739	2,504	1,915	1,327	964	107
Third quarter .....	1,825	2,470	1,934	1,233	1,003	117
Fourth quarter .....	1,708	2,436	1,909	1,216	966	105
<b>1993</b>						
<b>Total</b> .....	<b>6,958</b>	<b>8,845</b>	<b>7,434</b>	<b>4,810</b>	<b>3,507</b>	<b>385</b>
First quarter .....	1,772	2,172	1,799	1,166	844	87
Second quarter .....	1,795	2,110	1,795	1,212	886	95
Third quarter .....	1,716	2,239	1,944	1,205	914	101
Fourth quarter .....	1,675	2,324	1,897	1,228	863	102

Note: Detail may not add to totals because of independent rounding.

Table 20. Total Production and Shipments of Plumbing Fixtures: 1996 and 1995

[Quantity in units. Value in thousands of dollars]

Product code	Product description	Number of companies	1996			1995		
			Quantity produced	Shipments		Quantity produced	Shipments	
				Quantity	Value		Quantity	Value
	Plumbing fixtures . . . . .	(NA)	(X)	(X)	3,144,297	(X)	(X)	2,953,621
	Drinking fountains <sup>1</sup> . . . . .	(NA)	44,411	44,363	12,606	42,489	42,331	11,654
34310 15	Metal <sup>1</sup> . . . . .	5	(D)	(D)	(D)	(D)	(D)	(D)
32610 12	Vitreous china <sup>1</sup> . . . . .	4	(D)	(D)	(D)	(D)	(D)	(D)
19001 12	All other materials <sup>1</sup> . . . . .	2	(D)	(D)	(D)	(D)	(D)	(D)
	Lavatories . . . . .	(NA)	7,524,025	7,458,077	360,756	7,246,693	7,128,790	353,174
34310 17	Cast iron (enameled) <sup>2</sup> . . . . .	2	(D)	(D)	(D)	(D)	(D)	(D)
34310 18	Steel (enameled) . . . . .	3	1,812,965	1,716,000	27,960	1,621,822	1,610,208	25,324
34310 19	Steel (stainless) . . . . .	5	26,321	26,403	5,239	23,214	24,389	5,109
32610 17	Vitreous china . . . . .	8	3,323,753	3,335,870	156,291	3,240,790	3,122,482	156,542
30880 04	Cultured marble . . . . .	4	1,811,431	1,802,067	123,551	1,718,008	1,740,312	119,714
30880 31	Other plastics <sup>2</sup> . . . . .	6	549,598	577,737	47,715	642,793	631,399	46,485
19001 03	All other material <sup>2</sup> . . . . .	1	(D)	(D)	(D)	(D)	(D)	(D)
	Water closet bowls (vitreous china) . . . . .	(NA)	8,589,949	8,623,466	476,600	9,234,291	8,829,258	491,261
19002 02	1.6 or less g.p.f. low consumption (any material) . . . . .	8	6,707,529	6,789,057	363,471	6,427,134	6,191,707	343,147
32610 21	Flushometer . . . . .	7	487,912	511,655	37,825	687,236	669,441	46,240
32610 24	One piece . . . . .	6	37,294	41,250	8,682	59,686	55,176	11,302
32610 27	Close couple (for use with flush tank) <sup>3</sup> . . . . .	11	1,357,214	1,281,504	66,622	2,060,235	1,912,934	90,572
19001 04	All other materials <sup>3</sup> . . . . .	5	(D)	(D)	(D)	(D)	(D)	(D)
32610 31	Flush tanks (vitreous china) . . . . .	8	6,921,301	7,163,397	241,844	7,100,089	6,652,050	233,682
	Urinals . . . . .	(NA)	262,644	274,909	29,227	291,464	263,471	27,006
34310 38	Metal . . . . .	5	5,844	4,845	2,506	2,155	1,650	879
32610 36	Vitreous china . . . . .	8	256,800	270,064	26,721	289,309	261,821	26,127
	Kitchen sinks, not including bar sinks <sup>4</sup> . . . . .	(NA)	5,154,306	5,130,849	314,174	4,955,456	4,961,330	287,839
34310 41	Cast iron (enameled) <sup>4</sup> . . . . .	2	(D)	(D)	(D)	(D)	(D)	(D)
34310 42	Steel (enameled) . . . . .	4	454,373	423,399	12,369	364,274	376,361	11,204
34310 47	Steel (stainless) . . . . .	4	3,711,647	3,702,353	174,548	3,695,353	3,709,846	162,135
19001 07	All other materials <sup>4</sup> . . . . .	8	(D)	(D)	(D)	(D)	(D)	(D)
19001 08	Bar sinks (all materials) . . . . .	20	359,146	361,353	21,396	337,042	338,279	18,189
	Wash sinks and service sinks, mop sinks, sink and laundry tray combinations, and laundry trays <sup>5</sup> . . . . .	(NA)	654,770	657,340	50,825	828,205	820,609	39,332
34310 54	Metal . . . . .	5	55,631	55,962	23,567	42,892	41,766	13,914
30880 33	Plastics <sup>5</sup> . . . . .	3	(D)	(D)	(D)	755,508	749,174	13,235
32610 54	Vitreous china . . . . .	4	9,028	8,817	2,750	9,113	9,170	2,774
32722 84	Concrete and all other materials . . . . .	4	10,952	15,027	10,559	20,692	20,499	9,409
	Bathtubs, including wall surrounds when sold as combined units, not including whirlpool baths <sup>6</sup> . . . . .	(NA)	4,375,433	4,342,183	655,411	3,896,254	3,903,998	551,582
34310 61	Cast iron (enameled) <sup>6</sup> . . . . .	2	(D)	(D)	(D)	(D)	(D)	(D)
34310 62	Steel (enameled) . . . . .	3	976,770	953,159	67,174	863,256	879,582	60,365
30880 12	Fiberglass (FRP) gel coat . . . . .	31	2,344,821	2,346,890	409,984	2,024,281	2,042,616	324,463
30880 13	Fiberglass (FRP) acrylic . . . . .	12	176,171	169,532	47,899	140,418	140,342	40,718
30880 14	Cultured marble . . . . .	51	18,936	18,965	10,298	20,050	20,001	10,686
30880 15	Other plastics (PVC, ABS) <sup>6</sup> . . . . .	7	(D)	(D)	(D)	(D)	(D)	(D)
19001 09	All other materials <sup>6</sup> . . . . .	2	(D)	(D)	(D)	(D)	(D)	(D)
	Shower receptors, sold separately . . . . .	(NA)	312,949	309,767	17,593	270,962	261,772	19,204
30886 55	Plastics . . . . .	20	298,287	290,909	13,319	257,833	248,283	16,228
19001 10	All other materials . . . . .	28	14,662	18,858	4,274	13,129	13,489	2,976
	Shower stalls, including receptor . . . . .	(NA)	922,657	920,501	178,118	978,208	973,859	170,229
34310 74	Metal <sup>7</sup> . . . . .	3	128,635	129,765	29,049	110,021	108,814	24,553
30880 21	Fiberglass (FRP) gel coat . . . . .	25	564,399	564,305	105,582	546,027	543,541	101,030
30880 22	Fiberglass (FRP) acrylic . . . . .	9	99,942	95,722	35,242	'89,192	'89,027	'33,449
30880 23	Other plastics . . . . .	5	129,681	130,709	8,245	103,484	102,992	6,282
19001 11	All other materials <sup>7</sup> . . . . .	19	(D)	(D)	(D)	(D)	(D)	(D)
	Wall surrounds, sold as separate units . . . . .	(NA)	1,361,565	1,350,118	77,717	983,450	990,200	59,663
30880 70	Showers (all materials) . . . . .	44	364,978	373,643	25,482	300,266	303,293	19,804
30880 71	Bathtubs (all materials) . . . . .	44	996,587	976,475	52,235	'905,973	'909,696	'48,376
19222 08	Bidets (all materials) . . . . .	9	38,172	42,459	5,913	66,870	56,330	7,456

See footnotes at end of table.

Table 20. Total Production and Shipments of Plumbing Fixtures: 1996 and 1995—Con.

[Quantity in units. Value in thousands of dollars]

Product code	Product description	Number of companies	1996			1995		
			Quantity produced	Shipments		Quantity produced	Shipments	
				Quantity	Value		Quantity	Value
	Plumbing fixtures—Con.							
	Whirlpool baths, not spas or hot tubs (noninstitutional) . . . . .	(NA)	483,271	483,363	318,799	441,672	441,795	308,386
34310 86	Cast iron (enameled) <sup>8</sup> . . . . .	2	5,843	6,064	10,328	6,437	6,437	10,594
30880 26	Fiberglass (FRP) gel coat . . . . .	22	42,562	42,697	27,049	39,483	39,383	23,830
30880 27	Fiberglass (FRP) acrylic . . . . .	33	385,227	386,186	251,853	354,518	354,314	245,520
30880 28	Cultured marble . . . . .	52	7,916	7,848	9,333	9,656	9,584	10,357
30886 29	Other plastics . . . . .	6	41,723	40,568	20,236	31,578	32,077	18,082
19001 12	All other materials <sup>8</sup> . . . . .	3	(D)	(D)	(D)	(D)	(D)	(D)
19001 13	Hot tubs (noninstitutional, all materials) <sup>9</sup> . . . . .	1	(D)	(D)	(D)	(D)	(D)	(D)
19001 15	Spas (noninstitutional, all materials) <sup>9</sup> . . . . .	28	130,968	132,389	338,593	136,227	135,336	332,685
	All other fixtures not described above . . . . .	(NA)	(X)	(X)	44,725	(X)	(X)	42,279
30882 20	Plastics . . . . .	5	(X)	(X)	471	(X)	(X)	269
19002 20	All other materials . . . . .	7	(X)	(X)	44,254	(X)	(X)	42,010

D Withheld to avoid disclosing data for individual companies. NA Not available. <sup>9</sup>Revised by 5 percent or more from previously published data. X Not applicable.

<sup>1</sup>“Drinking fountains, metal,” “Drinking fountains, vitreous china,” and “Drinking fountains, all other materials” are combined to avoid disclosing data for individual companies.

<sup>2</sup>“Lavatories, cast iron (enameled)” and “Lavatories, all other materials” are included with “Lavatories, other plastics” to avoid disclosing data for individual companies.

<sup>3</sup>“Water closet bowls, all other materials” are included with “Water closet bowls, close couple” to avoid disclosing data for individual companies.

<sup>4</sup>“Kitchen sinks, cast iron (enameled)” and “Kitchen sinks, all other materials” are included with “Kitchen sinks, total” to avoid disclosing data for individual companies.

<sup>5</sup>For 1996, “Wash sinks, plastics” are included with “Wash sinks, total” to avoid disclosing data for individual companies.

<sup>6</sup>“Bathtubs, cast iron (enameled),” “Bathtubs, other plastics,” and “Bathtubs, all other materials” are included with “Bathtubs, total” to avoid disclosing data for individual companies.

<sup>7</sup>“Shower stalls, all other materials” are included with “Shower stalls, metal” to avoid disclosing data for individual companies.

<sup>8</sup>“Whirlpool baths, all other materials” are included with “Whirlpool baths, cast iron (enameled)” to avoid disclosing data for individual companies.

<sup>9</sup>“Hot tubs” are included with “Spas” to avoid disclosing data for individual companies.

Table 21. Production, Shipments, and Stocks of Plumbing Fixtures: 1996

[Quantity in units. Value in thousands of dollars]

Product code	Product description	Number of companies	Quantity produced	Shipments		Stocks, end of quarter
				Quantity	Value	
<b>FIRST QUARTER</b>						
	Plumbing fixtures . . . . .	(NA)	(X)	(X)	719,530	(X)
	Drinking fountains <sup>1</sup> . . . . .	(NA)	9,420	9,491	2,551	624
34310 15	Metal <sup>1</sup> . . . . .	5	(D)	(D)	(D)	(D)
32610 12	Vitreous china <sup>1</sup> . . . . .	4	(D)	(D)	(D)	(D)
19001 02	All other materials <sup>1</sup> . . . . .	2	(D)	(D)	(D)	(D)
	Lavatories . . . . .	(NA)	1,901,145	1,775,093	86,583	577,172
34310 17	Cast iron (enameled) <sup>2</sup> . . . . .	2	(D)	(D)	(D)	(D)
34310 18	Steel (enameled) . . . . .	3	431,708	385,937	6,148	57,881
34310 19	Steel (stainless) . . . . .	5	6,600	6,342	1,277	(D)
32610 17	Vitreous china . . . . .	8	876,532	815,514	37,268	402,447
30880 04	Cultured marble . . . . .	4	441,583	439,057	30,908	52,427
30880 31	Other plastics <sup>2</sup> . . . . .	6	144,721	128,242	10,981	64,417
19001 03	All other materials <sup>2</sup> . . . . .	1	(D)	(D)	(D)	(D)
	Water closet bowls (vitreous china) . . . . .	(NA)	2,147,879	2,093,086	116,141	737,201
19002 02	1.6 or less g.p.f. low consumption (any material) . . . . .	8	1,669,113	1,636,009	87,784	592,204
32610 21	Flushometer . . . . .	7	127,289	130,644	9,583	52,020
32610 24	One piece . . . . .	6	7,485	11,396	2,380	7,980
32610 27	Close couple (for use with flush tank) <sup>3</sup> . . . . .	11	343,993	315,037	16,394	84,997
19001 04	All other materials <sup>3</sup> . . . . .	5	(D)	(D)	(D)	(D)
32610 31	Flush tanks (vitreous china) . . . . .	8	1,627,608	1,695,255	58,005	494,904
	Urinals . . . . .	(NA)	64,385	64,541	7,075	26,929
34310 38	Metal . . . . .	5	2,221	1,654	855	(D)
32610 36	Vitreous china . . . . .	8	62,164	62,887	6,220	(D)
	Kitchen sinks, not including bar sinks <sup>4</sup> . . . . .	(NA)	1,268,055	1,238,580	73,890	164,461
34310 41	Cast iron (enameled) <sup>4</sup> . . . . .	2	(D)	(D)	(D)	(D)
34310 42	Steel (enameled) . . . . .	4	114,683	98,543	2,668	30,242
34310 47	Steel (stainless) . . . . .	4	908,637	898,568	41,021	(D)
19001 07	All other materials <sup>4</sup> . . . . .	8	(D)	(D)	(D)	(D)
19001 08	Bar sinks (all materials) . . . . .	20	87,869	86,422	5,048	10,913
	Wash sinks and service sinks, mop sinks, sink and laundry tray combinations, and laundry trays <sup>5</sup> . . . . .	(NA)	173,238	163,320	12,745	10,636
34310 54	Metal <sup>5</sup> . . . . .	5	13,046	14,034	5,890	(D)
30880 33	Plastics <sup>5</sup> . . . . .	3	(D)	(D)	(D)	(D)
32610 54	Vitreous china . . . . .	4	2,729	2,534	788	1,661
32722 84	Concrete and all other materials <sup>5</sup> . . . . .	4	(D)	(D)	(D)	(D)
	Bathtubs, including wall surrounds when sold as combined units, not including whirlpool baths <sup>6</sup> . . . . .	(NA)	1,074,124	1,017,253	143,035	134,425
34310 61	Cast iron (enameled) <sup>6</sup> . . . . .	2	(D)	(D)	(D)	(D)
34310 62	Steel (enameled) . . . . .	3	261,279	224,353	16,169	26,783
30880 12	Fiberglass (FRP) gel coat . . . . .	31	540,798	538,765	84,686	40,073
30880 13	Fiberglass (FRP) acrylic . . . . .	12	33,934	33,621	9,851	4,627
30880 14	Cultured marble <sup>6</sup> . . . . .	51	<sup>a</sup> 4,384	<sup>a</sup> 4,225	2,302	(D)
30880 15	Other plastics (PVC, ABS) <sup>6</sup> . . . . .	7	(D)	(D)	(D)	(D)
19001 09	All other materials <sup>6</sup> . . . . .	2	(D)	(D)	(D)	(D)
	Shower receptors, sold separately . . . . .	(NA)	75,614	71,379	3,981	6,890
30886 55	Plastics . . . . .	20	<sup>f</sup> 72,192	<sup>f</sup> 67,459	<sup>f</sup> 3,093	<sup>b</sup> 6,570
19001 10	All other materials . . . . .	28	<sup>a</sup> 3,422	<sup>a</sup> 3,920	887	321
	Shower stalls, including receptor . . . . .	(NA)	226,342	227,284	44,026	13,231
34310 74	Metal <sup>7</sup> . . . . .	1	35,003	37,934	8,363	3,467
30880 21	Fiberglass (FRP) gel coat . . . . .	25	135,032	134,237	25,022	7,064
30880 22	Fiberglass (FRP) acrylic . . . . .	9	<sup>f</sup> 23,496	<sup>f</sup> 22,567	<sup>f</sup> 8,600	<sup>a</sup> 2,700
30880 23	Other plastics <sup>7</sup> . . . . .	5	<sup>a</sup> 32,811	<sup>a</sup> 32,547	2,041	(D)
19001 11	All other materials <sup>7</sup> . . . . .	19	(D)	(D)	(D)	(D)
	Wall surrounds, sold as separate units . . . . .	(NA)	323,342	331,602	18,583	20,782
30880 70	Showers (all materials) . . . . .	44	96,603	101,993	6,890	2,657
30880 71	Bathtubs (all materials) . . . . .	44	<sup>f</sup> 226,739	<sup>f</sup> 229,610	11,694	<sup>a</sup> 18,126
19222 08	Bidets (all materials) . . . . .	9	10,584	10,730	1,458	10,451

See footnotes at end of table.

Table 21. Production, Shipments, and Stocks of Plumbing Fixtures: 1996—Con.

[Quantity in units. Value in thousands of dollars]

Product code	Product description	Number of companies	Quantity produced	Shipments		Stocks, end of quarter
				Quantity	Value	
<b>FIRST QUARTER—Con.</b>						
Plumbing fixtures—Con.						
Whirlpool baths, not spas or hot tubs (noninstitutional) . . . . . (NA)						
34310 86	Cast iron (enameled) <sup>8</sup> . . . . .	2	105,420	105,823	70,633	22,097
30880 26	Fiberglass (FRP) gel coat . . . . .	22	1,684	1,828	2,999	540
30880 27	Fiberglass (FRP) acrylic . . . . .	33	8,650	9,178	6,069	1,120
30880 28	Cultured marble <sup>9</sup> . . . . .	52	84,864	83,877	54,487	19,025
30886 29	Other plastics <sup>9</sup> . . . . .	6	2,247	2,280	2,713	1,412
19001 12	All other materials <sup>8 9</sup> . . . . .	3	7,975	8,660	4,365	(D)
			(D)	(D)	(D)	(D)
19001 13	Hot tubs (noninstitutional, all materials) <sup>10</sup> . . . . .	1	(D)	(D)	(D)	(D)
19001 15	Spas (noninstitutional, all materials) <sup>10</sup> . . . . .	28	29,215	26,269	66,775	6,330
All other fixtures not described above . . . . . (NA)						
30882 20	Plastics . . . . .	5	(X)	(X)	9,002	(X)
19002 20	All other materials . . . . .	7	(X)	(X)	(D)	(X)
<b>SECOND QUARTER</b>						
Plumbing fixtures . . . . . (NA)						
Drinking fountains <sup>1</sup> . . . . . (NA)						
34310 15	Metal <sup>1</sup> . . . . .	5	12,132	11,989	3,289	744
32610 12	Vitreous china <sup>1</sup> . . . . .	4	(D)	(D)	(D)	(D)
19001 02	All other materials <sup>1</sup> . . . . .	2	(D)	(D)	(D)	(D)
Lavatories . . . . . (NA)						
34310 17	Cast iron (enameled) <sup>2</sup> . . . . .	2	1,895,479	1,899,477	91,892	538,335
34310 18	Steel (enameled) . . . . .	3	(D)	(D)	(D)	(D)
34310 19	Steel (stainless) . . . . .	5	453,373	448,464	7,263	64,493
32610 17	Vitreous china . . . . .	8	6,640	6,755	1,349	(D)
30880 04	Cultured marble . . . . .	4	835,690	829,902	39,190	372,191
30880 31	Other plastics <sup>2</sup> . . . . .	6	458,542	463,555	32,046	51,958
19001 03	All other materials <sup>2</sup> . . . . .	1	141,234	150,801	12,045	49,693
			(D)	(D)	(D)	(D)
Water closet bowls (vitreous china) . . . . . (NA)						
19002 02	1.6 or less g.p.f. low consumption (any material) . . . . .	8	2,276,220	2,241,234	123,380	769,966
32610 21	Flushometer . . . . .	7	1,778,176	1,766,846	94,276	633,443
32610 24	One piece . . . . .	6	120,510	136,052	9,619	36,929
32610 27	Close couple (for use with flush tank) <sup>3</sup> . . . . .	11	9,708	10,390	2,237	7,665
19001 04	All other materials <sup>3</sup> . . . . .	5	367,826	327,947	17,248	91,929
			(D)	(D)	(D)	(D)
32610 31	Flush tanks (vitreous china) . . . . .	8	1,778,886	1,853,519	62,012	448,100
Urinals . . . . . (NA)						
34310 38	Metal . . . . .	5	62,585	71,717	7,551	19,473
32610 36	Vitreous china . . . . .	8	1,267	1,165	605	(D)
			61,318	70,552	6,946	(D)
Kitchen sinks, not including bar sinks <sup>4</sup> . . . . . (NA)						
34310 41	Cast iron (enameled) <sup>4</sup> . . . . .	2	1,315,185	1,324,329	79,844	120,100
34310 42	Steel (enameled) . . . . .	4	(D)	(D)	(D)	(D)
34310 47	Steel (stainless) . . . . .	4	124,334	122,058	3,488	15,327
19001 07	All other materials <sup>4</sup> . . . . .	8	950,202	953,715	44,781	(D)
			(D)	(D)	(D)	(D)
19001 08	Bar sinks (all materials) . . . . .	20	87,324	88,687	5,307	9,664
Wash sinks and service sinks, mop sinks, sink and laundry tray combinations, and laundry trays <sup>5</sup> . . . . . (NA)						
34310 54	Metal <sup>5</sup> . . . . .	5	160,822	163,089	12,285	12,120
30880 33	Plastics <sup>5</sup> . . . . .	3	13,719	13,038	5,619	(D)
32610 54	Vitreous china . . . . .	4	(D)	(D)	(D)	(D)
32722 84	Concrete and all other materials <sup>5</sup> . . . . .	4	2,775	2,350	710	2,086
			(D)	(D)	(D)	(D)
Bathtubs, including wall surrounds when sold as combined units, not including whirlpool baths <sup>6</sup> . . . . . (NA)						
34310 61	Cast iron (enameled) <sup>6</sup> . . . . .	2	1,165,551	1,171,132	164,316	109,296
34310 62	Steel (enameled) . . . . .	3	(D)	(D)	(D)	(D)
30880 12	Fiberglass (FRP) gel coat . . . . .	31	247,101	252,698	17,824	19,324
30880 13	Fiberglass (FRP) acrylic . . . . .	12	644,138	641,087	102,473	42,786
30880 14	Cultured marble <sup>6</sup> . . . . .	51	40,977	39,411	11,050	5,947
30880 15	Other plastics (PVC, ABS) <sup>6</sup> . . . . .	7	<sup>a</sup> 4,473	<sup>a</sup> 4,582	2,485	(D)
19001 09	All other materials <sup>6</sup> . . . . .	2	(D)	(D)	(D)	(D)
			(D)	(D)	(D)	(D)
Shower receptors, sold separately . . . . . (NA)						
30886 55	Plastics . . . . .	20	93,959	95,658	5,031	4,495
19001 10	All other materials . . . . .	28	<sup>b</sup> 90,677	<sup>b</sup> 91,991	<sup>c</sup> 4,199	<sup>b</sup> 4,147
			<sup>a</sup> 3,282	<sup>a</sup> 3,667	832	348

See footnotes at end of table.



Table 21. Production, Shipments, and Stocks of Plumbing Fixtures: 1996—Con.

[Quantity in units. Value in thousands of dollars]

Product code	Product description	Number of companies	Quantity produced	Shipments		Stocks, end of quarter
				Quantity	Value	
<b>SECOND QUARTER—Con.</b>						
Plumbing fixtures—Con.						
	Shower stalls, including receptor	(NA)	234,373	234,033	45,419	9,977
34310 74	Metal <sup>7</sup>	1	31,204	30,619	6,903	2,630
30880 21	Fiberglass (FRP) gel coat	25	145,195	146,069	27,263	4,711
30880 22	Fiberglass (FRP) acrylic	9	25,472	24,637	9,192	<sup>a</sup> 2,339
30880 23	Other plastics <sup>7</sup>	5	<sup>a</sup> 32,503	<sup>a</sup> 32,707	2,061	(D)
19001 11	All other materials <sup>7</sup>	19	(D)	(D)	(D)	(D)
Wall surrounds, sold as separate units						
	Showers (all materials)	(NA)	349,942	360,651	20,034	23,411
30880 70	Showers (all materials)	44	101,393	100,421	6,837	3,985
30880 71	Bathtubs (all materials)	44	<sup>a</sup> 248,550	<sup>a</sup> 260,230	13,197	<sup>a</sup> 19,427
19222 08	Bidets (all materials)	9	9,166	10,107	1,479	10,252
Whirlpool baths, not spas or hot tubs (noninstitutional)						
	Cast iron (enameled) <sup>8</sup>	(NA)	129,998	131,761	84,841	20,438
34310 86	Cast iron (enameled) <sup>8</sup>	2	1,639	1,431	2,479	748
30880 26	Fiberglass (FRP) gel coat	22	12,260	12,529	7,898	1,014
30880 27	Fiberglass (FRP) acrylic	33	102,888	105,879	67,529	16,991
30880 28	Cultured marble <sup>9</sup>	52	1,522	1,455	1,716	1,685
30886 29	Other plastics <sup>9</sup>	6	11,688	10,467	5,218	(D)
19001 12	All other materials <sup>8 9</sup>	3	(D)	(D)	(D)	(D)
19001 13	Hot tubs (noninstitutional, all materials) <sup>10</sup>	1	(D)	(D)	(D)	(D)
19001 15	Spas (noninstitutional, all materials) <sup>10</sup>	28	37,631	38,353	96,357	5,790
All other fixtures not described above						
	Plastics	(NA)	(X)	(X)	10,788	(X)
30882 20	Plastics	5	(X)	(X)	(D)	(X)
19002 20	All other materials	7	(X)	(X)	(D)	(X)
<b>THIRD QUARTER</b>						
Plumbing fixtures						
	Drinking fountains <sup>1</sup>	(NA)	(X)	(X)	823,839	(X)
	Metal <sup>1</sup>	(NA)	13,610	13,730	3,948	598
34310 15	Metal <sup>1</sup>	5	(D)	(D)	(D)	(D)
32610 12	Vitreous china <sup>1</sup>	4	(D)	(D)	(D)	(D)
19001 02	All other materials <sup>1</sup>	2	(D)	(D)	(D)	(D)
Lavatories						
	Cast iron (enameled) <sup>2</sup>	(NA)	1,917,177	1,927,413	91,675	497,849
34310 17	Cast iron (enameled) <sup>2</sup>	2	(D)	(D)	(D)	(D)
34310 18	Steel (enameled)	3	475,628	469,131	7,797	74,138
34310 19	Steel (stainless)	5	6,943	6,931	1,348	(D)
32610 17	Vitreous china	8	822,786	838,784	40,275	340,851
30880 04	Cultured marble	4	475,373	456,343	29,481	54,665
30880 31	Other plastics <sup>2</sup>	6	136,447	156,224	12,774	28,195
19001 03	All other materials <sup>2</sup>	1	(D)	(D)	(D)	(D)
Water closet bowls (vitreous china)						
	1.6 or less g.p.f. low consumption (any material)	(NA)	2,165,650	2,166,415	118,794	780,151
19002 02	1.6 or less g.p.f. low consumption (any material)	8	1,680,820	1,681,909	89,612	658,831
32610 21	Flushometer	7	119,225	133,965	9,902	22,742
32610 24	One piece	6	9,390	9,041	1,845	8,366
32610 27	Close couple (for use with flush tank) <sup>3</sup>	11	356,215	341,500	17,435	90,212
19001 04	All other materials <sup>3</sup>	5	(D)	(D)	(D)	(D)
32610 31	Flush tanks (vitreous china)	8	1,775,965	1,810,915	61,187	432,623
Urinals						
	Metal	(NA)	70,659	74,994	7,708	16,448
34310 38	Metal	5	1,233	1,262	652	(D)
32610 36	Vitreous china	8	69,426	73,732	7,056	(D)
Kitchen sinks, not including bar sinks <sup>4</sup>						
	Cast iron (enameled) <sup>4</sup>	(NA)	1,278,278	1,275,064	79,429	100,486
34310 41	Cast iron (enameled) <sup>4</sup>	2	(D)	(D)	(D)	(D)
34310 42	Steel (enameled)	4	110,274	99,164	2,831	22,686
34310 47	Steel (stainless)	4	923,107	926,538	44,390	(D)
19001 07	All other materials <sup>4</sup>	8	(D)	(D)	(D)	(D)
19001 08	Bar sinks (all materials)	20	93,480	93,918	5,640	9,426
Wash sinks and service sinks, mop sinks, sink and laundry tray combinations, and laundry trays <sup>5</sup>						
	Metal <sup>5</sup>	(NA)	159,841	164,270	12,777	11,121
34310 54	Metal <sup>5</sup>	5	13,735	15,016	6,191	(D)
30880 33	Plastics <sup>5</sup>	3	(D)	(D)	(D)	(D)
32610 54	Vitreous china	4	1,778	2,023	641	1,841
32722 84	Concrete and all other materials <sup>5</sup>	4	(D)	(D)	(D)	(D)

See footnotes at end of table.

Table 21. Production, Shipments, and Stocks of Plumbing Fixtures: 1996—Con.

[Quantity in units. Value in thousands of dollars]

Product code	Product description	Number of companies	Quantity produced	Shipments		Stocks, end of quarter
				Quantity	Value	
<b>THIRD QUARTER—Con.</b>						
Plumbing fixtures—Con.						
Bathtubs, including wall surrounds when sold as combined units, not including whirlpool baths <sup>6</sup>						
34310 61	Cast iron (enameled) <sup>6</sup>	(NA)	1,133,926	1,149,579	164,576	83,825
34310 62	Steel (enameled)	2	(D)	(D)	(D)	(D)
30880 12	Fiberglass (FRP) gel coat	3	245,514	247,169	17,471	22,579
30880 13	Fiberglass (FRP) acrylic	31	604,639	611,501	97,407	37,458
30880 14	Cultured marble <sup>6</sup>	12	55,757	52,048	14,848	7,263
30880 15	Other plastics (PVC, ABS) <sup>6</sup>	51	<sup>a</sup> 4,513	<sup>a</sup> 4,792	2,619	(D)
19001 09	All other materials <sup>6</sup>	7	(D)	(D)	(D)	(D)
		2	(D)	(D)	(D)	(D)
Shower receptors, sold separately						
30886 55	Plastics	(NA)	70,863	67,355	4,097	4,477
19001 10	All other materials	20	<sup>f</sup> 66,870	<sup>f</sup> 61,800	<sup>f</sup> 2,837	<sup>b</sup> 4,294
		28	<sup>a</sup> 3,993	<sup>a</sup> 5,555	1,260	183
Shower stalls, including receptor						
34310 74	Metal <sup>7</sup>	(NA)	238,458	239,182	46,400	7,530
30880 21	Fiberglass (FRP) gel coat	1	31,223	30,590	6,879	1,442
30880 22	Fiberglass (FRP) acrylic	25	147,230	148,457	27,778	3,491
		9	<sup>f</sup> 27,294	<sup>f</sup> 25,886	<sup>f</sup> 9,556	<sup>a</sup> 2,597
30880 23	Other plastics <sup>7</sup>	5	<sup>a</sup> 32,712	<sup>a</sup> 34,249	2,187	(D)
19001 11	All other materials <sup>7</sup>	19	(D)	(D)	(D)	(D)
Wall surrounds, sold as separate units						
30880 70	Showers (all materials)	(NA)	363,240	354,258	21,085	19,191
30880 71	Bathtubs (all materials)	44	88,079	91,371	6,256	3,601
19222 08	Bidets (all materials)	44	<sup>f</sup> 275,162	<sup>f</sup> 262,887	<sup>f</sup> 14,829	<sup>a</sup> 15,590
		9	9,012	10,590	1,476	9,499
Whirlpool baths, not spas or hot tubs (noninstitutional)						
34310 86	Cast iron (enameled) <sup>8</sup>	(NA)	140,551	138,347	91,216	20,538
30880 26	Fiberglass (FRP) gel coat	2	1,258	1,371	2,392	635
30880 27	Fiberglass (FRP) acrylic	22	11,804	11,303	6,981	1,169
30880 28	Cultured marble <sup>9</sup>	33	113,692	112,426	73,896	17,279
30886 29	Other plastics <sup>9</sup>	52	1,954	1,965	2,340	1,455
19001 12	All other materials <sup>8 9</sup>	6	11,842	11,282	5,606	(D)
		3	(D)	(D)	(D)	(D)
19001 13	Hot tubs (noninstitutional, all materials) <sup>10</sup>	1	(D)	(D)	(D)	(D)
19001 15	Spas (noninstitutional, all materials) <sup>10</sup>	28	38,548	40,319	101,030	4,605
All other fixtures not described above						
30882 20	Plastics	(NA)	(X)	(X)	12,801	(X)
19002 20	All other materials	5	(X)	(X)	(D)	(X)
		7	(X)	(X)	(D)	(X)
<b>FOURTH QUARTER</b>						
Plumbing fixtures						
Drinking fountains <sup>1</sup>						
34310 15	Metal <sup>1</sup>	(NA)	(X)	(X)	787,103	(X)
32610 12	Vitreous china <sup>1</sup>	(NA)	9,249	9,153	2,818	684
19001 02	All other materials <sup>1</sup>	5	(D)	(D)	(D)	(D)
		4	(D)	(D)	(D)	(D)
		2	(D)	(D)	(D)	(D)
Lavatories						
34310 17	Cast iron (enameled) <sup>2</sup>	(NA)	1,810,223	1,856,095	90,606	460,125
34310 18	Steel (enameled)	2	(D)	(D)	(D)	(D)
34310 19	Steel (stainless) <sup>2</sup>	3	452,256	412,468	6,751	111,854
32610 17	Vitreous china	5	6,095	6,375	1,266	(D)
30880 04	Cultured marble	8	788,744	851,671	39,558	274,548
30880 31	Other plastics <sup>2</sup>	4	435,933	443,111	31,116	54,018
19001 03	All other materials <sup>2</sup>	6	127,196	142,470	11,915	19,705
		1	(D)	(D)	(D)	(D)
Water closet bowls (vitreous china)						
19002 02	1.6 or less g.p.f. low consumption (any material)	(NA)	2,000,200	2,122,731	118,285	696,040
32610 21	Flushometer	8	1,579,420	1,704,293	91,799	572,991
32610 24	One piece	7	120,888	110,995	8,721	32,757
32610 27	Close couple (for use with flush tank) <sup>3</sup>	6	10,712	10,424	2,220	9,601
19001 04	All other materials <sup>3</sup>	11	289,180	297,020	15,545	80,692
		5	(D)	(D)	(D)	(D)

See footnotes at end of table.

Table 21. Production, Shipments, and Stocks of Plumbing Fixtures: 1996—Con.

[Quantity in units. Value in thousands of dollars]

Product code	Product description	Number of companies	Quantity produced	Shipments		Stocks, end of quarter
				Quantity	Value	
<b>FOURTH QUARTER—Con.</b>						
Plumbing fixtures—Con.						
32610 31	Flush tanks (vitreous china) .....	8	1,738,841	1,803,709	60,639	378,179
	Urinals .....	(NA)	65,015	63,657	6,893	18,142
34310 38	Metal .....	5	1,123	764	394	(D)
32610 36	Vitreous china .....	8	63,892	62,893	6,499	(D)
	Kitchen sinks, not including bar sinks <sup>4</sup> .....	(NA)	1,292,788	1,292,876	81,011	88,499
34310 41	Cast iron (enameled) <sup>4</sup> .....	2	(D)	(D)	(D)	(D)
34310 42	Steel (enameled) .....	4	105,082	103,635	3,381	29,160
34310 47	Steel (stainless) <sup>4</sup> .....	4	929,701	923,532	44,356	(D)
19001 07	All other materials <sup>4</sup> .....	8	(D)	(D)	(D)	(D)
19001 08	Bar sinks (all materials) .....	20	90,473	92,326	5,402	7,452
	Wash sinks and service sinks, mop sinks, sink and laundry tray combinations, and laundry trays <sup>5</sup> .....	(NA)	160,868	166,661	13,019	12,549
34310 54	Metal <sup>5</sup> .....	5	15,130	13,874	5,867	(D)
30880 33	Plastics <sup>5</sup> .....	3	(D)	(D)	(D)	(D)
32610 54	Vitreous china .....	4	1,746	1,910	611	1,677
32722 84	Concrete and all other materials <sup>5</sup> .....	4	(D)	(D)	(D)	(D)
	Bathtubs, including wall surrounds when sold as combined units, not including whirlpool baths <sup>6</sup> .....	(NA)	1,001,831	1,004,218	183,484	81,795
34310 61	Cast iron (enameled) <sup>6</sup> .....	2	(D)	(D)	(D)	(D)
34310 62	Steel (enameled) .....	3	222,876	228,939	15,709	20,477
30880 12	Fiberglass (FRP) gel coat .....	31	644,138	555,537	125,418	38,580
30880 13	Fiberglass (FRP) acrylic .....	12	45,503	44,453	12,151	7,936
30880 14	Cultured marble <sup>6</sup> .....	51	<sup>a</sup> 5,566	<sup>a</sup> 5,366	2,892	(D)
30880 15	Other plastics (PVC, ABS) <sup>6</sup> .....	7	(D)	(D)	(D)	(D)
19001 09	All other materials <sup>6</sup> .....	2	(D)	(D)	(D)	(D)
	Shower receptors, sold separately .....	(NA)	72,513	75,376	4,485	4,150
30886 55	Plastics .....	20	<sup>b</sup> 68,548	<sup>b</sup> 69,660	<sup>b</sup> 3,190	4,070
19001 10	All other materials .....	28	<sup>a</sup> 3,965	<sup>a</sup> 5,716	1,295	80
	Shower stalls, including receptor .....	(NA)	223,484	220,002	42,273	7,671
34310 74	Metal <sup>7</sup> .....	1	31,206	30,621	6,903	1,281
30880 21	Fiberglass (FRP) gel coat .....	25	136,942	135,542	25,519	3,567
30880 22	Fiberglass (FRP) acrylic .....	9	<sup>c</sup> 23,681	<sup>c</sup> 22,633	<sup>c</sup> 7,894	2,525
30880 23	Other plastics <sup>7</sup> .....	5	<sup>a</sup> 31,656	<sup>a</sup> 31,206	1,956	(D)
19001 11	All other materials <sup>7</sup> .....	19	(D)	(D)	(D)	(D)
	Wall surrounds, sold as separate units .....	(NA)	325,040	303,606	18,014	21,171
30880 70	Showers (all materials) .....	44	78,904	79,857	5,499	4,016
30880 71	Bathtubs (all materials) .....	44	<sup>d</sup> 246,136	<sup>d</sup> 223,748	<sup>d</sup> 12,516	17,155
19222 08	Bidets (all materials) .....	9	9,410	11,031	1,500	8,716
	Whirlpool baths, not spas or hot tubs (noninstitutional) .....	(NA)	107,303	107,432	72,110	19,340
34310 86	Cast iron (enameled) <sup>8</sup> .....	2	1,262	1,434	2,458	610
30880 26	Fiberglass (FRP) gel coat .....	22	9,848	9,686	6,101	1,222
30880 27	Fiberglass (FRP) acrylic .....	33	83,782	84,004	55,941	16,319
30880 28	Cultured marble <sup>9</sup> .....	52	2,193	2,149	2,564	1,189
30886 29	Other plastics <sup>9</sup> .....	6	10,217	10,159	5,047	(D)
19001 12	All other materials <sup>8 9</sup> .....	3	(D)	(D)	(D)	(D)
19001 13	Hot tubs (noninstitutional, all materials) <sup>10</sup> .....	1	(D)	(D)	(D)	(D)
39001 15	Spas (noninstitutional, all materials) <sup>10</sup> .....	28	25,575	27,449	74,432	3,786
	All other fixtures not described above .....	(NA)	(X)	(X)	12,134	(X)
30882 20	Plastics .....	5	(X)	(X)	(D)	(X)
19002 20	All other materials .....	7	(X)	(X)	(D)	(X)

See footnotes at end of table.

Table 21. **Production, Shipments, and Stocks of Plumbing Fixtures: 1996—Con.**

D Withheld to avoid disclosing data for individual companies. NA Not available. <sup>1</sup>Revised by 5 percent or more from previously published data. X Not applicable.

<sup>1</sup>“Drinking fountains, metal,” “Drinking fountains, vitreous china,” and “Drinking fountains, all other materials” are combined to avoid disclosing data for individual companies.

<sup>2</sup>“Lavatories, cast iron (enameled),” and “Lavatories, all other materials,” are included with “Lavatories, other plastics” to avoid disclosing data for individual companies.

<sup>3</sup>“Water closet bowls, all other materials” are included with “Water closet bowls, close couple” to avoid disclosing data for individual companies.

<sup>4</sup>“Kitchen sinks, cast iron (enameled)” and “Kitchen sinks, all other materials” are included with “Kitchen sinks, total” to avoid disclosing data for individual companies. Stocks, end of quarter, for “Kitchen sinks, steel (stainless)” also are included with “Kitchen sinks, total” to avoid disclosing data for individual companies.

<sup>5</sup>Data for “Wash sinks, plastics and “Wash sinks, concrete and all other materials” are included with “Wash sinks, total” to avoid disclosing data for individual companies. Stocks, end of quarter, for “Wash sinks, metal” also are included with “Wash sinks, total” to avoid disclosing data for individual companies.

<sup>6</sup>“Bathtubs, cast iron (enameled),” “Bathtubs, other plastics,” and “Bathtubs, all other materials” are included with “Bathtubs, total” to avoid disclosing data for individual companies. Stocks, end of quarter for “Bathtubs, cultured marble,” also are included with “Bathtub, total” to avoid disclosing data for individual companies.

<sup>7</sup>“Shower stalls, all other materials” are included with “Shower stalls, metal” to avoid disclosing data for individual companies. Stocks, end of quarter, for “Shower stalls, other plastics” also are included with “Shower stalls, metal” to avoid disclosing data for individual companies.

<sup>8</sup>“Whirlpool baths, all other materials” are included with “Whirlpool baths, cast iron (enameled)” to avoid disclosing data for individual companies.

<sup>9</sup>Stocks, end of quarter, for “Whirlpool baths, other plastics” are included with “Whirlpool baths, cultured marble” to avoid disclosing data for individual companies.

<sup>10</sup>“Hot tubs” are included with “Spas” to avoid disclosing data for individual companies.

Note: Percent of estimation of each item is indicated as follows (see “Description of Survey” in text for a discussion of estimation of missing reports):  
<sup>a</sup>25 to 50 percent of this item is estimated. <sup>b</sup>Over 50 percent of this item is estimated.

Table 22. Production, Shipments, and Stocks of Plumbing Fixtures: 1995

[Quantity in units. Value in thousands of dollars]

Product code	Product description	Number of companies	Quantity produced	Shipments		Stocks, end of quarter
				Quantity	Value	
<b>FIRST QUARTER</b>						
	Plumbing fixtures.....	(NA)	(X)	(X)	748,057	(X)
	Drinking fountains <sup>1</sup> .....	(NA)	9,745	9,503	2,507	803
34310 15	Metal <sup>1</sup> .....	5	(D)	(D)	(D)	(D)
32610 12	Vitreous china <sup>1</sup> .....	4	(D)	(D)	(D)	(D)
19001 02	All other materials <sup>1</sup> .....	3	(D)	(D)	(D)	(D)
	Lavatories.....	(NA)	1,924,254	1,898,506	92,032	582,276
34310 17	Cast iron (enameled) <sup>2</sup> .....	3	(D)	(D)	(D)	(D)
34310 18	Steel (enameled).....	5	428,118	440,005	6,907	79,987
34310 19	Steel (stainless).....	7	5,190	7,028	1,643	600
32610 17	Vitreous china.....	10	865,478	834,036	41,210	360,889
30880 04	Cultured marble.....	78	451,318	451,248	29,975	71,806
30880 31	Other plastics <sup>2</sup> .....	7	174,149	166,189	12,297	68,994
19001 03	All other materials <sup>2</sup> .....	1	(D)	(D)	(D)	(D)
	Water closet bowls (vitreous china).....	(NA)	2,641,682	2,441,660	135,140	842,592
19002 02	1.6 or less g.p.f. low consumption (any material).....	9	1,818,024	1,690,214	94,576	592,955
32610 21	Flushometer.....	9	176,848	183,397	12,115	32,702
32610 24	One piece.....	8	10,140	11,889	2,332	9,600
32610 27	Close couple (for use with flush tank) <sup>3</sup> .....	9	636,671	556,161	26,117	207,335
19001 04	All other materials <sup>3</sup> .....	5	(D)	(D)	(D)	(D)
32610 31	Flush tanks (vitreous china).....	9	2,102,304	1,843,018	64,956	665,018
	Urinals.....	(NA)	83,160	71,559	6,975	31,528
34310 38	Metal.....	7	310	498	267	(D)
32610 36	Vitreous china.....	9	82,850	71,061	6,708	(D)
	Kitchen sinks, not including bar sinks <sup>4</sup> .....	(NA)	1,416,528	1,355,648	82,889	227,461
34310 41	Cast iron (enameled) <sup>4</sup> .....	2	(D)	(D)	(D)	(D)
34310 42	Steel (enameled).....	6	113,651	99,231	2,789	36,268
34310 47	Steel (stainless) <sup>4</sup> .....	8	1,033,413	1,019,825	50,174	(D)
19001 07	All other materials <sup>4</sup> .....	4	(D)	(D)	(D)	(D)
19001 08	Bar sinks (all materials).....	17	87,687	86,882	4,557	12,418
	Wash sinks and service sinks, mop sinks, sink and laundry tray combinations, and laundry trays <sup>5</sup> .....	(NA)	157,085	227,293	10,496	17,668
34310 54	Metal <sup>5</sup> .....	7	14,600	11,984	4,070	(D)
30880 33	Plastics.....	5	135,617	208,021	3,442	11,263
32610 54	Vitreous china.....	4	1,594	2,266	695	851
32722 84	Concrete and all other materials <sup>5</sup> .....	4	5,274	5,022	2,288	(D)
	Bathtubs, including wall surrounds when sold as combined units, not including whirlpool baths <sup>6</sup> .....	(NA)	971,008	954,323	129,936	173,044
34310 61	Cast iron (enameled) <sup>6</sup> .....	2	(D)	(D)	(D)	(D)
34310 62	Steel (enameled).....	4	226,734	242,086	16,638	39,942
30880 12	Fiberglass (FRP) gel coat.....	33	467,000	450,426	71,334	60,683
30880 13	Fiberglass (FRP) acrylic.....	29	35,932	36,010	10,290	4,803
30880 14	Cultured marble <sup>6</sup> .....	50	5,098	4,901	2,568	(D)
30880 15	Other plastics (PVC, ABS) <sup>6</sup> .....	7	(D)	(D)	(D)	(D)
19001 09	All other materials <sup>6</sup> .....	1	(D)	(D)	(D)	(D)
	Shower receptors, sold separately.....	(NA)	74,778	72,567	5,353	17,650
30886 55	Plastics.....	19	70,424	68,362	4,430	(D)
19001 10	All other materials.....	26	4,355	4,205	923	(D)
	Shower stalls, including receptor.....	(NA)	254,409	249,294	42,235	27,301
34310 74	Metal <sup>7</sup> .....	1	29,560	28,022	6,261	10,492
30880 21	Fiberglass (FRP) gel coat.....	27	135,905	133,632	24,540	10,049
30880 22	Fiberglass (FRP) acrylic.....	16	23,200	22,038	8,321	3,152
30880 23	Other plastics <sup>7</sup> .....	7	29,563	29,422	1,800	(D)
19001 11	All other materials <sup>7</sup> .....	18	(D)	(D)	(D)	(D)
	Wall surrounds, sold as separate units.....	(NA)	305,370	296,221	17,225	32,573
30880 70	Showers (all materials).....	44	74,874	77,623	5,727	(D)
30880 71	Bathtubs (all materials).....	38	359,981	348,083	16,413	(D)
19222 08	Bidets (all materials).....	8	18,078	13,681	1,762	12,036

See footnotes at end of table.

Table 22. Production, Shipments, and Stocks of Plumbing Fixtures: 1995—Con.

[Quantity in units. Value in thousands of dollars]

Product code	Product description	Number of companies	Quantity produced	Shipments		Stocks, end of quarter
				Quantity	Value	
<b>FIRST QUARTER—Con.</b>						
Plumbing fixtures—Con.						
Whirlpool baths, not spas or hot tubs						
(noninstitutional)						
		(NA)	113,123	113,530	78,856	23,676
34310 86	Cast iron (enameled) <sup>8</sup>	2	1,423	1,582	2,523	527
30880 26	Fiberglass (FRP) gel coat	22	9,182	9,295	5,591	2,626
30880 27	Fiberglass (FRP) acrylic	35	90,650	92,362	63,078	17,943
30880 28	Cultured marble <sup>9</sup>	45	3,010	3,023	<sup>a</sup> 3,450	2,580
30886 29	Other plastics <sup>9</sup>	6	8,858	7,269	4,213	(D)
19001 12	All other materials <sup>8 9</sup>	3	(D)	(D)	(D)	(D)
19001 13	Hot tubs (noninstitutional, all materials) <sup>10</sup>	1	(D)	(D)	(D)	(D)
19001 15	Spas (noninstitutional, all materials) <sup>10</sup>	28	31,042	27,305	63,292	5,964
All other fixtures not described above						
		(NA)	(X)	(X)	9,847	(X)
30882 20	Plastics	6	(X)	(X)	66	(X)
19002 20	All other materials	9	(X)	(X)	9,782	(X)
<b>SECOND QUARTER</b>						
Plumbing fixtures						
		(NA)	(X)	(X)	741,071	(X)
Drinking fountains <sup>1</sup>						
		(NA)	12,245	12,446	3,249	596
34310 15	Metal <sup>1</sup>	5	(D)	(D)	(D)	(D)
32610 12	Vitreous china <sup>1</sup>	4	(D)	(D)	(D)	(D)
19001 02	All other materials <sup>1</sup>	3	(D)	(D)	(D)	(D)
Lavatories						
		(NA)	1,911,003	1,786,471	89,966	671,976
34310 17	Cast iron (enameled) <sup>2</sup>	3	(D)	(D)	(D)	(D)
34310 18	Steel (enameled)	5	413,599	379,889	5,947	<sup>a</sup> 96,573
34310 19	Steel (stainless)	7	6,683	6,509	1,426	864
32610 17	Vitreous china	10	874,263	787,469	39,930	436,883
30880 04	Cultured marble	78	443,593	453,209	30,893	60,637
30880 31	Other plastics <sup>2</sup>	7	172,799	159,396	11,768	77,019
19001 03	All other materials <sup>2</sup>	1	(D)	(D)	(D)	(D)
Water closet bowls (vitreous china)						
		(NA)	2,526,925	2,265,330	126,361	1,023,096
19002 02	1.6 or less g.p.f. low consumption (any material)	9	1,748,078	1,560,407	86,213	774,027
32610 21	Flushometer	9	201,131	195,310	13,202	38,508
32610 24	One piece	8	17,414	14,826	3,035	11,248
32610 27	Close couple (for use with flush tank) <sup>3</sup>	9	560,302	494,787	23,911	199,313
19001 04	All other materials <sup>3</sup>	5	(D)	(D)	(D)	(D)
32610 31	Flush tanks (vitreous china)	9	1,863,788	1,677,546	58,118	772,211
Urinals						
		(NA)	74,745	71,668	7,377	31,121
34310 38	Metal	7	555	548	292	(D)
32610 36	Vitreous china	9	74,191	71,120	7,086	(D)
Kitchen sinks, not including bar sinks <sup>4</sup>						
		(NA)	1,252,285	1,244,672	68,705	236,867
34310 41	Cast iron (enameled) <sup>4</sup>	2	(D)	(D)	(D)	(D)
34310 42	Steel (enameled)	6	87,248	91,740	2,740	<sup>a</sup> 34,360
34310 47	Steel (stainless) <sup>4</sup>	8	944,853	947,017	38,727	(D)
19001 07	All other materials <sup>4</sup>	4	(D)	(D)	(D)	(D)
19001 08	Bar sinks (all materials)	17	89,404	86,894	4,659	14,641
Wash sinks and service sinks, mop sinks, sink and laundry tray combinations, and laundry trays <sup>5</sup>						
		(NA)	225,856	198,916	10,184	18,070
34310 54	Metal <sup>5</sup>	7	9,590	9,567	3,182	(D)
30880 33	Plastics	5	206,649	180,401	3,265	11,263
32610 54	Vitreous china	4	2,517	2,326	718	1,042
32722 84	Concrete and all other materials <sup>5</sup>	4	7,100	6,622	3,019	(D)
Bathtubs, including wall surrounds when sold as combined units, not including whirlpool baths <sup>6</sup>						
		(NA)	952,733	965,336	136,962	169,420
34310 61	Cast iron (enameled) <sup>6</sup>	2	(D)	(D)	(D)	(D)
34310 62	Steel (enameled)	4	228,187	231,003	15,816	36,760
30880 12	Fiberglass (FRP) gel coat	33	506,173	509,958	81,264	63,004
30880 13	Fiberglass (FRP) acrylic	29	36,111	35,013	10,171	5,217
30880 14	Cultured marble <sup>6</sup>	50	5,213	5,185	2,800	(D)
30880 15	Other plastics (PVC, ABS) <sup>6</sup>	7	(D)	(D)	(D)	(D)
19001 09	All other materials <sup>6</sup>	1	(D)	(D)	(D)	(D)

See footnotes at end of table.

Table 22. Production, Shipments, and Stocks of Plumbing Fixtures: 1995—Con.

[Quantity in units. Value in thousands of dollars]

Product code	Product description	Number of companies	Quantity produced	Shipments		Stocks, end of quarter
				Quantity	Value	
<b>SECOND QUARTER—Con.</b>						
Plumbing fixtures—Con.						
30886 55	Shower receptors, sold separately . . . . .	(NA)	76,502	71,169	5,276	17,363
19001 10	Plastics . . . . .	19	72,821	67,281	4,438	(D)
	All other materials . . . . .	26	3,681	3,887	839	(D)
	Shower stalls, including receptor . . . . .	(NA)	239,688	236,956	41,218	28,212
34310 74	Metal <sup>7</sup> . . . . .	1	28,687	26,313	5,909	11,158
30880 21	Fiberglass (FRP) gel coat . . . . .	27	134,967	133,675	24,794	10,836
30880 22	Fiberglass (FRP) acrylic . . . . .	16	20,164	20,830	7,849	2,610
30880 23	Other plastics <sup>7</sup> . . . . .	7	24,733	25,001	1,530	(D)
19001 11	All other materials <sup>7</sup> . . . . .	18	(D)	(D)	(D)	(D)
	Wall surrounds, sold as separate units . . . . .	(NA)	230,891	233,483	14,272	32,781
30880 70	Showers (all materials) . . . . .	44	80,347	74,805	4,393	(D)
30880 71	Bathtubs (all materials) . . . . .	38	181,682	189,814	11,015	(D)
19222 08	Bidets (all materials) . . . . .	8	15,856	14,667	1,902	12,800
	Whirlpool baths, not spas or hot tubs (noninstitutional) . . . . .	(NA)	109,115	103,321	71,645	28,865
34310 86	Cast iron (enameled) <sup>8</sup> . . . . .	2	1,916	1,667	2,778	776
30880 26	Fiberglass (FRP) gel coat . . . . .	22	10,173	9,846	5,905	2,725
30880 27	Fiberglass (FRP) acrylic . . . . .	35	86,479	80,813	55,599	22,836
30880 28	Cultured marble <sup>9</sup> . . . . .	45	2,534	2,532	2,664	2,528
30886 29	Other plastics <sup>9</sup> . . . . .	6	8,014	8,463	4,697	(D)
19001 12	All other materials <sup>8 9</sup> . . . . .	3	(D)	(D)	(D)	(D)
19001 13	Hot tubs (noninstitutional, all materials) <sup>10</sup> . . . . .	1	(D)	(D)	(D)	(D)
19001 15	Spas (noninstitutional, all materials) <sup>10</sup> . . . . .	28	36,863	36,298	90,866	6,294
	All other fixtures not described above . . . . .	(NA)	(X)	(X)	10,310	(X)
30882 20	Plastics . . . . .	6	(X)	(X)	68	(X)
19002 20	All other materials . . . . .	9	(X)	(X)	10,243	(X)
<b>THIRD QUARTER</b>						
	Plumbing fixtures . . . . .	(NA)	(X)	(X)	763,546	(X)
	Drinking fountains <sup>1</sup> . . . . .	(NA)	12,169	12,101	3,399	706
34310 15	Metal <sup>1</sup> . . . . .	5	(D)	(D)	(D)	(D)
32610 12	Vitreous china <sup>1</sup> . . . . .	4	(D)	(D)	(D)	(D)
19001 02	All other materials <sup>1</sup> . . . . .	3	(D)	(D)	(D)	(D)
	Lavatories . . . . .	(NA)	1,750,348	<sup>a</sup> 1,783,538	87,500	632,837
34310 17	Cast iron (enameled) <sup>2</sup> . . . . .	3	(D)	(D)	(D)	(D)
34310 18	Steel (enameled) . . . . .	5	<sup>a</sup> 433,287	432,352	<sup>a</sup> 6,792	<sup>a</sup> 74,163
34310 19	Steel (stainless) . . . . .	7	5,352	5,383	1,036	769
32610 17	Vitreous china . . . . .	10	744,525	745,889	37,701	444,041
30880 04	Cultured marble . . . . .	78	427,227	435,630	29,932	59,319
30880 31	Other plastics <sup>2</sup> . . . . .	7	139,957	164,284	12,040	54,545
19001 03	All other materials <sup>2</sup> . . . . .	1	(D)	(D)	(D)	(D)
	Water closet bowls (vitreous china) . . . . .	(NA)	2,044,113	2,123,844	120,232	838,653
19002 02	1.6 or less g.p.f. low consumption (any material) . . . . .	9	1,400,998	1,507,881	84,897	576,510
32610 21	Flushometer . . . . .	9	167,342	158,585	11,345	47,254
32610 24	One piece . . . . .	8	18,422	15,769	3,219	13,876
32610 27	Close couple (for use with flush tank) <sup>3</sup> . . . . .	9	457,351	<sup>a</sup> 441,609	20,771	201,013
19001 04	All other materials <sup>3</sup> . . . . .	5	(D)	(D)	(D)	(D)
32610 31	Flush tanks (vitreous china) . . . . .	9	<sup>a</sup> 1,616,785	1,639,349	56,319	744,456
	Urinals . . . . .	(NA)	69,360	62,168	6,602	33,159
34310 38	Metal . . . . .	7	678	229	122	(D)
32610 36	Vitreous china . . . . .	9	68,682	61,939	6,480	(D)
	Kitchen sinks, not including bar sinks <sup>4</sup> . . . . .	(NA)	1,183,843	1,239,467	70,174	180,999
34310 41	Cast iron (enameled) <sup>4</sup> . . . . .	2	(D)	(D)	(D)	(D)
34310 42	Steel (enameled) . . . . .	6	88,131	98,301	3,060	<sup>a</sup> 27,902
34310 47	Steel (stainless) <sup>4</sup> . . . . .	8	914,995	914,600	37,185	(D)
19001 07	All other materials <sup>4</sup> . . . . .	4	(D)	(D)	(D)	(D)
19001 08	Bar sinks (all materials) . . . . .	17	80,308	82,500	4,439	12,700

See footnotes at end of table.

Table 22. Production, Shipments, and Stocks of Plumbing Fixtures: 1995—Con.

[Quantity in units. Value in thousands of dollars]

Product code	Product description	Number of companies	Quantity produced	Shipments		Stocks, end of quarter
				Quantity	Value	
<b>THIRD QUARTER—Con.</b>						
Plumbing fixtures—Con.						
Wash sinks and service sinks, mop sinks, sink and laundry tray combinations, and laundry trays <sup>5</sup> .....						
34310 54	Metal <sup>5</sup> .....	(NA)	221,306	197,608	9,170	16,088
30880 33	Plastics.....	7	6,874	9,388	3,162	(D)
32610 54	Vitreous china.....	5	207,632	181,369	3,280	11,263
32722 84	Concrete and all other materials <sup>5</sup> .....	4	2,627	2,327	666	1,342
		4	4,172	4,525	2,062	(D)
Bathtubs, including wall surrounds when sold as combined units, not including whirlpool baths <sup>5</sup> .....						
34310 61	Cast iron (enameled) <sup>6</sup> .....	(NA)	955,151	<sup>a</sup> 989,501	142,316	136,244
34310 62	Steel (enameled).....	2	(D)	(D)	(D)	(D)
30880 12	Fiberglass (FRP) gel coat.....	4	<sup>a</sup> 205,068	215,690	<sup>a</sup> 14,806	22,209
30880 13	Fiberglass (FRP) acrylic.....	33	544,935	551,031	87,291	57,976
30880 14	Cultured marble <sup>6</sup> .....	29	35,673	35,530	10,434	5,373
30880 15	Other plastics (PVC, ABS) <sup>6</sup> .....	50	4,653	4,724	2,531	(D)
19001 09	All other materials <sup>6</sup> .....	7	(D)	(D)	(D)	(D)
		1	(D)	(D)	(D)	(D)
Shower receptors, sold separately.....						
30886 55	Plastics.....	(NA)	63,148	63,272	4,611	17,363
19001 10	All other materials.....	19	60,400	60,346	3,959	(D)
		26	2,747	2,926	652	(D)
Shower stalls, including receptor.....						
34310 74	Metal <sup>7</sup> .....	(NA)	250,765	252,175	44,782	27,661
30880 21	Fiberglass (FRP) gel coat.....	1	27,203	28,495	6,457	10,465
30880 22	Fiberglass (FRP) acrylic.....	27	144,581	144,311	27,045	11,322
30880 23	Other plastics <sup>7</sup> .....	16	22,885	23,361	8,568	2,266
19001 11	All other materials <sup>7</sup> .....	7	24,542	24,453	1,490	(D)
		18	(D)	(D)	(D)	(D)
Wall surrounds, sold as separate units.....						
30880 70	Showers (all materials).....	(NA)	180,098	203,171	12,673	32,422
30880 71	Bathtubs (all materials).....	44	67,296	70,603	4,549	(D)
19222 08	Bidets (all materials).....	38	<sup>f</sup> 144,357	<sup>f</sup> 164,123	<sup>f</sup> 9,346	(D)
		8	18,664	13,047	1,775	17,754
Whirlpool baths, not spas or hot tubs (noninstitutional).....						
34310 86	Cast iron (enameled) <sup>8</sup> .....	(NA)	114,365	119,701	83,891	25,146
30880 26	Fiberglass (FRP) gel coat.....	2	1,497	1,664	2,786	609
30880 27	Fiberglass (FRP) acrylic.....	22	9,987	9,732	5,886	2,747
30880 28	Cultured marble <sup>9</sup> .....	35	93,368	97,870	68,296	19,614
30886 29	Other plastics <sup>9</sup> .....	45	2,217	2,206	2,321	2,176
19001 12	All other materials <sup>9</sup> .....	6	7,296	8,230	4,602	(D)
		3	(D)	(D)	(D)	(D)
19001 13	Hot tubs (noninstitutional, all materials) <sup>10</sup> .....	1	(D)	(D)	(D)	(D)
19001 15	Spas (noninstitutional, all materials) <sup>10</sup> .....	28	37,234	41,740	103,610	4,412
All other fixtures not described above.....						
30882 20	Plastics.....	(NA)	(X)	(X)	12,053	(X)
19002 20	All other materials.....	6	(X)	(X)	67	(X)
		9	(X)	(X)	11,987	(X)
<b>FOURTH QUARTER</b>						
Plumbing fixtures.....						
		(NA)	(X)	(X)	700,947	(X)
Drinking fountains <sup>1</sup> .....						
34310 15	Metal <sup>1</sup> .....	(NA)	8,331	8,282	2,499	705
32610 12	Vitreous china <sup>1</sup> .....	5	(D)	(D)	(D)	(D)
19001 02	All other materials <sup>1</sup> .....	4	(D)	(D)	(D)	(D)
		3	(D)	(D)	(D)	(D)
Lavatories.....						
34310 17	Cast iron (enameled) <sup>2</sup> .....	(NA)	1,661,088	1,660,274	83,677	628,466
34310 18	Steel (enameled).....	3	(D)	(D)	(D)	(D)
34310 19	Steel (stainless).....	5	<sup>a</sup> 346,819	<sup>a</sup> 357,962	<sup>a</sup> 5,677	<sup>a</sup> 56,119
32610 17	Vitreous china.....	7	5,989	5,470	1,004	1,082
30880 04	Cultured marble.....	10	756,523	755,087	37,701	449,030
30880 31	Other plastics <sup>2</sup> .....	78	395,869	400,226	28,914	56,841
19001 03	All other materials <sup>2</sup> .....	7	155,887	141,530	10,380	65,394
		1	(D)	(D)	(D)	(D)

See footnotes at end of table.



Table 22. Production, Shipments, and Stocks of Plumbing Fixtures: 1995—Con.

[Quantity in units. Value in thousands of dollars]

Product code	Product description	Number of companies	Quantity produced	Shipments		Stocks, end of quarter
				Quantity	Value	
	<b>FOURTH QUARTER—Con.</b>					
	Plumbing fixtures—Con.					
19002 02	Water closet bowls (vitreous china) . . . . . 1.6 or less g.p.f. low consumption (any material) . . . . .	(NA) 9	2,021,571 1,460,034	1,998,423 1,433,205	109,528 77,461	852,757 597,440
32610 21	Flushometer . . . . .	9	141,916	132,150	9,578	57,008
32610 24	One piece . . . . .	8	13,709	12,693	2,716	14,831
32610 27	Close couple (for use with flush tank) <sup>3</sup> . . . . .	9	405,911	420,376	19,773	183,478
19001 04	All other materials <sup>3</sup> . . . . .	5	(D)	(D)	(D)	(D)
32610 31	Flush tanks (vitreous china) . . . . .	9	1,517,212	1,492,136	54,289	713,812
	Urinals . . . . .	(NA)	64,199	58,075	6,052	37,800
34310 38	Metal . . . . .	7	613	375	198	(D)
32610 36	Vitreous china . . . . .	9	63,586	57,700	5,853	(D)
	Kitchen sinks, not including bar sinks <sup>4</sup> . . . . .	(NA)	1,102,800	1,121,543	66,071	188,157
34310 41	Cast iron (enameled) <sup>4</sup> . . . . .	2	(D)	(D)	(D)	(D)
34310 42	Steel (enameled) . . . . .	6	75,243	87,089	2,614	17,859
34310 47	Steel (stainless) <sup>4</sup> . . . . .	8	802,092	828,403	36,048	(D)
19001 07	All other materials <sup>4</sup> . . . . .	4	(D)	(D)	(D)	(D)
19001 08	Bar sinks (all materials) . . . . .	17	79,644	82,003	4,533	11,662
	Wash sinks and service sinks, mop sinks, sink and laundry tray combinations, and laundry trays <sup>5</sup> . . . . .	(NA)	223,959	196,792	9,482	17,090
34310 54	Metal <sup>5</sup> . . . . .	7	11,828	10,828	3,499	(D)
30880 33	Plastics . . . . .	5	205,610	179,383	3,248	11,263
32610 54	Vitreous china . . . . .	4	2,375	2,251	695	1,466
32722 84	Concrete and all other materials <sup>5</sup> . . . . .	4	4,146	4,330	2,040	(D)
	Bathtubs, including wall surrounds when sold as combined units, not including whirlpool baths <sup>6</sup> . . . . .	(NA)	1,017,362	994,837	142,368	146,859
34310 61	Cast iron (enameled) <sup>6</sup> . . . . .	2	(D)	(D)	(D)	(D)
34310 62	Steel (enameled) . . . . .	4	<sup>a</sup> 203,267	<sup>a</sup> 190,803	<sup>a</sup> 13,105	25,895
30880 12	Fiberglass (FRP) gel coat . . . . .	33	506,173	531,201	84,573	59,524
30880 13	Fiberglass (FRP) acrylic . . . . .	29	32,703	33,790	9,823	4,619
30880 14	Cultured marble <sup>6</sup> . . . . .	50	5,086	5,191	2,788	(D)
30880 15	Other plastics (PVC, ABS) <sup>6</sup> . . . . .	7	(D)	(D)	(D)	(D)
19001 09	All other materials <sup>6</sup> . . . . .	1	(D)	(D)	(D)	(D)
	Shower receptors, sold separately . . . . .	(NA)	56,534	54,765	3,963	17,365
30886 55	Plastics . . . . .	19	54,189	52,295	3,401	(D)
19001 10	All other materials . . . . .	26	2,346	2,470	562	(D)
	Shower stalls, including receptor . . . . .	(NA)	233,346	235,434	41,994	27,365
34310 74	Metal <sup>7</sup> . . . . .	1	24,571	25,984	5,926	10,225
30880 21	Fiberglass (FRP) gel coat . . . . .	27	130,574	131,923	24,651	10,796
30880 22	Fiberglass (FRP) acrylic . . . . .	16	22,943	22,798	8,711	2,736
30880 23	Other plastics <sup>7</sup> . . . . .	7	24,646	24,116	1,462	(D)
19001 11	All other materials <sup>7</sup> . . . . .	18	(D)	(D)	(D)	(D)
	Wall surrounds, sold as separate units . . . . .	(NA)	267,091	257,325	15,493	32,126
30880 70	Showers (all materials) . . . . .	44	77,750	80,261	5,135	(D)
30880 71	Bathtubs (all materials) . . . . .	38	219,953	207,676	11,602	(D)
19222 08	Bidets (all materials) . . . . .	8	14,272	14,934	2,017	14,973
	Whirlpool baths, not spas or hot tubs (noninstitutional) . . . . .	(NA)	105,068	105,244	73,995	25,721
34310 86	Cast iron (enameled) <sup>8</sup> . . . . .	2	1,600	1,525	2,509	684
30880 26	Fiberglass (FRP) gel coat . . . . .	22	10,141	10,510	6,448	2,622
30880 27	Fiberglass (FRP) acrylic . . . . .	35	84,021	83,270	58,547	20,424
30880 28	Cultured marble <sup>9</sup> . . . . .	45	1,896	1,824	1,922	1,991
30886 29	Other plastics <sup>9</sup> . . . . .	6	7,410	8,115	4,570	(D)
19001 12	All other materials <sup>8,9</sup> . . . . .	3	(D)	(D)	(D)	(D)
19001 13	Hot tubs (noninstitutional, all materials) <sup>10</sup> . . . . .	1	(D)	(D)	(D)	(D)
19001 15	Spas (noninstitutional, all materials) <sup>10</sup> . . . . .	28	31,088	29,993	74,917	5,373
	All other fixtures not described above . . . . .	(NA)	(X)	(X)	10,068	(X)
30882 20	Plastics . . . . .	6	(X)	(X)	70	(X)
19002 20	All other materials . . . . .	9	(X)	(X)	9,999	(X)

See footnotes at end of table.

Table 22. **Production, Shipments, and Stocks of Plumbing Fixtures: 1995—Con.**

D Withheld to avoid disclosing data for individual companies. NA Not available. <sup>1</sup>Revised by 5 percent or more from previously published data. X Not applicable.

<sup>1</sup>“Drinking fountains, metal,” “Drinking fountains, vitreous china,” and “Drinking fountains, all other materials” are combined to avoid disclosing data for individual companies.

<sup>2</sup>“Lavatories, cast iron (enameled),” and “Lavatories, all other materials,” are included with “Lavatories, other plastics” to avoid disclosing data for individual companies.

<sup>3</sup>“Water closet bowls, all other materials” are included with “Water closet bowls, close couple” to avoid disclosing data for individual companies.

<sup>4</sup>“Kitchen sinks, cast iron (enameled)” and “Kitchen sinks, all other materials” are included with “Kitchen sinks, total” to avoid disclosing data for individual companies. Stocks, end of quarter, for “Kitchen sinks, steel (stainless)” also are included with “Kitchen sinks, total” to avoid disclosing data for individual companies.

<sup>5</sup>Stocks, end of quarter for “Wash sinks, metal,” and “Wash sinks, concrete and all other materials” are included with “Wash sinks total” to avoid disclosing data for individual companies.

<sup>6</sup>“Bathtubs, cast iron (enameled),” “Bathtubs, other plastics,” and “Bathtubs, all other materials” are included with “Bathtubs, total” to avoid disclosing data for individual companies. Stocks, end of quarter for “Bathtubs, cultured marble,” also are included with “Bathtub, total” to avoid disclosing data for individual companies.

<sup>7</sup>“Shower stalls, all other materials” are included with “Shower stalls, metal” to avoid disclosing data for individual companies. Stocks, end of quarter, for “Shower stalls, other plastics” also are included with “Shower stalls, metal” to avoid disclosing data for individual companies.

<sup>8</sup>“Whirlpool baths, all other materials” are included with “Whirlpool baths, cast iron (enameled)” to avoid disclosing data for individual companies.

<sup>9</sup>Stocks, end of quarter, for “Whirlpool baths, other plastics” are included with “Whirlpool baths, cultured marble” to avoid disclosing data for individual companies.

<sup>10</sup>“Hot tubs” are included with “Spas” to avoid disclosing data for individual companies.

Note: Percent of estimation of each item is indicated as follows (see “Description of Survey” in text for a discussion of estimation of missing reports):  
<sup>a</sup>25 to 50 percent of this item is estimated. <sup>b</sup>Over 50 percent of this item is estimated.

Table 23. Shipments, Exports, Imports, and Apparent Consumption of Plumbing Fixtures: 1994 and 1996

[Value in thousands of dollars]

Product code <sup>1</sup>	Product description	Manufacturers' shipments (value, f.o.b. plant)	Exports of domestic merchandise <sup>1 2</sup> (value at port)	Value of imports for consumption <sup>1 3 4</sup>	Apparent consumption <sup>5</sup>
<b>1996</b>					
	Plumbing fixtures .....	1,876,714	132,158	261,695	2,006,251
32610 pt.	Vitreous.....	859,693	58,465	64,771	865,999
34310 pt.	Metal.....	643,775	35,836	128,434	736,373
30880 pt.	Plastics and fiberglass.....	373,246	37,857	68,490	403,879
<b>1995</b>					
	Plumbing fixtures .....	2,803,809	153,505	248,887	2,899,191
32610 pt.	Vitreous.....	891,869	61,146	71,215	901,938
34310 pt.	Metal.....	578,319	52,544	117,918	643,693
30880 pt.	Plastics and fiberglass.....	1,333,621	39,815	59,754	1,353,560
<b>1994<sup>r</sup></b>					
	Plumbing fixtures .....	2,767,472	178,078	248,488	2,837,882
32610 pt.	Vitreous.....	941,060	64,697	75,828	952,191
34310 pt.	Metal.....	595,365	74,970	116,671	637,066
30880 pt.	Plastics and fiberglass.....	1,231,047	38,411	55,989	1,248,625

pt. Part. <sup>r</sup>Revised by 5 percent or more from previously published data.<sup>1</sup>For comparison of SIC-based codes with Schedule B export numbers and HTSUSA import numbers, see "Contact for Data Users" at end of this subsection.<sup>2</sup>Source: Bureau of the Census report EM 545, *U.S. Exports*.<sup>3</sup>Source: Bureau of the Census report IM 145, *U.S. Imports for Consumption*.<sup>4</sup>This dollar value represents c.i.f. (cost, insurance, and freight) value at first port of entry into the United States plus U.S. import duties.<sup>5</sup>Apparent consumption is derived by subtracting exports from total of manufacturers' shipments plus imports.

## HISTORICAL NOTE

Data on plumbing fixtures have been collected by the Bureau of the Census since 1946. Historical data may be obtained from Current Industrial Reports (called Facts for Industry before 1959) available at your local Federal Depository Library. Historical data are also available on microfiche. For further information, contact the Bureau of the Census, Customer Services, 301-457-4100.

## FUNDING

This survey is funded by the Plumbing Manufacturers' Institute and by the International Cast Polymers Association.

## CONTACT FOR DATA USERS

For additional information about these data, contact J. Stanis Batton, 301-457-4750.

## Chapter 4. Chemicals and Related Products

### GENERAL INFORMATION

This section contains data for chemicals and related products. Included in this section is information regarding inorganic chemicals and fertilizer materials, industrial gases, paint and allied products, and pharmaceutical preparations. The inorganic chemicals and fertilizer materials group covers inorganic chemicals and fertilizer materials including chlorine, sodium hydroxide, titanium dioxide, inorganic acids, inorganic aluminum compounds, sodium and potassium compounds, ammonia, urea, phosphoric

and sulfuric acid, and superphosphates and phosphatic fertilizer materials. The industrial gases group covers oxygen, helium, carbon dioxide, argon, nitrogen, and all other industrial gases. The paint and allied products group covers special-purpose coatings, architectural coatings, and original equipment manufactures (OEM) coatings. Finally, the pharmaceutical preparations group covers all pharmaceutical preparations for human and veterinary use, including antacids, cold remedies, dermatological preparations, insulin preparations, laxatives, and vitamin preparations.

### INORGANIC CHEMICALS (MA28A) AND FERTILIZER MATERIALS AND RELATED PRODUCTS (MA28B)

#### INTRODUCTION

The inorganic chemicals and fertilizer materials included in this report cover inorganic chemicals and fertilizer materials manufactured in the United States. They are collected in surveys MQ28A and MA28A, Inorganic Chemicals, and in surveys MQ28B and MA28B, Fertilizer Materials. In the manufacturing of these products, a chemical reaction must take place, physically altering the chemical makeup of the inorganic chemical or fertilizer material. If a chemical is mined, with no further transformation of that chemical, that chemical and the establishment mining that chemical are considered out of scope of manufacturing. Also, if a company is just mixing two different fertilizer materials together, with no chemical reaction occurring, they are considered in scope of manufacturing, but out of scope of inorganic chemicals and fertilizer materials.

The unit of measure (basis) for most of the quantities of inorganic chemicals and fertilizer materials contained in this report is 100 percent of the chemical compound. For example, if a company manufactures 100 tons of 100 percent HCl (hydrochloric acid), that company would report 100 tons of production. However, if the company manufactured 100 tons of a diluted HCl, about 75 percent HCl concentrate, that company would report 75 tons as their production. This is the amount of 100 percent HCl produced in the 75 percent solution.

The Current Industrial Reports (CIRs) on inorganic chemicals and fertilizer materials are annually compared with the Census Bureau's annual survey of manufactures

(ASM). The ASM collects information on product shipments, as well as numerous other statistics, including number of employees, wages, plant worker, hours, inventories, cost of materials, and resales. The value of product shipments is reconciled between the two reports in the time period after the CIR annual report is released, but before the ASM is released. Any revisions to the CIR surveys are then carried the following year.

The comparison of the CIR surveys on inorganic chemicals and fertilizer materials with the ASM product classes for 1996 and 1995 follows (value is in millions of dollars):

The value of shipments for the five-digit product classes for inorganic chemicals and fertilizer materials are generally within 2 percent. The product classes that differ by more than 2 percent are most likely a result of ASM sampling differences. The CIR reports are complete coverage (universe) surveys for the product classes covered; whereas, the ASM is a sample survey that uses a weighting factor to account for companies not sampled.

#### SUMMARY OF FINDINGS

The value of shipments of alkalis and chlorine (SIC 2812) amounted to \$3,211.6 million in 1996, a 1-percent increase from the 1995 level of \$3,168.5 million. Value of shipments of chlorine (SIC 28121) increased 18 percent to \$948.0 million in 1996, from \$800.1 million in 1995. Value of shipments of sodium hydroxide (SIC 28123) decreased 6 percent to \$1,859.6 million in 1996, from \$1,971.3 million

in 1995. Value of shipments of other alkalis (SIC 28125) increased 2 percent to \$394.4 million in 1996 from \$387.6 million in 1995.

Titanium dioxide (SIC 28161) production decreased 3 percent from 1,382.3 thousand short tons in 1995 to 1,342.4 thousand short tons in 1996. The unit price increased 10 percent to \$1,724.29 per short ton in 1996, from \$1,565.48 per short ton in 1995.

Shipments of inorganic chemicals, n.e.c. (SIC 2819), increased 2 percent, from the 1995 total of \$14,178.7 million to \$14,454.4 million in 1996. Leading the industry in shipments were potassium and sodium compounds (SIC 28197), which increased 1 percent, from \$1,988.6 million in 1995 to \$2,003.0 million in 1996; and other inorganic chemicals, n.e.c. (SIC 28199), with \$7,562.6 million in shipments in 1996, a 1-percent increase from 1995 shipments of \$7,499.3 million.

United States production of sulfuric acid (SIC 28193) totaled 47,770.3 thousand short tons (100 percent H<sub>2</sub>SO<sub>4</sub>

in 1996, approximately 1 percent above the figure of 47,519.3 thousand short tons for 1995. Value of shipments (including interplant transfers) amounted to \$571.7 million in 1996, compared with the value of \$539.3 million for 1995.

Value of shipments of synthetic ammonia, nitric acid, and ammonium compounds (SIC 28731) increased 3 percent to \$3,817.6 million in 1996, from the 1995 level of \$3,705.2 million. Shipments of urea (SIC 28732) increased 7.3 percent to \$911.9 million in 1996, and shipments of phosphoric acid increased 1 percent to \$1,226.8.

Production of superphosphate and other phosphatic fertilizer materials (100 percent P<sub>2</sub>O<sub>5</sub>) (SIC 28742) increased 1.8 percent to 10,549.4 thousand short tons for 1996. The value of shipments amounted to \$3,934.3 million in 1996, compared with the value of \$3,594.3 million in 1995.

Table 1. **Summary of Production and Shipments of Inorganic Chemicals and Fertilizer Materials: 1992 to 1996**

[Quantity in thousands of short tons. Value in millions of dollars]

Product code	Product description	Year	Total production (quantity)	Total shipments including interplant transfers	
				Quantity	Value
2812—	Alkalies and chlorine .....	1996 .....	(X)	(X)	3,211.6
		1995 .....	(X)	(X)	3,168.5
		1994 .....	(X)	(X)	2,275.1
		1993 .....	(X)	(X)	2,278.2
		1992 .....	(X)	(X)	2,760.7
28121—	Chlorine (100 percent Cl) .....	1996 .....	(X)	(X)	947.9
		1995 .....	(X)	(X)	800.1
		1994 .....	(X)	(X)	840.9
		1993 .....	(X)	(X)	546.1
		1992 .....	(X)	(X)	194.5
28123—	Sodium hydroxide (caustic soda) .....	1996 .....	(X)	(X)	1,859.7
		1995 .....	(X)	(X)	1,971.2
		1994 .....	(X)	(X)	1,051.1
		1993 .....	(X)	(X)	1,369.9
		1992 .....	(X)	(X)	2,206.3
28125—	Other alkalis .....	1996 .....	(X)	(X)	394.4
		1995 .....	(X)	(X)	387.6
		1994 .....	(X)	(X)	376.2
		1993 .....	(X)	(X)	355.4
		1992 .....	(X)	(X)	353.2
28120 00	Alkalies and chlorine, n.s.k. ....	1996 .....	(X)	(X)	9.6
		1995 .....	(X)	(X)	9.5
		1994 .....	(X)	(X)	6.7
		1993 .....	(X)	(X)	6.8
		1992 .....	(X)	(X)	6.7
2816—	Inorganic color pigments .....	1996 .....	(X)	(X)	2,486.7
		1995 .....	(X)	(X)	2,284.2
		1994 .....	(X)	(X)	2,470.9
		1993 .....	(X)	(X)	2,390.8
		1992 .....	(X)	(X)	2,427.8
28161 00	Titanium dioxide (composite and pure) (commodity weight) .....	1996 .....	1,342.4	1,352.8	2,332.7
		1995 .....	1,382.3	1,362.5	2,132.9
		1994 .....	1,379.9	1,397.8	2,318.1
		1993 .....	1,279.3	1,274.8	2,253.1
		1992 .....	1,253.4	1,240.6	2,316.4

See footnotes at end of table.

Table 1. **Summary of Production and Shipments of Inorganic Chemicals and Fertilizer Materials: 1992 to 1996—Con.**

[Quantity in thousands of short tons. Value in millions of dollars]

Product code	Product description	Year	Total production (quantity)	Total shipments including interplant transfers	
				Quantity	Value
2819—	Inorganic chemicals, n.e.c. <sup>1 2</sup>	1996	(X)	(X)	14,454.4
		1995	(X)	(X)	14,178.7
		1994	(X)	(X)	12,675.6
		1993	(X)	(X)	11,860.3
		1992	(X)	(X)	12,838.4
28193—	Sulfuric acid, gross (new and fortified)	1996	47,770.4	13,014.8	571.7
		1995	47,519.3	12,677.7	539.3
		1994	44,861.9	11,767.2	461.9
		1993	39,838.5	11,362.0	515.9
		1992	44,523.7	10,950.2	528.7
28194—	Inorganic acids (except nitric, phosphoric, and sulfuric)	1996	(X)	(X)	637.0
		1995	(X)	(X)	580.8
		1994	(X)	(X)	557.6
		1993	(X)	(X)	505.6
		1992	(X)	(X)	504.7
28195 00	Aluminum oxide (except natural alumina)	1996	4,744.0	4,824.9	1,004.3
		1995	4,764.0	4,871.9	1,035.7
		1994	4,469.9	4,484.0	812.8
		1993	4,953.7	4,898.4	920.4
		1992	4,916.0	4,927.4	947.5
28196—	Aluminum compounds	1996	(X)	(X)	745.1
		1995	(X)	(X)	678.6
		1994	(X)	(X)	602.4
		1993	(X)	(X)	573.9
		1992	(X)	(X)	595.2
28197—	Potassium and sodium compounds (except bleaches, alkalis, and alums)	1996	(X)	(X)	2,003.0
		1995	(X)	(X)	1,988.6
		1994	(X)	(X)	1,872.0
		1993	(X)	(X)	1,884.3
		1992	(X)	(X)	1,931.9
28198 00	Chemical catalytic preparations	1996	(X)	(X)	1,692.2
		1995	(X)	(X)	1,625.4
		1994	(X)	(X)	1,424.0
		1993	(X)	(X)	1,380.3
		1992	(X)	(X)	1,349.5
28199—	Other inorganic chemicals, n.e.c.	1996	(X)	(X)	7,562.6
		1995	(X)	(X)	7,499.3
		1994	(X)	(X)	6,733.7
		1993	(X)	(X)	5,883.2
		1992	(X)	(X)	6,532.5
28190 00	Industrial inorganic chemicals, n.s.k.	1996	(X)	(X)	238.4
		1995	(X)	(X)	231.0
		1994	(X)	(X)	211.1
		1993	(X)	(X)	196.7
		1992	(X)	(X)	219.6
28422 00	Household bleaching compounds	1996	301.1	311.9	870.3
		1995	307.2	319.8	922.5
		1994	312.9	306.7	954.8
		1993	262.6	270.2	914.8
		1992	372.6	364.1	919.8
28731 31	Ammonia, synthetic anhydrous <sup>3</sup>	1996	17,762.1	9,919.1	1,689.6
		1995	17,402.2	9,722.8	1,661.6
		1994	17,869.1	10,525.3	1,540.8
		1993	17,195.2	10,435.5	1,174.3
		1992	17,924.2	10,642.5	1,095.4
28731 44	Ammonium nitrate, original melt liquor <sup>4</sup>	1996	9,026.0	(X)	(X)
		1995	8,489.1	(X)	(X)
		1994	8,567.6	(X)	(X)
		1993	8,280.9	(X)	(X)
		1992	7,980.6	(X)	(X)
28731 57	Ammonium sulfate <sup>3</sup>	1996	2,662.0	2,543.5	213.6
		1995	2,646.7	2,551.7	195.3
		1994	2,584.1	2,484.9	168.8
		1993	2,432.4	2,416.9	150.4
		1992	2,391.0	2,239.3	139.6

See footnotes at end of table.

Table 1. **Summary of Production and Shipments of Inorganic Chemicals and Fertilizer Materials: 1992 to 1996—Con.**

[Quantity in thousands of short tons. Value in millions of dollars]

Product code	Product description	Year	Total production (quantity)	Total shipments including interplant transfers	
				Quantity	Value
28732 —	Urea (100 percent) .....	1996 .....	8,528.0	5,781.4	911.9
		1995 .....	8,116.7	5,242.8	848.3
		1994 .....	8,360.3	5,456.9	726.1
		1993 .....	8,329.6	5,254.8	629.6
		1992 .....	8,766.3	5,343.0	695.7
28731 11	Nitric acid (100 percent) .....	1996 .....	9,204.8	1,460.9	196.9
		1995 .....	8,839.0	1,291.1	168.2
		1994 .....	8,713.7	931.8	116.5
		1993 .....	8,253.9	678.0	88.5
		1992 .....	8,136.0	672.0	85.4
28741 81, 85	Phosphoric acid (100 percent P <sub>2</sub> O <sub>5</sub> ) .....	1996 .....	13,210.0	4,401.8	1,226.8
		1995 .....	13,133.8	4,409.3	1,219.5
		1994 .....	12,792.0	4,227.7	1,103.1
		1993 .....	11,515.1	3,687.5	969.3
		1992 .....	12,825.9	4,375.0	1,181.5
28193 —	Sulfuric acid, gross (100 percent) .....	1996 .....	47,770.3	13,014.8	571.7
		1995 .....	47,519.3	12,677.7	539.3
		1994 .....	44,861.9	11,767.2	461.9
		1993 .....	39,838.5	11,362.0	515.9
		1992 .....	44,523.7	10,950.2	528.7
28742 —	Superphosphates and other fertilizer materials (100 percent P <sub>2</sub> O <sub>5</sub> ) .....	1996 .....	10,549.4	10,497.9	3,934.3
		1995 .....	10,364.2	10,231.0	3,594.3
		1994 .....	10,041.6	9,966.9	2,920.7
		1993 .....	8,800.9	8,813.8	2,057.3
		1992 .....	9,696.0	9,665.6	2,530.1

n.e.c. Not elsewhere classified. n.s.k. Not specified by kind. <sup>1</sup>Revised by 5 percent or more from previously published data.  
 X Not applicable.

<sup>1</sup>Totals include values for industrial inorganic chemicals not specified by kind (n.s.k.). N.s.k. represents value of shipments for establishments that did not provide detailed information by type of product. These establishments, typically with less than 10 employees, are not included on mailing panel. N.s.k. value has been estimated based on the rate of change for reporting establishments applied to previous year's figure.

<sup>2</sup>Includes value of inorganic chemicals shipped by establishments classified in both "manufacturing" and "nonmanufacturing" industries.

<sup>3</sup>Excludes data for byproduct ammonia liquor and ammonium sulfate published by the Department of Energy.

<sup>4</sup>Represents total amount of original solution produced for all purposes.

Table 2a. Production and Shipments of Selected Inorganic Chemicals: 1996 and 1995

[Quantity in short tons. Value in thousands of dollars]

Product code	Product description	1996			1995		
		Total production (quantity)	Total shipments, including interplant transfers		Total production (quantity)	Total shipments, including interplant transfers	
			Quantity	Value		Quantity	Value
2812—	Alkalies and chlorine <sup>1</sup> . . . . .	(X)	(X)	3,211,629	(X)	(X)	3,168,501
28121 —	Chlorine (100 percent Cl) . . . . .	(X)	(X)	947,966	(X)	(X)	800,146
28121 11	Gas . . . . .	<sup>2</sup> 12,460,241	514,061	60,002	12,395,320	499,517	58,844
28121 15	Liquid . . . . .	10,007,055	6,212,162	887,964	10,162,671	5,372,005	741,302
28123 —	Sodium hydroxide (caustic soda) . . . . .	(X)	(X)	1,859,648	(X)	(X)	1,971,260
28123 50	Sodium hydroxide, total liquid (all processes) (100 percent NaOH) . . . . .	<sup>3</sup> 11,562,556	(X)	(X)	11,408,324	(X)	(X)
28123 61	Liquid, 68 to 74 percent <sup>4</sup> . . . . .	(D)	(D)	(D)	(D)	(D)	(D)
28123 65	Liquid, all other <sup>4</sup> . . . . .	11,508,817	(D)	(D)	11,405,627	(D)	(D)
28123 67	Dry (all forms) <sup>5</sup> . . . . .	(D)	(D)	(D)	(D)	(D)	(D)
28125 —	Other alkalies . . . . .	(X)	(X)	394,418	(X)	(X)	387,626
	Potassium hydroxide (caustic potash) (88 to 92 percent KOH):						
28125 21	Liquid . . . . .	499,915	(D)	(D)	(D)	(D)	(D)
28125 23	Solid . . . . .	(D)	(D)	(D)	(D)	(D)	(D)
28125 30	Finished sodium bicarbonate . . . . .	501,951	533,306	189,562	<sup>5</sup> 519,804	<sup>5</sup> 521,124	178,660
28125 40	Potassium carbonate . . . . .	(D)	(D)	(D)	(D)	(D)	(D)
28125 90	Sodium carbonate (soda ash):						
14745 11	Natural and synthetic <sup>6</sup> . . . . .	10,942	(NA)	(NA)	11,025	(NA)	(NA)
28125 90	Alkalies, n.e.c., including soda ash, sal soda, and modified sodas; excluding alkaline detergents . . . . .	(X)	(X)	23,843	(X)	(X)	17,891
28120 00	Alkalies and chlorine, n.s.k. <sup>1</sup> . . . . .	(X)	(X)	9,597	(X)	(X)	9,469
2816—	Inorganic color pigments . . . . .	(X)	(X)	2,486,663	(X)	(X)	2,284,232
28161 00	Titanium dioxide (composite and pure) commodity weight) . . . . .	1,342,391	1,352,829	2,332,673	1,382,333	1,362,459	2,132,908
28163 13	Chrome green (C.P.) . . . . .	(D)	(D)	(D)	(D)	(D)	(D)
28163 15	Chrome yellow and orange (C.P.) . . . . .	5,939	(D)	(D)	8,300	8,172	28,405
28163 17	Molybdate chrome orange (C.P.) . . . . .	833	(D)	(D)	(D)	(D)	(D)
28163 18	Zinc yellow (zinc chromate) (C.P.) . . . . .	(D)	(D)	(D)	(D)	(D)	(D)
28163 19	Other chrome colors (C.P.) . . . . .	33,694	32,106	94,382	(D)	31,311	87,188
2819—	Inorganic chemicals, n.e.c. <sup>1 7</sup> . . . . .	(X)	(X)	14,454,398	(X)	(X)	14,178,730
28193 00	Sulfuric acid, gross (new and fortified) <sup>8</sup> . . . . .	47,770,349	13,014,773	571,745	47,519,289	12,677,743	539,334
28194 —	Inorganic acids (except nitric, phosphoric, and sulfuric) . . . . .	(X)	(X)	637,011	(X)	(X)	<sup>9</sup> 580,793
	Boric (boracic) . . . . .	(D)	(D)	(D)	(D)	(D)	(D)
	Hydrochloric acid, including anhydrous (100 percent HCl) <sup>9</sup> . . . . .	4,115,838	1,679,509	125,858	3,904,177	1,574,046	139,912
28194 41	From salt and acid <sup>10</sup> . . . . .	(D)	(D)	(D)	(D)	(D)	(D)
28194 45	From chlorine and hydrogen . . . . .	365,069	274,118	32,497	361,155	275,212	36,328
28194 47	Byproduct and other <sup>10</sup> . . . . .	3,750,769	1,405,765	93,713	3,543,022	1,298,834	103,584
28194 51	Hydrocyanic, including anhydrous (100 percent HCN) . . . . .	526,995	149,808	98,932	531,635	149,298	91,327
	Hydrofluoric (100 percent HF):						
	Produced and withdrawn from system:						
28194 61	Anhydrous <sup>11</sup> . . . . .	(D)	(D)	(D)	192,237	(D)	(D)
28194 65	Technical <sup>11</sup> . . . . .	(D)	(D)	(D)	(D)	(D)	(D)
28194 67	Mixed (sulfuric and nitric) (commodity weight) . . . . .	(D)	(D)	(D)	(D)	(D)	(D)
28194 98	Other inorganic acids, n.e.c., including chlorosulfonic and perchloric . . . . .	(X)	(X)	144,857	(X)	(X)	<sup>9</sup> 132,773
28195 00	Aluminum oxide (except natural alumina) . . . . .	4,744,034	4,824,885	1,004,275	4,764,011	4,871,911	1,035,700
28196 —	Aluminum compounds . . . . .	(X)	(X)	745,121	(X)	(X)	678,554
	Chloride:						
28196 13	Liquid and crystal (100 percent AlCl <sub>3</sub> ) . . . . .	31,464	(D)	(D)	<sup>7</sup> 27,106	(D)	(D)
28196 17	Anhydrous (100 percent AlCl <sub>3</sub> ) . . . . .	31,557	31,575	30,744	31,263	31,197	19,761
28196 25	Hydroxide, trihydrate (100 percent Al <sub>2</sub> O <sub>3</sub> ·3H <sub>2</sub> O) . . . . .	1,010,416	1,055,138	254,981	<sup>9</sup> 981,738	<sup>9</sup> 1,030,897	<sup>9</sup> 245,402
28196 27	Fluoride technical . . . . .	(D)	(D)	(D)	(D)	(D)	(D)
	Sulfate:						
28196 51	Commercial (17 percent Al <sub>2</sub> O <sub>3</sub> ), excluding municipalities . . . . .	1,196,673	1,146,994	117,810	1,143,748	1,101,185	108,931
28196 55	Iron-free (17 percent Al <sub>2</sub> O <sub>3</sub> ) . . . . .	132,957	132,905	15,648	170,583	173,915	17,100
28196 73	Aluminates (sodium aluminate, potassium aluminate, etc. (100 percent by weight) . . . . .	281,133	280,482	43,676	201,182	200,896	38,216
28196 79	Other inorganic aluminum compounds (e.g., light aluminum hydroxide, and cryolite) . . . . .	(X)	(X)	(D)	(X)	(X)	191,056

See footnotes at end of table.



Table 2a. Production and Shipments of Selected Inorganic Chemicals: 1996 and 1995—Con.

[Quantity in short tons. Value in thousands of dollars]

Product code	Product description	1996			1995		
		Total production (quantity)	Total shipments, including interplant transfers		Total production (quantity)	Total shipments, including interplant transfers	
			Quantity	Value		Quantity	Value
28197 —	Inorganic chemicals, n.e.c.—Con.						
	Potassium and sodium compounds (except bleaches, alkalis, and alums) . . . . .	(X)	(X)	2,003,042	(X)	(X)	1,988,639
	Potassium compounds, n.e.c.:						
28197 13	Iodide (100 percent KI) . . . . .	893	1,128	13,881	1,252	1,211	16,067
28197 16	Sulfate (100 percent K <sub>2</sub> SO <sub>4</sub> ) . . . . .	(D)	(D)	(D)	(D)	(D)	(D)
28197 18	Pyrophosphate (tetrapotassium pyrophosphate) (100 percent K <sub>4</sub> P <sub>2</sub> O <sub>7</sub> ) . . . . .	28,101	23,480	29,140	27,213	22,781	26,669
28197 23	Potassium phosphates (100 percent by weight) . . . . .	14,488	14,331	19,910	12,511	12,481	17,884
28197 24	Potassium silicates (100 percent by weight) . . . . .	9,197	9,248	7,155	(D)	(D)	(D)
28197 17	Other potassium salts and compounds, n.e.c., including potassium chlorate, nitrate, and perchlorate . . . . .	(X)	(X)	89,421	(X)	(X)	89,271
28197 21	Sodium (metal) (100 percent Na) . . . . .	(D)	(D)	(D)	(D)	(D)	(D)
	Sodium compounds, n.e.c.:						
28197 28	Sodium bromides (100 percent by weight) . . . . .	(D)	(D)	(D)	(D)	(D)	(D)
28197 27	Chlorate (100 percent NaClO <sub>3</sub> ) . . . . .	657,954	641,205	219,788	616,951	598,591	207,123
28197 29	Hydrosulfide (sodium sulfhydrate) (100 percent NaSH) . . . . .	104,322	105,357	30,981	124,041	123,695	39,637
28197 30	Hydrosulfite (100 percent Na <sub>2</sub> S <sub>2</sub> O <sub>4</sub> ) . . . . .	(D)	(D)	(D)	(D)	(D)	(D)
	Phosphate:						
28197 32	Monobasic (100 percent NaH <sub>2</sub> S <sub>2</sub> PO <sub>4</sub> ) <sup>12</sup> . . . . .	(D)	(D)	(D)	(D)	(D)	(D)
28197 33	Dibasic (100 percent Na <sub>2</sub> HPO <sub>4</sub> ) <sup>12</sup> . . . . .	21,123	20,732	27,205	20,723	21,371	28,405
28197 34	Tribasic (100 percent Na <sub>3</sub> PO <sub>4</sub> ) . . . . .	19,732	19,975	15,325	20,968	21,876	16,439
28197 35	Tetrabasic (pyro) (100 percent Na <sub>4</sub> P <sub>2</sub> O <sub>7</sub> ) . . . . .	(D)	13,323	12,969	(D)	15,607	15,334
28197 36	Meta (100 percent NaPO <sub>3</sub> ) . . . . .	45,946	37,764	39,509	43,275	39,324	36,598
28197 37	Acid pyro . . . . .	33,121	32,124	31,060	32,819	32,639	32,237
28197 38	Tripoly (100 percent Na <sub>5</sub> P <sub>3</sub> O <sub>10</sub> ) . . . . .	(D)	(D)	(D)	(D)	(D)	(D)
28197 39	Other sodium phosphates . . . . .	(X)	(X)	(D)	(X)	(X)	(D)
	Silicates:						
28197 41	Soluble silicate glass (water glass, solid, and liquid) (anhydrous) <sup>13</sup> . . . . .	1,104,820	681,879	148,075	1,203,396	637,698	150,059
28197 42	Metasilicate pentahydrate (100 percent Na <sub>2</sub> SiO <sub>3</sub> ) . . . . .	42,522	41,988	10,716	45,156	44,845	11,131
28197 44	Metasilicate anhydrous (100 percent Na <sub>2</sub> SiO <sub>3</sub> ) . . . . .	43,992	43,128	15,891	48,249	49,538	17,198
28197 51	Silicofluoride (100 percent Na <sub>2</sub> SiF <sub>6</sub> ) . . . . .	(D)	(D)	(D)	(D)	(D)	(D)
	Sulfate:						
28197 61	High purity (100 percent Na <sub>2</sub> SO <sub>4</sub> ) . . . . .	(D)	507,231	35,198	(D)	496,639	33,863
28197 66	Lower purity (100 percent Na <sub>2</sub> SO <sub>4</sub> ) and Glauber's salt (100 percent Na <sub>2</sub> SO <sub>4</sub> ·10H <sub>2</sub> O) . . . . .	(D)	(D)	(D)	(D)	(D)	(D)
28197 84	Sulfite (100 percent Na <sub>2</sub> SO <sub>3</sub> ) . . . . .	120,279	123,023	26,407	117,262	104,647	26,251
28197 85	Thiosulfate (hypo) (100 percent Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> ·5H <sub>2</sub> O) . . . . .	(D)	(D)	(D)	(D)	(D)	(D)
28197 87	Other sodium compounds, n.e.c., including sodium bisulfate, bifluoride, borate, fluoride, and other silicates, excluding bleaches . . . . .	(X)	(X)	713,829	(X)	(X)	711,316
28198 00	Chemical catalytic preparations . . . . .	(X)	(X)	1,692,219	(X)	(X)	1,625,387
28199 —	Other inorganic chemicals, n.e.c. . . . .	(X)	(X)	7,562,616	(X)	(X)	7,499,275
28199 01	Reagent and high purity grades of inorganic chemicals refined from purchased technical grades . . . . .	(X)	(X)	75,394	(X)	(X)	91,410
28199 02	Antimony compounds, excluding pigment grades . . . . .	(X)	(X)	144,788	(X)	(X)	121,843
	Barium compounds:						
28199 04	Carbonate (precipitated) (100 percent BaCO <sub>3</sub> ) . . . . .	(D)	(D)	(D)	(D)	(D)	(D)
28199 05	Sulfate (100 percent BaSO <sub>4</sub> ) . . . . .	(D)	(D)	(D)	(D)	(D)	(D)
28199 06	Other barium compounds, including barium chloride, nitrate, peroxide, and sulfide; excluding pigment grades . . . . .	(X)	(X)	28,525	(X)	(X)	21,097
28199 09	Bismuth compounds, excluding bismuth carbonate <sup>14</sup> . . . . .	(X)	(X)	11,185	(X)	(X)	13,855
28199 10	Bromine (isolated) (100 percent Br) . . . . .	(D)	(D)	(D)	(D)	(D)	(D)
28199 11	Cadmium compounds . . . . .	(X)	(X)	13,190	(X)	(X)	8,931
	Calcium compounds:						
28199 12	Carbide (commercial) . . . . .	(D)	(D)	(D)	(D)	(D)	(D)
28199 13	Carbonate (precipitated) (100 percent CaCO <sub>3</sub> ) . . . . .	1,550,611	1,485,325	214,201	1,540,445	1,550,037	215,252
28199 14	Chloride (100 percent CaCl <sub>2</sub> ) . . . . .	880,039	905,014	105,162	872,470	823,022	89,596
	Phosphates:						
28199 18	Monobasic (100 percent CaH <sub>4</sub> (PO <sub>4</sub> ) <sub>2</sub> )(21 percent P) . . . . .	780,334	779,452	186,714	801,326	805,544	190,516
28199 19	Dibasic (100 percent CaHPO <sub>4</sub> )(18.5 percent P) . . . . .	695,379	688,510	205,468	728,414	730,286	204,642
	Tribasic (100 percent Ca <sub>3</sub> (PO <sub>4</sub> ) <sub>2</sub> )(18 percent P):						
28742 71	Animal feed grades . . . . .	514,902	513,040	114,768	498,212	511,389	101,484
28199 22	Other grades . . . . .	30,800	31,678	28,743	37,697	37,109	30,260
28199 23	Other inorganic calcium compounds . . . . .	(X)	(X)	57,403	(X)	(X)	75,488
	Carbon activated:						
28199 25	Granular carbons (dry weight) . . . . .	94,664	93,325	187,444	83,952	90,149	167,157
28199 27	Pulverized carbons (dry weight) . . . . .	75,565	69,571	66,412	72,396	69,155	63,880

See footnotes at end of table.

Table 2a. Production and Shipments of Selected Inorganic Chemicals: 1996 and 1995—Con.

[Quantity in short tons. Value in thousands of dollars]

Product code	Product description	1996			1995		
		Total production (quantity)	Total shipments, including interplant transfers		Total production (quantity)	Total shipments, including interplant transfers	
			Quantity	Value		Quantity	Value
	Inorganic chemicals, n.e.c.—Con.						
	Other inorganic chemicals, n.e.c.—Con.						
	Chromium compounds:						
28199 33	Sodium bichromate and chromate (hydrous) . . . . .	(D)	(D)	(D)	(D)	(D)	(D)
28199 34	Other chromium compounds, including potassium bichromate and excluding chrome colors . . . . .	(X)	(X)	103,560	(X)	(X)	96,649
	Copper compounds:						
28199 35	Cuprous oxide (100 percent Cu <sub>2</sub> O) . . . . .	(D)	(D)	(D)	(D)	(D)	(D)
28199 37	Other copper compounds, including copper cyanide and copper sulfate . . . . .	(X)	(X)	81,894	(X)	(X)	'91,631
28199 38	Gold compounds . . . . .	(X)	(X)	(D)	(X)	(X)	(D)
28199 39	Hydrogen peroxide (100 percent by weight) <sup>15</sup> . . . . .	342,820	341,172	296,671	355,116	349,764	282,405
28199 40	Iodine, crude or resublimed (100 percent I) . . . . .	(D)	(D)	(D)	(D)	(D)	(D)
	Iron compounds:						
28199 42	Ferric chloride (100 percent FeCl <sub>3</sub> ) . . . . .	220,589	235,896	36,069	209,193	223,310	'36,817
28199 43	Iron oxides and hydroxides (100 percent by weight), excluding iron oxide pigments . . . . .	39,618	35,236	19,786	36,806	37,566	9,972
28199 44	Other iron compounds, including ferrous sulfate . . . . .	(X)	(X)	61,414	(X)	(X)	66,970
28199 45	Lithium compounds . . . . .	(X)	(X)	(D)	(X)	(X)	(D)
	Magnesium compounds:						
28199 48	Chloride (100 percent MgCl <sub>2</sub> ) . . . . .	649,848	312,337	8,461	'487,246	218,570	13,754
28199 49	Sulfate (100 percent MgSO <sub>4</sub> ) . . . . .	(D)	(D)	(D)	(D)	(D)	(D)
28199 50	Other magnesium compounds, including magnesium and epsom salts . . . . .	(X)	(X)	74,608	(X)	(X)	73,661
	Manganese compounds:						
28199 51	Dioxide (100 percent MnO <sub>2</sub> ) . . . . .	68,595	70,942	103,414	70,099	70,134	101,167
28199 52	Other manganese compounds, including potassium, and other permanganates, battery grade, and manganese sulfate . . . . .	(X)	(X)	64,211	(X)	(X)	69,957
	Mercury and compounds:						
28199 53	Mercury, redistilled (quantity in pounds) . . . . .	(D)	(D)	(D)	(D)	(D)	(D)
28199 54	Other mercury compounds, including mercuric oxide; excluding mercuric fulminate and medicinal grades. . . . .	(X)	(X)	(D)	(X)	(X)	158
	Molybdenum compounds:						
28199 5A	Oxides (100 percent by weight) . . . . .	(D)	(D)	(D)	(D)	(D)	(D)
28199 5B	Molybdates (ammonium molybdate, sodium molybdates, etc.) (100 percent by weight) . . . . .	(D)	(D)	(D)	(D)	(D)	(D)
28199 5C	Other molybdenum compounds . . . . .	(X)	(X)	(D)	(X)	(X)	(D)
	Nickel compounds:						
28199 56	Oxides and hydroxides (100 percent by weight) . . . . .	(D)	(D)	(D)	(D)	(D)	(D)
28199 57	Chloride (100 percent NiCl <sub>2</sub> ) . . . . .	(D)	(D)	(D)	(D)	(D)	(D)
28199 55	Sulfate (100 percent NiSO <sub>4</sub> ) . . . . .	(D)	(D)	(D)	(D)	(D)	(D)
28199 59	Other nickel compounds . . . . .	(X)	(X)	47,210	(X)	(X)	'71,987
	Phosphorus and compounds:						
28199 58	Phosphorus, elemental (technical) . . . . .	(D)	(D)	(D)	(D)	271,712	381,951
28199 60	Oxychloride (100 percent POCl <sub>3</sub> ) . . . . .	36,687	(D)	(D)	39,699	9,591	7,580
28199 61	Pentasulfide (100 percent P <sub>2</sub> S <sub>5</sub> ) . . . . .	65,677	49,814	49,663	63,015	(D)	(D)
28199 63	Trichloride (chloride) (100 percent PCl <sub>3</sub> ) . . . . .	205,431	54,508	39,114	186,358	51,368	35,745
28199 64	Other phosphorus compounds, including phosphorus pentoxide . . . . .	(X)	(X)	(D)	(X)	(X)	(D)
28199 65	Rare earth compounds . . . . .	(X)	(X)	88,637	(X)	(X)	'86,675
	Silicon compounds:						
28199 66	Silicon tetrachloride (100 percent SiCl <sub>4</sub> ) . . . . .	(D)	(D)	(D)	(D)	(D)	(D)
28199 67	Silica gel . . . . .	(X)	(X)	51,682	(X)	(X)	'46,663
28199 68	Other silicon compounds . . . . .	(X)	(X)	(D)	(X)	(X)	60,877
28199 73	Silver compounds . . . . .	(X)	(X)	(D)	(X)	(X)	(D)
	Strontium compounds:						
28199 71	Carbonate (100 percent SO <sub>2</sub> ) . . . . .	(D)	(D)	(D)	(D)	(D)	(D)
28199 72	Other strontium compounds . . . . .	(X)	(X)	5,877	(X)	(X)	5,185
	Sulfur and sulfur compounds:						
28199 74	Sulfur, recovered elemental (metric tons) <sup>16</sup> . . . . .	11,400	13,000	494,000	11,500	13,000	569,000
28199 75	Sulfur dioxide (produced for sale) (100 percent SO <sub>2</sub> ) . . . . .	207,697	210,113	36,002	211,758	218,516	35,960
28199 78	Other sulfur compounds, including sulfur chloride . . . . .	(X)	(X)	90,599	(X)	(X)	'84,342
28199 83	Tin compounds . . . . .	(X)	(X)	(D)	(X)	(X)	(D)
	Tungsten compounds:						
28199 84	Tungstates (ammonium tungstate, sodium tungstate, etc.) (100 percent by weight) . . . . .	(D)	(D)	(D)	(D)	(D)	(D)
28199 85	All other tungsten compounds . . . . .	(X)	(X)	295	(X)	(X)	243

See footnotes at end of table.

Table 2a. Production and Shipments of Selected Inorganic Chemicals: 1996 and 1995—Con.

[Quantity in short tons. Value in thousands of dollars]

Product code	Product description	1996		1995			
		Total production (quantity)	Total shipments, including interplant transfers		Total production (quantity)	Total shipments, including interplant transfers	
			Quantity	Value		Quantity	Value
	Inorganic chemicals, n.e.c.—Con.						
	Other inorganic chemicals, n.e.c.—Con.						
	Zinc compounds:						
28199 87	Sulfate (100 percent ZnSO <sub>4</sub> H <sub>2</sub> O) . . . . .	50,196	48,249	24,744	42,814	43,388	
28199 86	Oxide and peroxide (100 percent by weight) . . . . .	(D)	(D)	(D)	(D)	(D)	
28199 88	Chloride (100 percent ZnCl <sub>2</sub> ) . . . . .	(D)	(D)	(D)	(D)	(D)	
28199 89	Other zinc compounds, excluding pigment grades . . . . .	(X)	(X)	31,532	(X)	29,785	
28199 90	Platinum, radium, tantalum, and thallium . . . . .	(X)	(X)	(D)	(X)	(D)	
28199 98	All other inorganic chemicals, including nuclear fuels titanium tetrachloride, and other titanium compounds . . . . .	(X)	(X)	2,244,888	(X)	2,048,042	
28190 00	Industrial inorganic chemicals, n.s.k. <sup>1</sup> . . . . .	(X)	(X)	238,369	(X)	231,048	
	Chlorine and other inorganic bleaching compounds . . . . .	777,875	783,587	1,154,081	736,358	744,794	
28422 —	Household . . . . .	301,136	311,888	870,334	307,214	319,796	
28422 43	Liquid (sodium hypochlorite, etc.) (less than 7 percent available chlorine or equivalent oxidizing value) (100 percent Cl equivalent) . . . . .	245,340	252,231	683,468	251,229	255,534	
28422 53	Dry (calcium hypochlorite, etc.) (less than 50 percent available chlorine or equivalent oxidizing value) (100 percent Cl equivalent) . . . . .	55,796	59,657	186,866	55,985	64,262	
28199 00	Industrial . . . . .	476,739	471,699	283,747	429,144	424,998	
28199 30	Liquid (sodium hypochlorite, etc.) (7 percent or more available chlorine or equivalent oxidizing value) (100 percent Cl equivalent) . . . . .	(D)	(D)	(D)	(D)	(D)	
28199 15	Dry (calcium hypochlorite, etc.) (50 percent or more available chlorine or equivalent oxidizing value) (100 percent Cl equivalent) . . . . .	(D)	(D)	(D)	(D)	(D)	

D Withheld to avoid disclosing data for individual companies. NA Not available. n.e.c. Not elsewhere classified. n.s.k. Not specified by kind. <sup>1</sup>Revised by 5 percent or more from previously published data. X Not applicable.

<sup>1</sup>Totals include values for industrial inorganic chemicals not specified by kind (n.s.k). N.s.k. represents value of shipments for establishments that did not provide detailed information by type of product. These establishments, typically with less than 10 employees, are not included on mailing panel. N.s.k. value has been estimated based on rate of change for reporting establishments applied to previous year's data.

<sup>2</sup>Includes quantities liquefied for use, storage, or shipments.

<sup>3</sup>Includes quantities later evaporated to dry caustic soda and reported as such.

<sup>4</sup>Includes some liquid shipped as interplant transfers to other establishments for further processing to dry forms. Product code 28123 61, "Sodium hydroxide liquid, 68 to 74 percent," is combined with product code 28123 65, "Sodium hydroxide liquid, all other," to avoid disclosing data for individual companies.

<sup>5</sup>Includes unspecified amounts produced from liquid caustic received from other establishments.

<sup>6</sup>Source: U.S. Geological Survey. Quantity in thousand short tons.

<sup>7</sup>Includes value of inorganic chemicals shipped by establishments classified in both "manufacturing" and "nonmanufacturing" industries.

<sup>8</sup>Detail data for sulfuric acid are found in Table 2b.

<sup>9</sup>Includes anhydrous hydrochloric acid production. Quantity of shipments is 145,920 short tons in 1996 and 140,322 short tons in 1995; value of shipments of \$26,128 in 1996 and \$35,958 in 1995. Quantity of production is withheld to avoid disclosing data for individual companies.

<sup>10</sup>Product code 28194 41, "Hydrochloric acid produced from salt and acid" is combined with product code 28194 47, "Hydrochloric acid byproduct and other" to avoid disclosing data for individual companies.

<sup>11</sup>Product code 28194 65, "Hydrofluoric acid technical produced and withdrawn from the system" is combined with product code 28194 61, "Hydrofluoric acid anhydrous produced and withdrawn from system" to avoid disclosing data for individual companies.

<sup>12</sup>Represents quantities produced only for sale or interplant transfer.

<sup>13</sup>Quantity produced excludes quantities consumed in manufacture of meta-, ortho-, and sequisilicates. Shipments data include unspecified amounts shipped to other plants for use in manufacturing meta-, ortho-, and sequisilicates.

<sup>14</sup>Product code 28199 09 excludes bismuth carbonate, which is classified as a medicinal chemical and is out of scope of this survey.

<sup>15</sup>Production includes unspecified amounts of hydrogen peroxide produced but not withdrawn from system.

<sup>16</sup>Source: U.S. Geological Survey. Quantity in thousand short tons; value in thousand dollars. Includes data for Puerto Rico and the Virgin Islands. Shipped quantity and value include "Frasch sulfur" data to conform with proprietary data requirements. Data for 1996 are estimated.

Note: Percent of estimation of each item is indicated as follows: <sup>a</sup>20 percent or more of this item is estimated.

Table 2b. Production and Shipments of Fertilizer Materials: 1996 and 1995

[Quantity in thousands of short tons. Value in millions of dollars]

Product code	Chemical and basis	1996			1995		
		Total production (quantity)	Total shipments, including interplant transfers		Total production (quantity)	Total shipments, including interplant transfers	
			Quantity	Value		Quantity	Value
28193 —	Sulfuric acid, gross (new and fortified) . . . . .	47,770.3	13,014.8	571.7	47,519.3	12,677.7	539.3
	By feedstock:						
28193 32	Elemental sulfur . . . . .	39,625.3	7,269.1	373.3	38,268.4	7,203.9	357.8
28193 34	Smelting metallic sulfide ore . . . . .	3,900.7	3,416.9	50.7	3,764.5	3,358.0	56.7
28193 36	Decomposition of alkylation and other spent acid . . . . .	3,590.2	2,091.5	135.3	4,937.4	1,934.3	115.7
28193 38	Other . . . . .	654.1	237.2	12.5	549.0	181.5	9.2
	By grade:						
28193 11	Oleum under 40 percent . . . . .	1,304.3	888.3	60.6	1,313.7	849.2	44.3
28193 21	Oleum 40 percent and more . . . . .	226.5	256.5	14.4	253.3	259.6	14.5
28193 31	Other than oleum <sup>1</sup> . . . . .	46,239.5	11,870.0	496.8	45,952.2	11,569.0	480.5
28731 —	Synthetic ammonia, nitric acid, and ammonium compounds . . . . .	(X)	(X)	3,817.6	(X)	(X)	3,705.2
28731 11	Nitric acid (100 percent HNO <sub>3</sub> ) <sup>2</sup> . . . . .	9,204.8	1,460.9	196.9	8,839.0	1,291.1	168.2
28731 31	Ammonia, synthetic anhydrous (100 percent NH <sub>3</sub> ) <sup>3</sup> . . . . .	17,762.1	9,919.1	1,689.6	17,402.2	9,722.8	1,661.6
28731 30	Fertilizer use . . . . .	15,456.6	8,286.9	1,371.4	15,176.2	8,194.7	1,405.4
28731 32	Other uses . . . . .	2,305.5	1,632.3	318.2	2,226.0	1,528.1	256.2
	Ammonium nitrate:						
28731 44	Original melt liquor (100 percent NH <sub>4</sub> NO <sub>3</sub> ) <sup>4</sup> . . . . .	9,026.0	4,335.2	652.7	8,489.1	4,467.9	636.0
	Consumed in the manufacture of:						
	Other nitrogen solutions (100 percent NH <sub>4</sub> NO <sub>3</sub> ) . . . . .	406.2	(X)	(X)	588.4	(X)	(X)
28731 46	Ammonium nitrate-urea solutions . . . . .	4,195.3	(X)	(X)	3,491.3	(X)	(X)
28731 47	High density prill and granular . . . . .	2,505.2	2,469.6	363.4	2,496.6	2,578.9	344.1
28731 48	Low density prill and grained . . . . .	1,556.2	1,539.5	346.1	1,585.5	1,562.9	247.0
28731 49	All other (liquor sales, etc.) . . . . .	363.2	326.1	43.3	327.3	326.1	44.9
28731 57	Ammonium sulfate, synthetic and byproduct other than coke oven byproduct (100 percent (NH <sub>4</sub> ) <sub>2</sub> SO <sub>4</sub> ) <sup>5</sup> . . . . .	2,662.0	2,543.5	213.6	2,646.7	2,551.7	195.3
28731 56	Synthetic . . . . .	(D)	(D)	(D)	(D)	(D)	(D)
28731 58	Byproduct, other than coke oven . . . . .	(D)	(D)	(D)	(D)	(D)	(D)
28731 55	Nitrogen solutions (100 percent N), including mixtures containing urea . . . . .	3,649.8	3,665.7	1,006.1	3,602.9	3,593.9	983.4
28731 66	Ammonium nitrate/urea solutions . . . . .	3,529.3	3,547.2	983.0	3,432.9	3,466.1	961.6
28731 68	All other compounds and solutions (e.g. CAN17, AN20, AAN and others) and solutions containing free ammonia, including data for solutions containing two or more products such as (a) ammonia, ammonium-nitrate; (b) ammonia, urea; (c) ammonia, ammonium-nitrate, urea <sup>5</sup> . . . . .	120.5	118.5	23.1	170.0	127.9	21.8
28731 69	Other ammonium compounds, including ammonium chloride, gray and white . . . . .	(X)	(X)	58.7	(X)	(X)	60.7
28732 —	Urea original melt liquor (100 percent) . . . . .	8,528.0	5,781.4	911.9	8,117.1	5,266.1	849.9
	Consumed in the manufacture of:						
28732 17	Urea-ammonium nitrate solutions . . . . .	2,761.2	(X)	(X)	2,618.6	(X)	(X)
28732 19	Prills . . . . .	2,736.4	2,746.3	397.7	2,589.5	2,458.6	352.2
28732 20	Granular . . . . .	2,765.1	2,750.4	479.5	2,667.5	2,564.0	470.2
28732 23	All other (liquor sales, melamine, feedstock, other) . . . . .	265.3	284.7	34.7	241.5	243.4	27.4
28741 —	Phosphoric acid (100 percent P <sub>2</sub> O <sub>5</sub> ) . . . . .	13,210.0	4,401.8	1,226.8	13,133.8	4,409.3	1,219.5
28741 81	Thermal . . . . .	306.5	156.7	124.0	318.6	162.3	139.3
28741 85	Wet . . . . .	12,903.5	4,245.1	1,102.8	12,815.2	4,247.0	1,080.3
	By use:						
28741 86	Fertilizer . . . . .	11,877.6	(D)	(D)	11,914.4	(D)	(D)
28741 87	Feed and other . . . . .	1,026.0	(D)	(D)	900.7	(D)	(D)
	By grade:						
28741 88	Ortho (less than 65 percent P <sub>2</sub> O <sub>5</sub> ) . . . . .	11,479.6	3,026.9	776.8	11,658.5	3,294.3	804.5
28741 89	Super (65 percent or more P <sub>2</sub> O <sub>5</sub> ) . . . . .	1,423.9	1,218.3	326.1	1,153.6	952.7	275.8
28742 —	Superphosphates and other phosphatic fertilizer materials: <sup>6</sup>						
	Gross weight . . . . .	20,758.7	20,425.1	(X)	20,531.3	20,197.5	(X)
	Phosphoric oxide content (100 percent P <sub>2</sub> O <sub>5</sub> ) . . . . .	10,549.4	10,497.9	3,934.3	10,364.2	10,231.0	3,594.3
28742 15, 41	Normal, enriched, and concentrated superphosphates:						
	Gross weight . . . . .	1,841.3	1,604.5	(X)	1,830.7	1,611.3	(X)
	Phosphoric oxide content (100 percent P <sub>2</sub> O <sub>5</sub> ) . . . . .	822.8	763.2	307.9	807.8	767.7	214.6
28742 51	Monoammonium phosphates:						
	Gross weight . . . . .	3,305.1	3,889.0	(X)	2,841.4	2,791.7	(X)
	Phosphoric oxide content (100 percent P <sub>2</sub> O <sub>5</sub> ) . . . . .	1,782.8	1,759.8	657.9	1,528.8	1,497.6	527.2
28742 52	Diammonium phosphates:						
	Gross weight . . . . .	15,033.3	14,293.6	(X)	15,349.6	15,265.8	(X)
	Phosphoric oxide content (100 percent P <sub>2</sub> O <sub>5</sub> ) . . . . .	7,590.2	7,617.2	2,853.4	7,739.3	7,669.7	2,770.0
28742 55, 61	Other ammonium phosphates and other phosphatic fertilizer materials:						
	Gross weight . . . . .	636.2	638.1	(X)	561.2	528.7	(X)
	Phosphoric oxide content (100 percent P <sub>2</sub> O <sub>5</sub> ) . . . . .	353.6	357.6	115.1	288.2	295.9	82.4

D Withheld to avoid disclosing data for individual companies. <sup>1</sup>Revised by 5 percent or more from previously published data. X Not applicable.<sup>1</sup>Data for "Other than oleum" includes chamber process acid.<sup>2</sup>Includes unspecified amounts of nitric acid produced but not withdrawn from system.<sup>3</sup>Excludes data for byproduct ammonia liquor and ammonium sulfate published by the Department of Energy.<sup>4</sup>Represents total amount of original solution produced, including amounts used for fertilizer, explosives, and other uses and amounts consumed in manufacturing other products such as "Nitrogen solutions" (product code 28731 55).<sup>5</sup>Ammonium nitrate/calcium nitrate solutions" (product code 28731 73) and "All other two-component products" (product code 28731 67) are combined with "Solutions containing ammonia" (product code 28731 65) to form a new product code (28731 68) for 1996.<sup>6</sup>Value for gross weight and (100 percent P<sub>2</sub>O<sub>5</sub>) are same value for each 28742 product code.

Table 3. Quantities of Selected Inorganic Acids and Fertilizer Materials Produced and Consumed in Same Plant: 1996 and 1995

[Thousands of short tons]

Product code	Product description	Basis	Consumed in producing plants	
			1996	1995
28194 41	Hydrochloric acid, including anhydrous .....	100 percent HCl .....	2,491.3	2,427.1
28194 45	From salt and acid <sup>1</sup> .....	.....do .....	(D)	(D)
28194 47	From chlorine and hydrogen .....	.....do .....	82.8	78.0
28194 47	Byproduct and other <sup>1</sup> .....	.....do .....	2,408.6	2,349.1
28194 51	Hydrocyanic acid, including anhydrous .....	100 percent HCN .....	392.0	397.9
28194 61, 65	Hydrofluoric acid: Anhydrous and technical .....	100 percent HF .....	(D)	(D)
28194 67	Mixed acids (sulfuric and nitric) .....	Commodity weight .....	(D)	(D)
28193 —	Sulfuric acid, gross (new and fortified) .....	100 percent H <sub>2</sub> SO <sub>4</sub> .....	33,500.6	34,998.8
28731 11	Nitric acid .....	100 percent HNO <sub>3</sub> .....	7,962.3	7,888.1
28731 30, 32	Ammonia (synthetic) anhydrous <sup>2</sup> .....	100 percent HN <sub>3</sub> .....	7,754.9	7,418.4
28731 45	Ammonium nitrate: Other nitrogen solutions <sup>3</sup> .....	100 percent NH <sub>4</sub> NO <sub>3</sub> .....	406.2	588.4
28731 46	Urea-ammonium nitrate solutions .....	.....do .....	4,195.3	3,491.3
28731 47	High density prill and grained .....	.....do .....	(D)	152.1
28731 48	Low density prill and granular .....	.....do .....	(D)	(D)
28731 49	All other .....	.....do .....	71.9	(D)
28731 57	Ammonium sulfate <sup>2</sup> .....	100 percent (NH <sub>4</sub> ) <sub>2</sub> SO <sub>4</sub> .....	(D)	(D)
28731 17	Urea: Urea-ammonium nitrate solutions .....	100 percent urea .....	2,761.2	2,616.9
28731 19	Prills .....	.....do .....	(D)	(D)
28731 20	Granular .....	.....do .....	53.5	29.8
28731 23	All other .....	.....do .....	(D)	(D)
28741 81	Phosphoric acid .....	100 percent P <sub>2</sub> O <sub>5</sub> .....	8,855.1	8,748.6
28741 85	Thermal .....	.....do .....	(D)	(D)
28741 85	Wet .....	.....do .....	(D)	(D)
28742 —	Superphosphates and other fertilizer materials .....	.....do .....	37.7	51.5

D Withheld to avoid disclosing data for individual companies.

<sup>1</sup>Product code 28194 41, "Hydrochloric acid from salt and acid" is combined with product code 28194 47, "Hydrochloric acid byproduct and other" to avoid disclosing data for individual companies.<sup>2</sup>Excludes data for byproduct ammonia liquor and ammonium sulfate published by the Department of Energy.<sup>3</sup>Excludes amount converted to solid nitrate.

Table 4. Summary of Selected Fertilizer Materials/Interplant Transfers: 1996 and 1995

[Quantity in thousands of short tons. Value in millions of dollars]

Product code	Product description	Basis	1996		1995	
			Quantity	Value	Quantity	Value
28193 —	Sulfuric acid, gross (new and fortified) .....	100 percent H <sub>2</sub> SO <sub>4</sub> .....	2,102.2	42.5	1,800.0	38.7
28193 11	Oleum under 40 percent .....	.....do .....	(D)	(D)	(D)	(D)
28193 21	Oleum 40 percent or more .....	.....do .....	(D)	(D)	(D)	(D)
28193 31	Other than oleum <sup>1</sup> .....	.....do .....	2,061.7	40.9	1,756.6	36.4
28731 31	Ammonia, synthetic anhydrous <sup>2</sup> .....	100 percent NH <sub>3</sub> .....	928.5	158.9	892.6	121.2
28731 30	Fertilizer use .....	.....do .....	(D)	(D)	(D)	(D)
28731 32	Other uses .....	.....do .....	(D)	(D)	(D)	(D)
28731 57	Ammonium sulfate <sup>2</sup> .....	100 percent (NH <sub>4</sub> ) <sub>2</sub> SO <sub>4</sub> .....	(D)	(D)	(D)	(D)
28731 11	Nitric acid .....	100 percent HNO <sub>3</sub> .....	(D)	(D)	(D)	(D)
28732 —	Urea .....	100 percent urea .....	(D)	(D)	(D)	(D)
28741 81, 85	Phosphoric acid .....	100 percent P <sub>2</sub> O <sub>5</sub> .....	1,877.9	418.5	1,745.5	391.2
28742 —	Superphosphates and other phosphatic fertilizer materials .....	.....do .....	(D)	(D)	(D)	(D)

D Withheld to avoid disclosing data for individual companies.

<sup>1</sup>Data for "Other than oleum" include chamber process acid.<sup>2</sup>Excludes data for byproduct ammonia liquor and ammonium sulfate published by the Department of Energy.

Table 5. Sodium Sulfate, Production and Number of Establishments by Process: 1996 and 1995

[Net tons of 100 percent Na<sub>2</sub>SO<sub>4</sub>]

Process	Number of establishments <sup>1</sup>		Production	
	1996	1995	1996	1995
<b>Total</b> .....	<b>14</b>	<b>14</b>	<b>663,588</b>	<b>710,853</b>
Natural.....	2	2	(D)	(D)
Viscose rayon .....	3	3	(D)	(D)
Sodium dichromate.....	1	1	(D)	(D)
Phenol, boric acid, formic acid, and other .....	8	8	157,484	<sup>1</sup> 186,482

D Withheld to avoid disclosing data for individual companies. <sup>1</sup>Revised by 5 percent or more from previously published data.<sup>1</sup>Processes used to manufacture sodium sulfate are specified in the SRI, Directory of Chemical Producers, 1996.Note: Net tons includes Glauber's salt converted to 100 percent Na<sub>2</sub>SO<sub>4</sub>.

Table 6. Production of Specified Inorganic Chemicals by States: 1996 and 1995

[Short tons]

Geographic area	Hydrochloric acid (100 percent HCl) (2819441, 445, and 447)		Aluminum sulfate commercial (17 percent Al <sub>2</sub> O <sub>3</sub> ) (2819651)		Chlorine gas (2812111)		Sodium hydroxide (all processes) (2812350)	
	1996	1995	1996	1995	1996	1995	1996	1995
<b>United States</b> .....	<b>4,115,838</b>	<b>3,904,177</b>	<b>1,196,673</b>	<b>1,143,748</b>	<b>12,460,241</b>	<b>12,395,320</b>	<b>11,562,556</b>	<b>11,408,324</b>
Alabama .....	(D)	<sup>1</sup> 73,257	(D)	(D)	(D)	640,877	(D)	(D)
Arkansas.....	(D)	(D)	(D)	(D)	-	-	-	-
California.....	(D)	(D)	65,267	64,056	-	(D)	-	-
Colorado.....	-	-	(D)	(D)	-	-	-	-
Delaware.....	(D)	(D)	-	-	(D)	(D)	(D)	(D)
Florida.....	-	-	(D)	(D)	-	-	-	-
Georgia.....	(D)	(D)	114,933	119,792	(D)	(D)	(D)	(D)
Illinois.....	(D)	(D)	(D)	(D)	-	-	-	-
Indiana.....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Kansas.....	(D)	(D)	-	-	(D)	(D)	(D)	(D)
Kentucky.....	(D)	281,417	-	-	(D)	(D)	(D)	(D)
Louisiana.....	1,293,292	1,125,401	91,241	93,496	4,940,309	4,785,854	4,948,398	4,735,836
Maine.....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Maryland.....	(D)	(D)	(D)	(D)	-	-	(D)	(D)
Massachusetts.....	-	-	(D)	(D)	-	-	-	-
Michigan.....	(D)	69,946	(D)	(D)	-	-	-	-
Minnesota.....	-	-	(D)	(D)	-	-	-	-
Mississippi.....	-	-	(D)	(D)	(D)	(D)	-	-
Missouri.....	-	-	-	-	-	-	-	-
Montana.....	-	-	(D)	(D)	-	-	-	-
Nevada.....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
New Jersey.....	(D)	<sup>1</sup> 15,364	(D)	(D)	-	-	(D)	(D)
New Mexico.....	-	-	-	-	-	-	-	-
New York.....	(D)	(D)	-	-	(D)	(D)	(D)	(D)
North Carolina.....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Ohio.....	(D)	(D)	(D)	60,411	(D)	(D)	-	-
Oklahoma.....	-	-	-	-	(D)	(D)	(D)	(D)
Oregon.....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Pennsylvania.....	-	-	(D)	(D)	-	-	-	-
South Carolina.....	-	-	(D)	(D)	-	-	-	-
Tennessee.....	(D)	(D)	58,130	40,212	(D)	(D)	(D)	(D)
Texas.....	1,474,182	1,466,157	37,597	(D)	(D)	(D)	(D)	(D)
Utah.....	-	-	(D)	(D)	(D)	(D)	-	-
Virginia.....	-	-	(D)	(D)	-	-	-	-
Washington.....	(D)	(D)	(D)	(D)	414,018	425,238	459,264	473,267
West Virginia.....	(D)	(D)	-	-	(D)	(D)	(D)	(D)
Wisconsin.....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Wyoming.....	-	-	-	-	-	-	180,080	<sup>1</sup> 177,299

- Represents zero. D Withheld to avoid disclosing data for individual companies. <sup>1</sup>Revised by 5 percent or more from previously published data.

Table 7. Total Shipments (Including Interplant Transfers) of Sulfuric Acid by States: 1996 and 1995

[Quantity in thousands of short tons of 100 percent H<sub>2</sub>SO<sub>4</sub>. Value in millions of dollars]

State	1996		1995	
	Quantity	Value	Quantity	Value
<b>United States</b> .....	<b>13,014.8</b>	<b>571.7</b>	<b>12,677.7</b>	<b>553.3</b>
Arizona .....	(D)	(D)	(D)	(D)
California .....	935.8	(D)	766.3	39.2
Florida .....	879.7	26.5	806.6	26.4
Georgia .....	419.9	18.7	338.5	15.2
Illinois .....	(D)	(D)	(D)	(D)
Louisiana .....	2,006.4	113.4	2,009.7	106.3
New Jersey .....	(D)	(D)	(D)	(D)
Ohio .....	352.4	27.1	340.7	27.6
Texas .....	1,893.5	114.5	1,857.1	94.9
Virginia .....	(D)	(D)	(D)	(D)
Washington .....	(D)	(D)	(D)	(D)
Other states .....	3,995.9	160.7	4,151.5	160.4

D Withheld to avoid disclosing data for individual companies.

Table 8. Production of New Sulfuric Acid by States: 1996 and 1995

[Thousands of short tons of 100 percent H<sub>2</sub>SO<sub>4</sub>]

State	1996 <sup>1</sup>	1995 <sup>1</sup>
<b>United States</b> .....	<b>44,180.2</b>	<b>42,581.9</b>
Arizona .....	2,402.5	2,222.4
California .....	1,353.9	<sup>r</sup> 1,189.4
Florida .....	20,893.9	20,478.6
Georgia .....	577.5	514.3
Illinois .....	(D)	(D)
Louisiana .....	6,169.6	6,357.5
Missouri .....	(D)	(D)
New Jersey .....	(D)	(D)
New Mexico .....	(D)	(D)
Ohio .....	420.3	451.0
Oklahoma and Texas .....	4,198.8	<sup>r</sup> 4,116.9
Virginia .....	(D)	(D)
Washington .....	(D)	(D)
Other states .....	5,885.8	<sup>r</sup> 4,854.4

D Withheld to avoid disclosing data for individual companies. <sup>r</sup>Revised by 5 percent or more from previously published data.<sup>1</sup>Includes data for government-owned, privately operated plants.

Table 9a. Primary Production and Stocks of Specified Inorganic Chemicals by Quarter: 1996 and 1995

[Short tons]

Product code	Product description	Year	Total	First quarter	Second quarter	Third quarter	Fourth quarter	Stocks on hand December 31
	Hydrochloric acid (100 percent HCl):							
	Total .....	1996 .....	4,115,838	902,491	1,027,823	1,080,459	1,105,065	(NA)
28194 41	From salt and acid <sup>1</sup> .....	1995 .....	3,904,177	942,821	987,654	976,193	997,509	(NA)
		1996 .....	(D)	(D)	(D)	(D)	(D)	(NA)
		1995 .....	(D)	(D)	(D)	(D)	(D)	(NA)
28194 45	From chlorine and hydrogen .....	1996 .....	365,069	92,840	91,965	86,644	93,620	(NA)
		1995 .....	361,155	91,733	87,103	90,180	92,139	(NA)
28194 47	Byproduct and other <sup>1</sup> .....	1996 .....	3,750,769	809,651	935,858	993,815	1,011,445	(NA)
		1995 .....	3,543,022	851,088	900,551	886,013	905,370	(NA)
	Hydrofluoric acid (100 percent HF):							
	Produced and withdrawn from system:							
28194 61, 65	Anhydrous and technical .....	1996 .....	(D)	(D)	(D)	(D)	(D)	(NA)
		1995 .....	192,237	53,023	53,759	38,727	46,728	(NA)
28194 11	Boric (boracic) (100 percent H <sub>3</sub> BO <sub>3</sub> ) .....	1996 .....	(D)	(D)	(D)	(D)	(D)	(D)
		1995 .....	(D)	(D)	(D)	(D)	(D)	(D)
	Chlorine (100 percent Cl):							
28121 11	Total gas <sup>2</sup> .....	1996 .....	12,460,241	2,805,421	3,266,733	3,174,031	3,214,056	(NA)
		1995 .....	12,395,320	3,090,693	3,097,485	3,125,305	3,081,837	(NA)
28121 15	Total liquid .....	1996 .....	10,007,055	2,228,086	2,655,937	2,509,269	2,613,763	(NA)
		1995 .....	10,162,671	2,510,994	2,526,467	2,595,553	2,529,657	(NA)
28125 21	Potassium hydroxide liquid <sup>3</sup> .....	1996 .....	499,915	93,453	(D)	128,374	(D)	(NA)
		1995 .....	(D)	(D)	(D)	(D)	125,112	(NA)
28125 30	Sodium bicarbonate, finished (100 percent NaHCO <sub>3</sub> ) .....	1996 .....	501,951	122,803	121,973	126,680	130,495	(NA)
		1995 .....	519,804	120,335	136,737	126,906	135,826	(NA)
	Sodium hydroxide (caustic soda) (100 percent NaOH) (all processes):							
28123 50	Liquid <sup>4</sup> .....	1996 .....	11,562,556	2,646,292	3,060,542	2,938,239	2,917,483	424,071
		1995 .....	11,408,324	3,000,679	2,874,276	2,953,017	2,580,352	387,376
28123 67	Dry (all forms) .....	1996 .....	(D)	(D)	(D)	(D)	(D)	(NA)
		1995 .....	(D)	(D)	(D)	(D)	(D)	(NA)
28125 90, 14745 11	Sodium carbonate, natural and synthetic <sup>5</sup> ..	1996 .....	10,942	2,609	2,817	2,706	2,810	299
		1995 .....	11,025	2,694	2,649	2,756	2,926	337
28195 00	Aluminum oxide (alumina) (100 percent Al <sub>2</sub> O <sub>3</sub> ) .....	1996 .....	4,744,034	1,200,674	1,196,645	1,207,870	1,138,845	<sup>a</sup> 94,679
		1995 .....	4,764,011	1,058,929	1,151,854	1,278,094	1,275,134	<sup>a</sup> 91,098
28196 17	Aluminum chloride (anhydrous) (100 percent AlCl <sub>3</sub> ) .....	1996 .....	31,557	7,975	8,884	7,815	6,883	(NA)
		1995 .....	31,263	7,634	8,058	7,465	8,106	(NA)
28196 51	Aluminum sulfate (commercial) (17 percent Al <sub>2</sub> O <sub>3</sub> ) <sup>6</sup> .....	1996 .....	1,196,673	275,208	300,479	327,552	293,434	(NA)
		1995 .....	1,143,748	269,038	289,806	314,388	270,516	(NA)
28199 12	Calcium carbide (commercial) .....	1996 .....	(D)	(D)	(D)	(D)	(D)	(NA)
		1995 .....	(D)	(D)	(D)	(D)	(D)	(NA)
	Calcium phosphate:							
28199 18	Monobasic (21 percent minimum P) (100 percent CaH <sub>4</sub> ) .....	1996 .....	780,334	199,960	190,742	185,154	204,478	(D)
		1995 .....	801,326	204,983	184,758	202,039	209,546	41,972
28199 19	Dibasic (except fertilizer grades) (18.5 minimum p) (100 percent CaHPO <sub>4</sub> ) .....	1996 .....	695,379	193,434	170,960	164,336	166,649	37,716
		1995 .....	728,414	187,757	184,497	186,185	169,975	36,270
28742 71	Tribasic (100 percent Ca <sub>3</sub> (PO <sub>4</sub> ) <sub>2</sub> ): Animal feed grades (defluorinated phosphate rock) (18.0 percent minimum P) .....	1996 .....	514,902	124,740	133,140	129,690	127,332	20,727
		1995 .....	498,212	123,444	123,726	124,796	126,246	15,544
28199 22	Other grades .....	1996 .....	30,800	8,923	6,633	7,003	8,241	3,039
		1995 .....	37,697	8,011	9,349	8,677	11,660	3,682

See footnotes at end of table.



Table 9a. Primary Production and Stocks of Specified Inorganic Chemicals by Quarter: 1996 and 1995—Con.

[Short tons]

Product code	Product description	Year	Total	First quarter	Second quarter	Third quarter	Fourth quarter	Stocks on hand December 31
28199 25	Carbon activated, excluding reactivated carbon (dry weight) . . . . .	1996 . . . . .	170,229	40,005	43,190	42,981	44,054	<sup>a</sup> 14,862
		1995 . . . . .	156,348	38,774	38,098	38,631	40,845	12,560
28199 27	Granular carbons . . . . .	1996 . . . . .	94,664	22,160	24,327	22,030	26,147	<sup>a</sup> 7,376
		1995 . . . . .	83,952	21,985	21,507	18,313	22,147	6,134
28199 27	Pulverized carbons . . . . .	1996 . . . . .	75,565	17,845	18,863	20,950	17,907	<sup>a</sup> 7,486
		1995 . . . . .	72,396	16,789	16,591	20,318	18,698	<sup>a</sup> 6,426
28163 15	Chrome colors (C.P.): Chrome yellow and orange . . . . .	1996 . . . . .	5,939	1,237	2,054	1,631	1,017	(NA)
		1995 . . . . .	8,300	2,305	2,454	1,923	1,618	(NA)
28163 17	Molybdate chrome orange . . . . .	1996 . . . . .	833	238	191	252	152	(NA)
		1995 . . . . .	(D)	(D)	(D)	(D)	(D)	(NA)
28199 39	Hydrogen peroxide (100 percent by weight) . . . . .	1996 . . . . .	342,820	87,240	85,600	91,030	78,950	(NA)
		1995 . . . . .	355,116	88,860	84,663	90,828	90,765	(NA)
28199 58	Phosphorus elemental (technical) . . . . .	1996 . . . . .	(D)	(D)	(D)	(D)	(D)	(D)
		1995 . . . . .	(D)	68,530	65,213	68,027	(D)	<sup>a</sup> 13,527
28199 60	Phosphorus oxychloride (100 percent POCl <sub>3</sub> ) . . . . .	1996 . . . . .	36,687	9,879	9,431	8,684	8,693	(NA)
		1995 . . . . .	39,699	9,400	9,880	10,070	10,349	(NA)
28199 61	Phosphorus pentasulfide (100 percent P <sub>2</sub> S <sub>5</sub> ) . . . . .	1996 . . . . .	65,677	17,827	14,915	16,993	15,942	(NA)
		1995 . . . . .	63,015	14,861	14,852	16,717	16,585	(NA)
28199 63	Phosphorus trichloride (chloride) (100 percent PCl <sub>3</sub> ) . . . . .	1996 . . . . .	205,431	48,098	50,699	53,062	53,572	(NA)
		1995 . . . . .	186,358	44,722	46,258	48,959	46,419	(NA)
28197 18	Potassium pyrophosphate (tetrapotassium pyrophosphate) (100 percent K <sub>4</sub> P <sub>2</sub> O <sub>7</sub> ) . . . . .	1996 . . . . .	28,101	5,248	7,451	9,563	5,839	(NA)
		1995 . . . . .	27,213	(D)	7,459	(D)	(D)	(NA)
28199 66	Silicon tetrachloride (100 percent SiCl <sub>4</sub> ) . . . . .	1996 . . . . .	(D)	(D)	(D)	(D)	(D)	(NA)
		1995 . . . . .	(D)	(D)	(D)	(D)	(D)	(NA)
28199 33	Sodium bichromate and chromate (hydrous) . . . . .	1996 . . . . .	(D)	(D)	(D)	(D)	(D)	(NA)
		1995 . . . . .	(D)	(D)	(D)	(D)	(D)	(NA)
28197 27	Sodium chlorate (100 percent NaClO <sub>3</sub> ) . . . . .	1996 . . . . .	657,954	158,499	157,292	167,829	174,334	20,021
		1995 . . . . .	616,951	156,121	159,340	153,304	148,186	12,433
28197 30	Sodium hydrosulfite (100 percent Na <sub>2</sub> SO <sub>4</sub> ) . . . . .	1996 . . . . .	(D)	(D)	(D)	(D)	(D)	(NA)
		1995 . . . . .	(D)	(D)	(D)	(D)	(D)	(NA)
28197 21	Sodium (metal) (100 percent Na) . . . . .	1996 . . . . .	(D)	(D)	(D)	(D)	(D)	(D)
		1995 . . . . .	(D)	(D)	(D)	(D)	(D)	(D)
28197 34	Sodium phosphate: Tribasic (100 percent Na <sub>3</sub> PO <sub>4</sub> ) . . . . .	1996 . . . . .	19,732	3,963	5,226	5,158	5,385	(NA)
		1995 . . . . .	20,968	4,140	5,640	5,164	6,024	(NA)
28197 35	Tetrabasic (pyro) (100 percent Na <sub>4</sub> P <sub>2</sub> O <sub>7</sub> ) . . . . .	1996 . . . . .	(D)	3,360	3,721	3,196	(D)	(NA)
		1995 . . . . .	(D)	4,293	(D)	5,215	(D)	(NA)
28197 36	Meta (100 percent NaPO <sub>3</sub> ) . . . . .	1996 . . . . .	45,946	10,502	10,112	12,601	12,731	(NA)
		1995 . . . . .	43,275	11,539	10,965	10,521	10,250	(NA)
28197 38	Tripoly (100 percent Na <sub>5</sub> P <sub>3</sub> O <sub>10</sub> ) . . . . .	1996 . . . . .	(D)	(D)	(D)	(D)	(D)	(NA)
		1995 . . . . .	(D)	(D)	(D)	(D)	(D)	(NA)

See footnotes at end of table.

Table 9a. Primary Production and Stocks of Specified Inorganic Chemicals by Quarter: 1996 and 1995—Con.

[Short tons]

Product code	Product description	Year	Total	First quarter	Second quarter	Third quarter	Fourth quarter	Stocks on hand December 31
28197 41	Sodium silicate: Soluble silicate glass (water glass, solid and liquid)(anhydrous) <sup>7</sup> .....	1996 .....	1,104,820	266,821	279,752	275,016	283,231	(NA)
		1995 .....	1,203,396	295,531	297,120	303,512	307,233	(NA)
28197 42	Metasilicate pentahydrate (100 percent Na <sub>2</sub> SiO <sub>3</sub> ·5H <sub>2</sub> O).....	1996 .....	42,522	10,908	11,288	9,062	11,264	(NA)
		1995 .....	45,156	12,051	10,829	10,022	12,254	(NA)
28197 44	Metasilicate anhydrous (100 percent Na <sub>2</sub> SiO <sub>3</sub> ).....	1996 .....	43,992	10,811	12,667	10,322	10,192	(NA)
		1995 .....	48,249	11,598	12,293	12,716	11,642	(NA)
	Sodium sulfate (100 percent Na <sub>2</sub> SO <sub>4</sub> ): Total.....	1996 .....	663,588	176,318	159,376	156,208	171,686	(NA)
		1995 .....	710,853	179,821	167,928	167,486	195,618	(NA)
28197 61	High purity (more than 99 percent Na <sub>2</sub> SO <sub>4</sub> ).....	1996 .....	(D)	(D)	(D)	(D)	(D)	(NA)
		1995 .....	(D)	(D)	(D)	(D)	(D)	(NA)
28197 66	Lower purity (99 percent or less Na <sub>2</sub> SO <sub>4</sub> ) and Glauber's salt (100 percent Na <sub>2</sub> SO <sub>4</sub> ·10H <sub>2</sub> O).....	1996 .....	(D)	(D)	(D)	(D)	(D)	(NA)
		1995 .....	(D)	(D)	(D)	(D)	(D)	(NA)
28161 00	Titanium dioxide (composite and pure) (100 percent TiO <sub>2</sub> ) (commodity weight) <sup>8</sup> ..	1996 .....	1,342,391	323,518	335,481	332,782	350,610	117,591
		1995 .....	1,382,333	356,884	364,696	340,033	320,720	132,204

D Withheld to avoid disclosing data for individual companies. NA Not available.

<sup>1</sup>"Hydrochloric acid produced from salt and acid" is combined with "Hydrochloric acid byproduct and other" to avoid disclosing data for individual companies.<sup>2</sup>Total gas production including quantities liquefied for use, storage, or shipments.<sup>3</sup>Liquid production data represent total production including quantities later evaporated to solid caustic and reported as such.<sup>4</sup>Includes some liquid shipped as interplant transfers to other establishments for further processing to dry forms.<sup>5</sup>U.S. Geological Survey; quantity in thousand short tons.<sup>6</sup>Excludes quantities produced and consumed by municipalities.<sup>7</sup>Excludes quantities produced and consumed in same establishment in manufacture of meta-, ortho-, and sesquisilicates.<sup>8</sup>Represents total stocks of producing companies, including amounts held at locations other than producing locations.Note: Percent of estimation for each item is indicated as follows: <sup>a</sup>20 percent or more is estimated.

Table 9b. Primary Production of Inorganic Fertilizer Chemicals by Quarter: 1996 and 1995

[Thousands of short tons]

Product code	Product description	Year	Total	First quarter	Second quarter	Third quarter	Fourth quarter	
28731 31	Ammonia, synthetic anhydrous (100 percent NH <sub>3</sub> ): Production .....	1996 .....	17,762.1	4,553.5	4,364.8	4,325.4	4,518.5	
		1995 .....	17,402.2	4,354.2	4,402.1	4,278.5	4,367.3	
		Stocks on hand, end of quarter.....	1996 .....	(NA)	1,566.4	1,024.9	988.7	1,181.9
		1995 .....	(NA)	1,634.5	1,798.8	1,757.0	1,285.6	
28731 30	Fertilizer use: Production .....	1996 .....	15,456.6	3,959.6	3,794.1	3,791.1	3,911.7	
		1995 .....	15,176.2	3,864.1	3,787.0	3,735.0	3,790.1	
		Stocks on hand, end of quarter.....	1996 .....	(NA)	(D)	(D)	(D)	(D)
		1995 .....	(NA)	1,266.2	(D)	(D)	(D)	
28731 32	Other uses: Production .....	1996 .....	2,305.5	593.9	570.6	534.2	606.8	
		1995 .....	2,226.0	490.1	615.1	543.6	577.2	
		Stocks on hand, end of quarter.....	1996 .....	(NA)	(D)	(D)	(D)	(D)
		1995 .....	(NA)	(S)	(D)	(D)	(D)	
28731 44	Ammonium nitrate (100 percent NH <sub>4</sub> NO <sub>3</sub> ): Original solution <sup>1</sup> : Production .....	1996 .....	9,026.0	2,326.8	2,274.8	2,102.4	2,322.0	
		1995 .....	8,489.1	2,231.4	2,169.0	1,899.3	2,189.4	
		Stocks on hand, end of quarter.....	1996 .....	(NA)	220.1	168.3	195.6	191.9
		1995 .....	(NA)	160.3	168.5	206.3	202.1	
28731 45	Total production: Consumed in the manufacture of other nitrogen solutions (e.g. CAN17, AM20, AAN): Production .....	1996 .....	406.2	85.6	81.2	102.7	136.7	
		1995 .....	588.4	141.6	152.4	142.7	151.8	
		Stocks on hand, end of quarter.....	1996 .....	(NA)	(D)	0.9	(D)	(D)
		1995 .....	(NA)	(D)	(D)	(D)	(D)	
28731 46	Liquor consumed in the manufacture of urea- ammonium nitrate solutions: Production .....	1996 .....	4,195.3	1,163.6	1,104.1	920.9	1,006.7	
		1995 .....	3,491.3	962.2	937.5	737.6	854.1	
		Stocks on hand, end of quarter.....	1996 .....	(NA)	47.1	25.1	30.6	33.6
		1995 .....	(NA)	(D)	15.9	(D)	23.9	
28731 47	High density prill and granular: Production .....	1996 .....	2,505.2	626.6	638.5	567.1	672.9	
		1995 .....	2,496.6	709.7	596.4	532.1	658.4	
		Stocks on hand, end of quarter.....	1996 .....	(NA)	31.2	38.6	48.4	42.7
		1995 .....	(NA)	19.5	39.5	31.3	21.6	
28731 48	Low density prill and grained: Production .....	1996 .....	1,556.2	367.2	364.2	411.2	413.6	
		1995 .....	1,585.5	379.6	386.4	395.2	424.2	
		Stocks on hand, end of quarter.....	1996 .....	(NA)	(D)	(D)	(D)	(D)
		1995 .....	(NA)	(D)	(D)	(D)	(D)	
28731 49	All other (e.g., liquor sales, etc.): Production .....	1996 .....	363.2	83.9	86.8	100.4	92.2	
		1995 .....	327.3	38.4	96.4	91.7	100.9	
		Stocks on hand, end of quarter.....	1996 .....	(NA)	(D)	(D)	(D)	16.1
		1995 .....	(NA)	(D)	(D)	(D)	(D)	
28731 56 28731 58	Ammonium sulfate (100 percent (NH <sub>4</sub> ) <sub>2</sub> SO <sub>4</sub> ): Production .....	1996 .....	2,662.0	633.3	657.1	686.5	685.0	
		1995 .....	2,646.7	649.2	681.5	632.5	683.5	
		Stocks on hand, end of quarter.....	1996 .....	(NA)	250.3	130.8	173.1	218.8
		1995 .....	(NA)	98.7	166.9	285.1	285.9	
28731 11	Nitric acid (100 percent HNO <sub>3</sub> ): Production .....	1996 .....	9,204.8	2,277.0	2,287.5	2,163.4	2,476.9	
		1995 .....	8,839.0	2,349.8	2,236.9	1,983.4	2,268.9	
		Stocks on hand, end of quarter.....	1996 .....	(NA)	(X)	(X)	(X)	(X)
		1995 .....	(NA)	(X)	(X)	(X)	(X)	
28731 55	Nitrogen solutions, including mixtures containing urea (100 percent N): Production .....	1996 .....	3,649.8	938.6	935.8	883.6	892.0	
		1995 .....	3,602.9	974.8	893.3	809.1	925.7	
		Stocks on hand, end of quarter.....	1996 .....	(NA)	368.2	270.4	262.1	274.0
		1995 .....	(NA)	289.7	234.6	249.5	236.0	

See footnotes at end of table.

Table 9b. Primary Production of Inorganic Fertilizer Chemicals by Quarter: 1996 and 1995—Con.

[Thousands of short tons]

Product code	Product description	Year	Total	First quarter	Second quarter	Third quarter	Fourth quarter
28731 55	Nitrogen solutions, including mixtures containing urea (100 percent N)—Con.						
28731 66	Solutions containing ammonium nitrate/urea:						
	Production .....	1996 .....	3,529.3	908.8	906.5	845.9	868.1
		1995 .....	3,432.9	933.3	846.2	771.4	882.0
	Stocks on hand, end of quarter .....	1996 .....	(NA)	362.7	266.7	251.2	268.8
		1995 .....	(NA)	258.0	198.7	(D)	220.6
28731 68	All other solutions <sup>2</sup> :						
	Production .....	1996 .....	120.5	29.8	29.3	37.7	23.8
		1995 .....	170.0	41.5	47.1	37.7	43.7
	Stocks on hand, end of quarter .....	1996 .....	(NA)	5.5	3.7	10.9	5.2
		1995 .....	(NA)	31.7	35.9	(D)	15.3
28741 —	Phosphoric acid (100 percent P <sub>2</sub> O <sub>5</sub> ):						
	Production .....	1996 .....	13,210.0	3,241.9	3,129.6	3,451.3	3,387.3
		1995 .....	13,133.8	3,326.8	3,274.0	3,183.1	3,350.0
	Stocks on hand, end of quarter .....	1996 .....	(NA)	280.6	276.6	238.9	212.2
		1995 .....	(NA)	270.1	309.2	278.2	260.0
28741 81	Thermal:						
	Production .....	1996 .....	306.5	78.0	75.1	78.8	74.5
		1995 .....	318.6	79.7	77.1	51.3	110.6
	Stocks on hand, end of quarter .....	1996 .....	(NA)	21.2	9.1	11.6	10.4
		1995 .....	(NA)	10.2	8.5	8.0	7.3
28741 85	Wet:						
	Production .....	1996 .....	12,903.5	3,163.9	3,054.4	3,372.5	3,312.8
		1995 .....	12,815.2	3,247.1	3,196.9	3,131.8	3,239.4
	Stocks on hand, end of quarter .....	1996 .....	(NA)	259.3	267.6	227.3	201.8
		1995 .....	(NA)	259.9	300.8	270.2	252.7
28741 86	By use:						
	Fertilizer:						
	Production .....	1996 .....	11,877.6	2,908.4	2,808.8	3,112.0	3,048.3
		1995 .....	11,914.4	3,023.5	2,962.3	2,903.8	3,024.7
	Stocks on hand, end of quarter .....	1996 .....	(NA)	(D)	(D)	(D)	(D)
		1995 .....	(NA)	(D)	(D)	(D)	(D)
28741 87	Feed and other:						
	Production .....	1996 .....	1,026.0	257.8	247.2	255.9	265.1
		1995 .....	900.7	223.5	234.5	228.0	214.7
	Stocks on hand, end of quarter .....	1996 .....	(NA)	(D)	(D)	(D)	(D)
		1995 .....	(NA)	(D)	(D)	(D)	(D)
28741 88	By grade:						
	Ortho (less than 65 percent P <sub>2</sub> O <sub>5</sub> ):						
	Production .....	1996 .....	11,479.6	2,816.8	2,744.5	2,996.7	2,921.6
		1995 .....	11,658.5	2,932.3	2,943.9	2,867.8	2,914.5
	Stocks on hand, end of quarter .....	1996 .....	(NA)	232.6	241.5	209.0	181.0
		1995 .....	(NA)	230.8	267.6	241.0	225.3
28741 89	Super (more than 65 percent P <sub>2</sub> O <sub>5</sub> ):						
	Production .....	1996 .....	1,423.9	347.2	311.8	375.5	389.4
		1995 .....	1,156.6	314.7	252.9	264.0	325.0
	Stocks on hand, end of quarter .....	1996 .....	(NA)	26.7	26.1	18.3	20.9
		1995 .....	(NA)	29.1	33.2	29.2	27.4
28732 —	Urea original melt liquor (100 percent urea):						
	Production .....	1996 .....	8,528.0	2,228.9	2,130.0	2,020.6	2,148.4
		1995 .....	8,117.1	2,056.4	2,052.3	1,960.2	2,048.3
	Stocks on hand, end of quarter .....	1996 .....	(NA)	300.3	239.8	239.0	212.8
		1995 .....	(NA)	373.7	420.0	313.8	362.6

See footnotes at end of table.

Table 9b. Primary Production of Inorganic Fertilizer Chemicals by Quarter: 1996 and 1995—Con.

[Thousands of short tons]

Product code	Product description	Year	Total	First quarter	Second quarter	Third quarter	Fourth quarter
28732 —	Urea original melt liquor (100 percent urea)—Con.						
28732 15	Total production: Consumed in the manufacture of urea-ammonium nitrate solutions:						
	Production .....	1996.....	2,761.2	741.8	713.4	623.4	682.6
		1995.....	2,618.6	681.5	673.2	585.6	678.2
	Stocks on hand, end of quarter .....	1996.....	(NA)	(D)	(D)	(D)	(D)
		1995.....	(NA)	(D)	(D)	(D)	(D)
28732 19	Prills:						
	Production .....	1996.....	2,736.4	714.7	682.5	648.1	691.2
		1995.....	2,589.5	607.2	624.8	605.2	752.3
	Stocks on hand, end of quarter .....	1996.....	(NA)	93.0	79.1	120.2	45.7
		1995.....	(NA)	22.6	(D)	35.4	46.8
28732 20	Granular:						
	Production .....	1996.....	2,765.1	704.6	669.3	686.5	704.6
		1995.....	2,667.5	704.8	692.4	713.0	557.3
	Stocks on hand, end of quarter .....	1996.....	(NA)	84.0	59.1	26.1	78.3
		1995.....	(NA)	273.4	274.2	165.4	189.2
28732 22	All other (solid and solution):						
	Production .....	1996.....	265.3	67.8	64.8	62.6	70.1
		1995.....	'241.5	'62.9	'61.8	'56.3	'60.5
	Stocks on hand, end of quarter .....	1996.....	(NA)	(D)	(D)	(D)	(D)
		1995.....	(NA)	(D)	(D)	(D)	(D)

D Withheld to avoid disclosing data for individual companies. NA Not available. † Revised by 5 percent or more from previously published data.  
 S Does not meet publication standards. X Not applicable.

<sup>1</sup>Represents total amount of original solution produced, including amounts used for fertilizer, explosives, and other uses and amounts consumed in manufacturing other products such as "Nitrogen solutions" (product code 28731 55).

<sup>2</sup>Excludes data for government-owned, privately operated plants.

Note: Detail may not add because of independent rounding.

Table 9c. **Production, Shipments, and Stocks of Superphosphates and Other Phosphatic Fertilizer Materials by Quarter: 1996 and 1995**

[Thousands of short tons]

Product code	Product description	Year	Total	First quarter	Second quarter	Third quarter	Fourth quarter
28742 —	Superphosphates and other phosphatic fertilizer materials:						
	Production (100 percent P <sub>2</sub> O <sub>5</sub> ) .....	1996 .....	10,549.4	2,594.0	2,423.3	2,835.4	2,696.7
		1995 .....	10,365.2	2,593.7	2,551.4	2,529.1	2,691.0
	Shipments, including interplant transfers (100 percent P <sub>2</sub> O <sub>5</sub> ) .....	1996 .....	10,497.9	2,466.2	2,722.1	2,741.5	2,568.2
		1995 .....	10,231.0	2,598.3	2,422.8	2,677.7	2,532.2
	Stocks on hand, end of quarter (gross weight) ...	1996 .....	(NA)	838.9	552.4	638.6	745.5
	1995 .....	(NA)	649.3	725.8	601.0	782.3	
28742 15, 41	Normal, concentrated, and enriched superphosphates (triple) (over 40 percent P <sub>2</sub> O <sub>5</sub> ):						
	Production (100 percent P <sub>2</sub> O <sub>5</sub> ) .....	1996 .....	822.8	213.2	174.3	231.7	203.6
		1995 .....	807.8	172.8	186.0	163.2	285.8
	Shipments, including interplant transfers (100 percent P <sub>2</sub> O <sub>5</sub> ) .....	1996 .....	763.2	131.1	376.3	144.8	111.0
		1995 .....	767.7	192.3	190.9	163.7	220.8
	Stocks on hand, end of quarter (gross weight) ...	1996 .....	(NA)	63.4	82.0	(D)	116.1
	1995 .....	(NA)	70.0	77.8	99.4	79.9	
28742 51	Ammonium phosphates:						
	Monoammonium phosphates:						
	Production (100 percent P <sub>2</sub> O <sub>5</sub> ) .....	1996 .....	1,782.8	432.0	349.5	573.0	428.3
		1995 .....	1,528.8	445.0	355.3	367.0	361.6
	Shipments, including interplant transfers (100 percent P <sub>2</sub> O <sub>5</sub> ) .....	1996 .....	1,759.8	386.5	367.1	603.1	403.1
		1995 .....	1,497.6	425.7	328.0	413.2	330.8
Stocks on hand, end of quarter (gross weight) .	1996 .....	(NA)	162.6	119.9	80.6	150.8	
	1995 .....	(NA)	155.7	223.3	134.6	150.8	
28742 52	Diammonium phosphates:						
	Production (100 percent P <sub>2</sub> O <sub>5</sub> ) .....	1996 .....	7,590.2	1,868.4	1,814.9	1,939.4	1,967.4
		1995 .....	7,739.3	1,892.4	1,937.1	1,933.3	1,976.5
	Shipments, including interplant transfers (100 percent P <sub>2</sub> O <sub>5</sub> ) .....	1996 .....	7,617.2	1,882.6	1,841.1	1,909.8	1,983.8
		1995 .....	7,669.7	1,923.8	1,790.6	2,052.1	1,903.2
	Stocks on hand, end of quarter (gross weight) .	1996 .....	(NA)	506.0	282.9	388.5	355.6
	1995 .....	(NA)	325.7	373.2	291.8	478.4	
28742 55, 61	Other ammonium phosphates and other phosphatic fertilizer materials: <sup>1</sup>						
	Production (100 percent P <sub>2</sub> O <sub>5</sub> ) .....	1996 .....	353.6	80.4	84.6	91.2	97.4
		1995 .....	289.2	83.6	73.1	65.5	67.0
	Shipments, including interplant transfers (100 percent P <sub>2</sub> O <sub>5</sub> ) .....	1996 .....	357.6	66.0	137.4	83.9	70.3
		1995 .....	295.9	56.5	113.3	48.7	77.3
	Stocks on hand, end of quarter (gross weight) ...	1996 .....	(NA)	106.9	67.7	(D)	(S)
	1995 .....	(NA)	97.9	51.6	75.2	73.1	

D Withheld to avoid disclosing data for individual companies. NA Not available. S Does not meet publication standards.

<sup>1</sup>“Other ammonium phosphates” (product code 28742 55) is combined with “Other phosphatic fertilizer materials” (product code 28742 61) to avoid disclosing data for individual companies.

Note: Detail may not add because of independent rounding.

Table 10. Production and Stocks of Sulfuric Acid by Process and by Quarter: 1996 and 1995

[Thousands of short tons of 100 percent H<sub>2</sub>SO<sub>4</sub>]

Quarter and year	Production					Stocks (gross) at producing plants at end of period
	Sulfuric acid, gross, new and fortified			New acid <sup>1</sup>	Sulfuric acid produced through decomposition of alkylation and other spent acid <sup>2</sup>	
	Total	Oleum grades	Other than oleum grades			
<b>1996</b>						
<b>Total</b> .....	<b>47,770.4</b>	<b>1,530.9</b>	<b>46,239.5</b>	<b>44,180.2</b>	<b>3,590.2</b>	<b>(NA)</b>
First quarter .....	11,807.9	424.6	11,383.3	11,130.1	677.8	677.6
Second quarter .....	11,364.6	310.7	11,053.9	10,676.6	688.0	686.8
Third quarter .....	12,437.6	446.0	11,991.6	11,279.1	1,158.5	724.5
Fourth quarter .....	12,160.2	349.5	11,810.7	11,094.4	1,065.8	855.3
<b>1995</b>						
<b>Total</b> .....	<b>47,519.3</b>	<b>1,567.1</b>	<b>45,952.2</b>	<b>42,581.9</b>	<b>4,937.4</b>	<b>(NA)</b>
First quarter .....	11,627.2	379.5	11,247.7	10,534.5	1,092.6	652.1
Second quarter .....	11,877.9	390.7	11,487.2	10,542.5	1,335.4	642.1
Third quarter .....	11,909.8	388.8	11,521.0	10,593.9	1,315.9	679.3
Fourth quarter .....	12,104.4	408.0	11,696.4	10,911.0	1,193.4	788.2

NA Not available.

<sup>1</sup>Represents gross production of sulfuric acid less acid produced through decomposition and spent acid used in fortification.<sup>2</sup>Spent acid fortified by addition of sulfur trioxide.

Note: Detail may not add because of independent rounding.

Table 11. Production, Exports, Imports, and Apparent Consumption of Selected Inorganic Chemicals and Fertilizer Materials: 1996 and 1995

[Quantity in thousands of metric tons. Value in thousands of dollars]

Product code	Product description	Production (quantity)	Exports of domestic merchandise <sup>1</sup>		Percent exports to production (quantity)	Imports for consumption <sup>2</sup>		Apparent consumption <sup>4</sup> (quantity)	Percent imports to apparent consumption (quantity)
			Quantity	Value		Quantity	Value <sup>3</sup>		
<b>1996</b>									
28121 11	Chlorine gas .....	11,303.9	17.4	7.9	0.2	379.9	45.4	11,666.3	3.3
28123 50	Sodium hydroxide, total liquid (all processes) .....	10,489.5	1,858.7	387.4	17.7	512.4	135.7	9,143.2	5.6
28125 21	Potassium hydroxide, liquid .....	453.5	79.6	28.5	17.6	26.8	10.1	400.7	6.7
28125 30	Finished sodium bicarbonate .....	455.4	62.8	22.8	13.8	14.8	9.1	407.3	3.6
28161 00	Titanium dioxide (composite and pure) .....	1,217.8	332.2	526.4	27.3	167.1	302.2	1,052.7	15.9
28193 —	Sulfuric acid gross .....	43,337.0	117.3	12.3	0.3	2,139.7	87.5	45,359.4	4.7
28194 11	Boric acid .....	(D)	42.0	35.1	(D)	17.9	10.8	(D)	(D)
28194 41, 45, 47	Hydrochloric acid .....	3,733.9	55.3	10.5	1.5	69.1	6.5	3,747.7	1.8
28194 61, 65	Hydrofluoric acid .....	(D)	10.7	14.6	(D)	136.3	126.0	(D)	(D)
28194 51, 67	Other inorganic acids .....	(NA)	23.4	27.7	(NA)	19.5	16.9	(NA)	(NA)
28194 98, 28195 00	Aluminum oxide .....	4,303.8	853.3	335.4	19.8	4,232.1	991.1	7,682.5	55.1
28196 13, 17	Aluminum chloride .....	57.2	8.1	8.2	14.1	2.7	0.9	51.8	5.2
28196 25	Aluminum hydroxide trihydrate .....	916.6	67.5	34.1	7.4	142.5	92.2	991.6	14.4
28196 27	Aluminum fluoride .....	(D)	15.9	12.6	(D)	18.3	16.9	(D)	(D)
28196 51	Aluminum sulfate (commercial) .....	1,085.6	2.8	0.9	0.3	40.4	11.1	1,123.2	3.6
28196 73	Aluminates (sodium aluminate, etc.) .....	255.0	8.3	7.0	3.3	2.5	2.4	249.2	1.0
28197 13	Potassium iodide .....	0.8	0.1	1.5	10.7	0.2	2.3	0.9	22.3
28197 16	Potassium sulfate .....	(D)	-	-	(X)	60.4	12.9	(D)	(D)
28197 23	Potassium phosphates .....	13.1	2.3	2.5	17.7	7.3	6.4	18.1	40.3
28197 24	Potassium silicates .....	8.3	2.0	1.1	23.4	0.2	0.5	6.5	2.4
28197 21	Sodium metal .....	(D)	2.2	11.0	(D)	0.5	1.7	(D)	(D)
28197 27	Sodium chlorate .....	596.9	54.4	19.6	9.1	395.2	145.2	937.7	42.1
28197 84	Sodium sulfite .....	109.1	58.7	15.2	53.8	9.2	4.4	59.6	15.5
28197 32, 33	Sodium phosphate mono and dibasic .....	(D)	2.6	3.9	(D)	8.4	9.3	(D)	(D)
28197 34	Sodium phosphate tribasic .....	17.9	0.6	0.9	3.5	3.3	2.2	20.6	16.0
28197 38	Sodium phosphate tripoly .....	(D)	31.9	22.6	(D)	60.7	42.5	(D)	(D)
28197 41, 42, 45, 47	Sodium silicates (other than metasilicates) .....	1,002.3	21.3	10.5	2.1	19.4	4.7	1,000.4	1.9
28197 44	Sodium metasilicates .....	78.5	10.7	4.6	13.6	2.9	2.2	70.7	4.1
28197 61, 66	Sodium sulfate .....	602.0	30.7	13.3	5.1	191.2	19.1	762.5	25.1
28197 85	Sodium thiosulfate (hypo) .....	(D)	3.4	1.3	(D)	1.0	0.5	(D)	(D)
28199 05	Barium sulfate .....	(D)	0.8	3.2	(D)	12.4	12.7	(D)	(D)
28199 04	Barium carbonate .....	(D)	1.1	3.8	(D)	18.9	13.1	(D)	(D)
28199 10	Bromine .....	(D)	2.9	4.0	(D)	0.4	0.4	(D)	(D)
28199 12	Calcium carbide .....	(D)	30.5	15.0	(D)	0.9	0.5	(D)	(D)
28199 13	Calcium carbonate (precipitated) .....	1,406.7	30.0	13.8	2.1	83.4	12.4	1,460.1	5.7
28199 14	Calcium chloride .....	798.4	91.2	19.8	11.4	296.7	34.9	1,003.9	29.6
28199 18, 19, 22, 25, 28742 71	Calcium phosphates .....	1,833.8	221.7	107.0	12.1	12.1	16.2	1,624.3	0.7
28199 27	Carbon activated (granular and pulverized) <sup>5</sup> .....	154.4	34.4	63.5	22.3	38.8	60.9	158.8	24.4
28199 35	Cuprous oxide .....	(D)	(NA)	(NA)	(X)	0.0	0.1	(D)	(D)
28199 39	Hydrogen peroxide .....	311.0	42.2	29.7	13.6	79.2	49.7	348.1	22.8
28199 40	Iodine .....	(D)	2.3	17.6	(D)	4.5	60.2	(D)	(D)
28199 43	Iron oxides and hydroxides .....	35.9	27.1	41.4	75.3	20.0	33.2	28.9	69.3

See footnotes at end of table.



Table 11. Production, Exports, Imports, and Apparent Consumption of Selected Inorganic Chemicals and Fertilizer Materials: 1996 and 1995—Con.

[Quantity in thousands of metric tons. Value in thousands of dollars]

Product code	Product description	Production (quantity)	Exports of domestic merchandise <sup>1</sup>		Percent exports to production (quantity)	Imports for consumption <sup>2</sup>		Apparent consumption <sup>4</sup> (quantity)	Percent imports to apparent consumption (quantity)
			Quantity	Value		Quantity	Value <sup>3</sup>		
<b>1996—Con.</b>									
28199 48	Magnesium chloride .....	589.5	3.6	2.7	(D)	21.5	7.1	(D)	(D)
28199 49	Magnesium sulfate .....	(D)	5.0	1.8	(D)	20.2	5.5	(D)	(D)
28199 51	Manganese dioxide .....	62.2	3.4	3.8	5.5	28.9	44.8	87.7	32.9
28199 53	Mercury .....	(D)	0.1	0.3	(D)	0.3	1.8	(D)	(D)
28199 5B	Molybdates .....	(D)	1.3	7.6	(D)	0.4	5.9	(D)	(D)
28199 56	Nickel oxides and hydroxides .....	(D)	0.2	2.1	(D)	1.3	14.0	(D)	(D)
28199 57	Nickel chloride .....	(D)	0.1	0.3	(D)	0.6	1.8	(D)	(D)
28199 55	Nickel sulfate .....	(D)	2.4	5.4	(D)	3.2	6.7	(D)	(D)
28199 58	Phosphorous, elemental .....	(D)	12.6	25.5	(D)	0.9	3.3	(D)	(D)
28199 60, 63	Phosphorous, oxychloride and trichloride .....	219.6	1.2	4.7	0.6	0.0	2.7	218.4	-
28199 71	Strontium carbonate .....	(D)	0.4	0.4	(D)	34.3	21.7	(D)	(D)
28199 74	Sulfur, recovered elemental .....	(NA)	598.8	35.0	(NA)	1,859.6	115.2	(NA)	(NA)
28199 75	Sulfur dioxide .....	188.4	1.2	0.4	0.6	77.7	14.2	264.9	29.3
28199 84	Tungstates .....	(D)	0.2	1.3	(D)	2.4	16.0	(D)	(D)
28199 87	Zinc sulfate .....	45.5	5.2	3.0	11.5	4.1	3.0	44.4	9.1
28199 86	Zinc oxide and peroxide .....	(D)	5.8	9.4	(D)	55.9	57.3	(D)	(D)
28199 88	Zinc chloride .....	(D)	1.5	1.2	(D)	2.4	2.4	(D)	(D)
28163 13, 15,17,18, 19	Chrome colors .....	(D)	2.1	6.9	(D)	9.9	27.5	(D)	(D)
28199 15, 30, 28422 43, 53	Bleaches (sodium and calcium hypochlorite, etc.) .....	705.7	40.1	58.8	5.7	40.8	22.7	706.3	5.8
28731 30, 32	Ammonia, synthetic anhydrous .....	16,113.7	(D)	(NA)	(D)	(D)	(NA)	(D)	(D)
28731 50	Ammonium nitrate, original solution .....	8,188.4	61.9	(NA)	0.8	720.6	(NA)	8,847.1	8.1
28731 66	Nitrogen solutions, ammonium nitrate/urea solutions .....	3,311.1	33.1	(NA)	1.0	628.2	(NA)	3,906.3	16.1
28731 56, 58	Ammonium sulfate .....	2,414.9	824.4	(NA)	34.1	373.4	(NA)	1,963.9	19.0
28732 —	Urea .....	7,736.5	1,470.5	(NA)	19.0	2,521.1	(NA)	8,787.1	28.7
28741 81, 85	Phosphoric acid .....	11,984.1	(D)	(NA)	(D)	50.0	(NA)	(D)	(D)
28742 15, 41	Normal, concentrated, and enriched superphosphates .....	1,670.4	687.6	(NA)	41.2	-	(NA)	982.8	-
28742 52	Diammonium phosphates .....	13,638.1	7,917.3	(NA)	58.1	76.5	(NA)	5,797.3	1.3
28193 —	Sulfuric acid, gross .....	43,337.0	627.5	(NA)	1.4	1,629.6	(NA)	44,339.1	3.7
<b>1995</b>									
28121 11	Chlorine gas .....	11,245.0	23.4	9.9	0.2	359.6	48.9	11,581.2	3.1
28123 50	Sodium hydroxide, total liquid (all processes) .....	10,349.6	1,676.3	389.6	16.2	488.4	146.7	9,161.7	5.3
28125 21	Potassium hydroxide, liquid .....	(D)	78.6	28.8	(D)	207.8	23.1	(D)	(D)
28125 30	Finished sodium bicarbonate .....	471.6	52.0	17.5	11.0	12.7	10.4	432.3	2.9
28161 00	Titanium dioxide (composite and pure) .....	1,254.0	341.8	589.3	27.3	1832.0	336.6	1,095.2	16.7
28193 —	Sulfuric acid, gross .....	43,109.2	170.2	12.8	0.4	1,920.3	96.0	44,859.3	4.3
28194 11	Boric acid .....	(D)	74.5	68.1	(D)	15.6	11.3	(D)	(D)
28194 41, 45, 47	Hydrochloric acid .....	3,541.8	64.8	10.5	1.8	61.5	6.1	3,538.5	1.7
28194 61, 65	Hydrofluoric acid .....	174.4	11.3	14.1	6.5	105.9	96.9	269.1	39.4
28194 51, 67	Other inorganic acids .....	(NA)	32.5	37.7	(NA)	18.0	14.8	(NA)	(NA)

See footnotes at end of table.

Table 11. **Production, Exports, Imports, and Apparent Consumption of Selected Inorganic Chemicals and Fertilizer Materials: 1996 and 1995—Con.**

[Quantity in thousands of metric tons. Value in thousands of dollars]

Product code	Product description	Production (quantity)	Exports of domestic merchandise <sup>1</sup>		Percent exports to production (quantity)	Imports for consumption <sup>2</sup>		Apparent consumption <sup>4</sup> (quantity)	Percent imports to apparent consumption (quantity)
			Quantity	Value		Quantity	Value <sup>3</sup>		
<b>1995—Con.</b>									
28194 98, 28195 00	Aluminum oxide . . . . .	4,321.9	1,002.6	321.9	23.2	3,917.2	881.2	7,236.4	54.1
28196 13, 17	Aluminum chloride . . . . .	53.0	14.5	8.5	27.4	3.3	1.0	41.8	8.0
28196 25	Aluminum hydroxide trihydrate . . . . .	890.6	64.1	31.6	7.2	128.4	86.7	955.0	13.5
28196 27	Aluminum flouride . . . . .	(D)	22.4	15.8	(D)	22.2	17.2	(D)	(D)
28196 51	Aluminum sulfate (commercial) . . . . .	1,037.6	5.6	2.6	0.5	39.9	12.1	1,071.9	3.7
28196 73	Aluminates (sodium aluminate, etc.) . . . . .	182.5	7.7	4.8	4.2	2.9	1.7	177.7	1.6
28197 13	Potassium iodide . . . . .	1.1	0.1	0.9	5.2	0.2	1.7	1.3	15.7
28197 16	Potassium sulfate . . . . .	(D)	-	-	(X)	51.8	10.9	(D)	(D)
28197 23	Potassium phosphates . . . . .	11.4	2.9	2.9	25.3	3.3	4.6	11.7	27.7
28197 24	Potassium silicates . . . . .	(D)	2.0	1.2	(D)	0.2	0.4	(D)	(D)
28197 21	Sodium metal . . . . .	(D)	2.4	8.9	(D)	0.5	1.6	(D)	(D)
28197 27	Sodium chlorate . . . . .	559.7	43.2	16.1	7.7	466.3	162.3	982.8	47.4
28197 84	Sodium sulfite . . . . .	106.4	46.0	14.6	43.2	10.0	4.6	70.3	14.1
28197 32, 33	Sodium phosphate mono and dibasic . . . . .	(D)	2.4	3.8	(D)	9.7	10.6	(D)	(D)
28197 34	Sodium phosphate tribasic . . . . .	19.0	0.6	0.6	3.2	2.4	1.4	20.8	11.6
28197 38	Sodium phosphate tripoly . . . . .	(D)	56.5	36.5	(D)	55.7	38.7	(D)	(D)
28197 41, 42, 45, 47	Sodium silicates (other than metasilicates) . . . . .	1,091.7	35.1	10.5	3.2	9.5	2.3	1,066.1	0.9
28197 44	Sodium metasilicates . . . . .	84.7	11.5	5.4	13.6	4.6	2.8	77.8	5.9
28197 61, 66	Sodium sulfate . . . . .	644.9	30.9	11.2	4.8	211.3	18.9	825.2	25.6
28197 85	Sodium thiosulfate (hypo) . . . . .	(D)	2.6	1.0	(D)	1.1	0.5	(D)	(D)
28199 05	Barium sulfate . . . . .	(D)	0.7	3.6	(D)	13.4	13.0	(D)	(D)
28199 04	Barium carbonate . . . . .	(D)	0.7	6.5	(D)	20.5	13.2	(D)	(D)
28199 10	Bromine . . . . .	(D)	3.2	3.8	(D)	2.2	1.5	(D)	(D)
28199 12	Calcium carbide . . . . .	(D)	33.5	17.2	(D)	1.5	0.8	(D)	(D)
28199 13	Calcium carbonate (precipitated) . . . . .	1,397.5	21.9	10.6	1.6	80.6	12.1	1,456.2	5.5
28199 14	Calcium chloride . . . . .	791.5	59.0	17.3	7.5	230.5	26.2	963.0	23.9
28199 18, 19, 22, 25, 28742 71	Calcium phosphates . . . . .	1,873.9	95.9	75.2	5.1	12.6	16.1	1,790.7	0.7
28199 27	Carbon activated (granular and pulverized) <sup>5</sup> . . . . .	141.9	32.4	60.6	22.9	30.6	48.0	140.0	21.9
28199 35	Cuprous oxide . . . . .	(D)	(NA)	(NA)	(X)	0.0	0.1	(D)	(D)
28199 39	Hydrogen peroxide . . . . .	322.2	51.5	36.5	16.0	73.3	46.4	344.0	21.3
28199 40	Iodine . . . . .	(D)	1.6	12.4	(D)	3.8	37.7	(D)	(D)
28199 43	Iron oxides and hydroxides . . . . .	33.4	24.6	43.8	73.8	19.9	31.5	28.6	69.5
28199 48	Magnesium chloride . . . . .	442.0	3.1	1.7	(D)	16.5	6.2	(D)	(D)
28199 49	Magnesium sulfate . . . . .	(D)	4.7	1.8	(D)	16.0	4.6	(D)	(D)
28199 51	Manganese dioxide . . . . .	63.6	4.3	4.1	6.7	29.7	42.9	89.0	33.3
28199 53	Mercury . . . . .	(D)	0.2	0.8	(D)	0.4	1.3	(D)	(D)
28199 5B	Molybdates . . . . .	(D)	2.2	36.0	(D)	0.2	3.2	(D)	(D)
28199 56	Nickel oxides and hydroxides . . . . .	(D)	0.3	3.2	(D)	1.2	11.9	(D)	(D)
28199 57	Nickel chloride . . . . .	(D)	0.2	0.6	(D)	0.6	1.8	(D)	(D)
28199 55	Nickel sulfate . . . . .	(D)	2.2	6.2	(D)	3.9	8.4	(D)	(D)
28199 58	Phosphorous, elemental . . . . .	(D)	13.7	24.1	(D)	1.8	3.9	(D)	(D)
28199 60, 63	Phosphorous, oxychloride and trichloride . . . . .	205.1	1.5	5.0	0.8	0.1	2.3	203.6	-
28199 71	Strontium carbonate . . . . .	(D)	1.5	0.7	(D)	34.9	22.0	(D)	(D)
28199 74	Sulfur, recovered elemental . . . . .	(NA)	548.2	28.4	(NA)	2,136.2	119.8	(NA)	(NA)

See footnotes at end of table.

Table 11. **Production, Exports, Imports, and Apparent Consumption of Selected Inorganic Chemicals and Fertilizer Materials: 1996 and 1995—Con.**

[Quantity in thousands of metric tons. Value in thousands of dollars]

Product code	Product description	Production (quantity)	Exports of domestic merchandise <sup>1</sup>		Percent exports to production (quantity)	Imports for consumption <sup>2</sup>		Apparent consumption <sup>4</sup> (quantity)	Percent imports to apparent consumption (quantity)
			Quantity	Value		Quantity	Value <sup>3</sup>		
<b>1995—Con.</b>									
28199 75	Sulfur dioxide .....	192.1	1.7	0.6	0.9	76.8	14.4	267.2	28.7
28199 84	Tungstates .....	(D)	2.6	3.3	(D)	2.2	18.5	(D)	(D)
28199 87	Zinc sulfate .....	38.8	4.2	2.3	10.8	5.4	4.0	40.0	13.5
28199 86	Zinc oxide and peroxide.....	(D)	7.1	9.1	(D)	48.0	52.6	(D)	(D)
28199 88	Zinc chloride.....	(D)	1.7	1.3	(D)	2.4	2.6	(D)	(D)
28163 13, 15,17,18, 19	Chrome colors .....	47.7	1.3	6.0	2.6	6.3	16.4	52.7	12.0
28199 15, 30, 28422 43, 53	Bleaches (sodium and calcium hypochlorite, etc.) .....	668.0	48.9	51.3	7.3	22.5	19.5	641.7	3.5
28731 30, 32	Ammonia, synthetic anhydrous.....	15,787.1	(D)	(NA)	(D)	(D)	(NA)	(D)	(D)
28731 50	Ammonium nitrate, original solution.	7,701.2	89.6	(NA)	1.2	720.6	(NA)	8,332.2	8.6
28731 66	Nitrogen solutions, ammonium nitrate/urea solutions. ....	3,268.5	4.9	(NA)	0.2	628.2	(NA)	3,891.8	16.1
28731 56, 58	Ammonium sulfate.....	2,401.1	917.0	(NA)	38.2	433.6	(NA)	1,917.7	22.6
28732 —	Urea.....	7,363.8	881.3	(NA)	12.0	2,936.0	(NA)	9,418.6	31.2
28741 81, 85	Phosphoric acid.....	11,914.9	(D)	(NA)	(D)	19.5	(NA)	(D)	(D)
28742 15, 41	Normal, concentrated, and enriched superphosphates.....	1,660.8	719.9	(NA)	43.3	-	(NA)	940.9	-
28742 52	Diammonium phosphates .....	13,925.0	10,058.8	(NA)	72.2	21.3	(NA)	3,887.5	0.5
28193 —	Sulfuric acid, gross .....	43,109.2	170.2	(NA)	0.4	1,925.7	(NA)	44,864.7	4.3

- Represents zero. D Withheld to avoid disclosing data for individual companies. NA Not available. X Not applicable.

<sup>1</sup>Source: Bureau of the Census report EM 545, *U.S. Exports*.<sup>2</sup>Source: Bureau of the Census report IM 146, *U.S. Imports for Consumption*.<sup>3</sup>Dollar value represents c.i.f. (cost, insurance, and freight) value at first port of entry in the United States plus calculated import duty.<sup>4</sup>Apparent consumption is derived by subtracting exports from manufacturers' production plus imports. Apparent consumption does not include any adjustments for changes in inventories.<sup>5</sup>Includes reactivated carbon.

Note: For comparison of SIC-based codes with Schedule B export numbers and HTSUSA import numbers, see "Contact for Data Users" at end of this subsection.

## HISTORICAL NOTE

Data on inorganic chemicals and fertilizer materials have been collected by the Bureau of the Census since 1941. Historical data may be obtained from Current Industrial Reports (called Facts for Industry before 1959) available at your local Federal Depository Library.

Historical data are also available on microfiche; contact Customer Services, 301-457-4100.

## CONTACT FOR DATA USERS

For additional information about these data, contact Lissene Witt (Inorganic Chemicals), 301-457-4830 or Walter R. Hunter, Jr. (Fertilizer Materials), 301-457-4798.

## INDUSTRIAL GASES (MA28C)

### INTRODUCTION

The data in this subsection are from surveys MQ28C and MA28C, Industrial Gases. The data shown are production, quantity, and value of shipments. Gases that are vented or used for fuel by the manufacturer are excluded.

### SUMMARY OF FINDINGS

In 1996, total manufacturers' shipments of industrial gases amounted to \$3,739.2 million, an increase of 1.8 percent from the 1995 shipments of \$3,673.4 million.

Total shipments of carbon dioxide increased 2.7 percent to \$476.6 million in 1996, from \$463.9 million in 1995. Carbon dioxide gas decreased 14.4 percent to \$51.3 million in 1996, from \$59.9 million in 1995. Carbon dioxide liquid increased 5.7 percent to \$389.9 million in 1996, from \$368.9 million in 1995, and solid carbon dioxide (dry ice) increased 0.9 percent in 1996, bringing its value to \$35.4 million, from a 1995 value of \$35.1 million.

Total production of nitrogen increased 0.7 percent to 850.3 billion cubic feet in 1996, from 844.4 billion in 1995; however, shipments of nitrogen decreased 0.3 percent to \$1,135.9 million in 1996, from \$1,139.4 million in 1995. Production of nitrogen gas decreased 0.5 percent in 1996 to 562.9 billion cubic feet, from 565.8 billion in 1995; and shipments of nitrogen gas decreased 1.6 percent to \$444.8 million in 1996, from \$451.9 in 1995. Production of liquid nitrogen for merchant shipments increased 3.0 percent in 1996 to 246.3 billion cubic feet, from 239.1 billion in 1995; but shipments decreased 1.3 percent to \$631.5 million in 1996, from \$639.5 million in 1995.

Total production of oxygen increased 10.5 percent to 695.7 billion cubic feet in 1996, from 629.8 billion in 1995; and shipments of oxygen increased 0.4 percent to \$972.8 million in 1996, from \$968.5 million in 1995. Production of oxygen gas increased 13.6 percent in 1996 to 542.1 billion cubic feet, from 477.4 billion in 1995; and shipments of oxygen gas increased 3.5 percent to \$596.8 million in 1996, from \$576.7 in 1995. Production of liquid oxygen for

merchant shipments decreased 0.4 percent in 1996 to 112.5 billion cubic feet, from 112.9 billion in 1995; and shipments decreased 1.8 percent to \$344.1 million in 1996, from \$350.3 million in 1995.

Total production of hydrogen increased 4.4 percent to 367.3 billion cubic feet in 1996, from 351.7 billion in 1995; shipments of hydrogen increased 4.8 percent to \$325.7 million in 1996, from \$310.7 million in 1995.

### EXPLANATION OF TERMS

**Carbon dioxide.** Includes all gas produced that is not vented, regardless of whether it will be used as a gas or to make liquid or solid. Also includes natural carbon dioxide produced from well operations. Excludes amounts produced and consumed in the manufacture of urea or soda ash.

**Hydrogen.** Excludes amounts produced and consumed in the manufacture of synthetic ammonia, synthetic methanol, petroleum products (hydrocracking and hydrotreating), and amounts produced by the ammonia dissociation process (cracking of ammonia).

**Nitrogen/oxygen.** Excludes amounts produced and consumed in the manufacture of synthetic ammonia and ammonia derivatives.

**Production.** Data shown for production represent total quantity of each chemical produced, including quantity consumed in plants, and for sale or transfer to other plants or warehouses of the same company. The statistics presented in the tables provide an up-to-date measure of activity in the inorganic field, but do not necessarily indicate amounts entering the market. In some cases, figures are included for material produced "in process" as an intermediate to the end of products.

**Unit of measure.** All figures included in this report are shown in million cubic feet, 70 degrees Fahrenheit, at 1 atmosphere pressure, unless otherwise specified.

Table 12. Production and Shipments of Selected Industrial Gases: 1993 to 1996

[Value in millions of dollars]

Product code	Product description	Year	Unit of measure	Production	Shipments	
					Quantity	Value
28132 00	Acetylene .....	1996 .....	Bil cu ft. ....	5.5	3.3	159.6
		1995 .....	.....do.....	5.9	3.4	155.0
		1994 .....	.....do.....	5.3	2.9	143.3
		1993 .....	.....do.....	5.2	2.7	134.1
28133 00	Carbon dioxide: Gas.....	1996 .....	1,000 s tons ..	4,793.8	4,462.9	51.3
		1995 .....	.....do.....	5,633.2	5,282.4	59.9
		1994 .....	.....do.....	6,944.7	6,530.4	67.1
		1993 .....	.....do.....	6,816.4	6,402.5	73.4
	Liquid .....	1996 .....	.....do.....	6,545.8	6,387.5	390.0
		1995 .....	.....do.....	6,409.6	6,057.2	369.0
		1994 .....	.....do.....	5,898.4	5,728.9	238.7
		1993 .....	.....do.....	5,543.4	5,266.2	230.8
	Solid (dry ice).....	1996 .....	.....do.....	319.2	299.1	35.4
		1995 .....	.....do.....	300.4	297.9	35.1
		1994 .....	.....do.....	288.0	288.1	30.9
		1993 .....	.....do.....	295.9	294.9	29.9
28135 00	Nitrogen.....	1996 .....	Bil cu ft. ....	850.3	828.5	1,135.9
		1995 .....	.....do.....	844.4	822.5	1,139.4
		1994 .....	.....do.....	870.0	827.2	1,057.6
		1993 .....	.....do.....	795.5	751.3	1,070.8
28136 00	Oxygen .....	1996 .....	.....do.....	695.7	658.0	972.8
		1995 .....	.....do.....	629.8	597.7	968.5
		1994 .....	.....do.....	605.0	564.5	881.9
		1993 .....	.....do.....	547.1	522.9	869.1
28137 pt.	Hydrogen.....	1996 .....	.....do.....	367.3	146.6	325.7
		1995 .....	.....do.....	351.7	138.4	310.8
		1994 .....	.....do.....	331.0	126.6	273.4
		1993 .....	.....do.....	212.9	96.5	264.2

pt. Part.      \*Revised by 5 percent or more from previously published data.

Table 13. Quantity of Primary Production of Specified Industrial Gases: 1996 and 1995

[Production and quantity of shipments in million cubic feet. Value in thousands of dollars]

Product code	Product description	Unit of measure	1996			1995		
			Production	Shipments		Production	Shipments	
				Quantity	Value		Quantity	Value
2813—	Industrial gases	....(X)....	(X)	(X)	3,730,245	(X)	(X)	3,673,492
28132 00	Acetylene <sup>1</sup>	Mil cu ft....	5,516	3,268	159,567	5,897	3,358	154,994
28132 11	Produced for compression, including cylinder and pipeline	....do....	951	924	81,639	'979	'960	83,127
28132 21	Produced for pipeline shipment, excluding that shipped to be compressed, and for consumption in this plant	....do....	4,565	2,344	77,928	4,918	2,398	71,867
28133 00	Carbon dioxide <sup>2</sup>	Short tons .	11,658,810	11,149,494	476,636	12,343,205	11,637,485	'463,970
28133 01	Gas, including amounts produced and liquefied	....do....	4,793,840	4,462,891	51,293	5,633,211	5,282,377	59,915
28133 02	Liquid, including amounts produced and used to make dry ice	....do....	6,545,768	6,387,547	389,978	'6,409,561	'6,057,212	'368,986
28133 31	Solid (dry ice)	....do....	319,202	299,056	35,365	300,433	297,896	35,069
28135 00	Nitrogen <sup>3</sup>	Mil cu ft....	850,299	828,492	1,135,900	844,405	822,524	1,139,429
28135 22	Gas produced by: Cryogenic onsite and pipeline <sup>4</sup>	....do....	(D)	(D)	(D)	(D)	(D)	(D)
28135 23	Noncryogenic processes (psa, vpsa, membranes, etc.) by industrial gas-producing companies <sup>4</sup>	....do....	562,974	566,138	444,814	565,876	556,729	451,993
28135 24	Captive uses for consumption in this plant: Cryogenic processes <sup>5</sup>	....do....	(D)	(X)	(X)	(D)	(X)	(X)
28135 26	Noncryogenic processes (psa, vpsa, membranes, etc.) <sup>5</sup>	....do....	(D)	(X)	(X)	(D)	(X)	(X)
28135 12	Liquid produced for: Merchant shipment	....do....	246,267	245,951	631,473	239,144	251,756	639,466
28135 32	Consumption in this plant <sup>5</sup>	....do....	24,582	(X)	(X)	'25,036	(X)	(X)
28135 34	Supplemental shipments or uses	....do....	16,476	16,403	59,613	14,349	14,039	47,970
28136 00	Oxygen	....do....	695,688	657,990	972,821	629,792	597,688	968,465
28136 22	Gas produced by: Cryogenic onsite and pipeline <sup>6</sup>	....do....	(D)	(D)	(D)	(D)	(D)	(D)
28136 23	Noncryogenic processes (psa, vpsa, membranes, etc.) by industrial gas-producing companies <sup>6</sup>	....do....	542,066	533,324	596,810	477,431	469,943	576,712
28136 24	Captive uses for consumption in this plant: Cryogenic processes <sup>7</sup>	....do....	(D)	(X)	(X)	(D)	(X)	(X)
28136 26	Noncryogenic processes (psa, vpsa, membranes, etc.) <sup>7</sup>	....do....	(D)	(X)	(X)	(D)	(X)	(X)
28136 12	Liquid produced for: Merchant shipment	....do....	112,454	111,776	334,122	112,900	114,458	350,262
28136 32	Consumption in this plant <sup>7</sup>	....do....	26,537	(X)	(X)	27,277	(X)	(X)
28136 34	Supplemental shipments or uses	....do....	14,631	12,890	41,889	12,184	13,287	41,491
28137 00	Elemental gases and other industrial gases, n.e.c.	Mil cu ft....	(X)	(X)	940,383	(X)	(X)	'901,870
28137 11	Argon	....do....	(D)	(D)	(D)	(D)	(D)	(D)
28137 15	Argon, crude	....do....	(D)	(D)	(D)	(D)	(D)	(D)
	Argon, high purity, produced for cylinder and bulk delivery and pipeline shipments, and for consumption in this plant	....do....	18,298	17,900	335,060	16,905	16,401	293,063
	Helium <sup>8</sup>	....do....	(X)	3,414	(X)	(X)	3,465	(X)
	Hydrogen <sup>9</sup>	....do....	367,309	146,631	325,711	351,679	138,448	310,760

See footnotes at end of table.

Table 13. Quantity of Primary Production of Specified Industrial Gases: 1996 and 1995—Con.

[Production and quantity of shipments in million cubic feet. Value in thousands of dollars]

Product code	Product description	Unit of measure	1996			1995		
			Production	Shipments		Production	Shipments	
				Quantity	Value		Quantity	Value
2813— 28137 00	Industrial gases—Con. Elemental gases and other industrial gases, n.e.c.—Con.							
	Gas produced for:							
28137 22	Merchant shipment <sup>10</sup> . . . . .do . . . .		(D)	(D)	(D)	(D)	(D)	(D)
28137 32	Pipeline and on-site use <sup>10</sup> . . . . .do . . . .		(D)	(D)	(D)	(D)	(D)	(D)
28137 42	Consumption in this plant . . . . .do . . . .		207,061	(X)	(X)	196,662	(X)	(X)
	Liquid produced for:							
28137 52	Merchant shipment <sup>10</sup> . . . . .do . . . .		(D)	(D)	(D)	(D)	(D)	(D)
28137 62	Supplemental shipments or uses <sup>10</sup> . . . . .do . . . .		160,248	146,631	325,711	155,017	138,448	310,760
28137 90	Other elemental gases . . . . .(X) . . . .		(X)	(X)	(D)	(X)	(X)	(D)
28137 71	Nitrous oxide <sup>11</sup> . . . . .do . . . .		(D)	(D)	(D)	(D)	(D)	(D)
28137 98	Other compressed and liquefied gases <sup>11 12</sup> . . . . .(X) . . . .		(X)	(X)	227,874	(X)	(X)	'204,841
28130 00	Industrial gases, n.s.k. . . . .(X) . . . .		(X)	(X)	44,938	(X)	(X)	44,764

D Withheld to avoid disclosing data for individual companies. n.e.c. Not elsewhere classified. n.s.k. Not specified by kind.  
 'Revised by 5 percent or more from previously published data. X Not applicable.

<sup>1</sup>Excludes information from railroad ships, shipyards, welding shops, and small establishments using portable generators.

<sup>2</sup>Excludes quantities produced and consumed in plants manufacturing soda ash or urea. "Carbon dioxide gas" figures should be used with caution since the data includes figures for gas produced in production of petroleum, whose data is difficult to measure.

<sup>3</sup>Excludes amounts produced and consumed in manufacturing of synthetic ammonia or ammonia derivatives.

<sup>4</sup>Product code 28135 22 has been combined with product code 28135 23 to avoid disclosing data for individual companies.

<sup>5</sup>Product codes 28135 24 and 28135 26 are combined with product code 28135 32 to avoid disclosing data for individual companies.

<sup>6</sup>Product code 28136 22 has been combined with product code 28136 23 to avoid disclosing data for individual companies.

<sup>7</sup>Product codes 28136 24 and 28136 26 are combined with product codes 28136 32 to avoid disclosing data for individual companies.

<sup>8</sup>Source: U.S. Department of Interior, Bureau of Mines.

<sup>9</sup>Excludes amounts vented, used as fuel, etc., and amounts produced and consumed in manufacturing of synthetic ammonia and methanol, but includes an unspecified amount produced for sale or interplant transfer to plants consuming this gas in production of ammonia. Also excludes amount produced by ammonia dissociation process (cracking of ammonia). Also excludes amounts produced in petroleum refineries of captive use.

<sup>10</sup>Product codes 28137 22, 28137 32, 28137 52, and 28137 62 are combined to avoid disclosing data for individual companies.

<sup>11</sup>Product codes 28137 71 and 28137 98 are combined to avoid disclosing data for individual companies.

<sup>12</sup>Excludes hydrocarbon gases such as propane, butane, and propylene, or halogenated hydrocarbons and cyclopropane. Also, excludes sulfur dioxide and chlorine data, which are shown in Current Industrial Reports Series, MA28A(96)-1 Inorganic Chemicals.

Note: N.s.k. represents value of shipments for establishments that did not provide detailed information by type of product. These establishments, typically with less than five employees, are not included on MA28C mailing panel. N.s.k. value has been estimated based on rate of change for reporting establishments applied to previous year's figures.

Table 14. Production and Shipments of Acetylene by Geographic Area: 1996 and 1995

[Production and quantity in million cubic feet. Value in thousands of dollars]

Geographic area	1996			1995		
	Production	Shipments		Production	Shipments	
		Quantity	Value		Quantity	Value
<b>Total</b> .....	<b>5,516</b>	<b>3,268</b>	<b>159,567</b>	<b>5,897</b>	<b>3,358</b>	<b>154,994</b>
Northeast Region.....	95	95	9,230	<sup>1</sup> 111	<sup>1</sup> 112	<sup>1</sup> 10,360
North Central Region .....	228	221	22,768	<sup>2</sup> 227	<sup>2</sup> 233	<sup>2</sup> 23,329
East North Central.....	156	149	16,382	<sup>1</sup> 164	<sup>1</sup> 170	<sup>1</sup> 17,348
West North Central.....	72	72	6,386	63	63	5,981
South Region .....	5,035	2,794	110,509	5,391	2,844	103,039
South Atlantic and East South Central .....	737	717	47,268	701	672	44,313
West South Central.....	4,298	2,077	63,241	4,690	2,172	58,726
West Region.....	158	158	17,060	168	169	18,266
Mountain.....	33	33	3,267	31	31	3,462
Pacific .....	125	125	13,793	137	138	14,804

<sup>1</sup>Revised by 5 percent or more from previously published data.

See note at end of Table 17.

Table 15. Production and Shipments of Carbon Dioxide by Geographic Area: 1996 and 1995

[Production and quantity in short tons. Value in thousands of dollars]

Geographic area	Liquid			Solid		
	Production	Shipments		Production	Shipments	
		Quantity	Value		Quantity	Value
<b>1996</b>						
<b>Total</b> .....	<b>6,545,768</b>	<b>6,387,547</b>	<b>389,978</b>	<b>319,202</b>	<b>299,056</b>	<b>35,365</b>
Northeast Region <sup>1</sup> .....	(D)	(D)	(D)	(D)	(D)	(D)
North Central Region .....	1,872,700	1,807,416	80,838	152,359	144,344	15,658
East North Central <sup>1</sup> .....	1,255,454	1,224,955	60,587	86,021	79,936	10,411
West North Central.....	617,246	582,461	20,251	66,338	64,408	5,247
South Region .....	3,465,903	3,391,803	243,330	105,863	94,956	12,970
South Atlantic and East South Central .....	1,955,611	1,907,053	174,162	63,239	53,729	5,789
West South Central.....	1,510,292	1,484,750	69,168	42,624	41,227	7,181
West Region.....	1,207,165	1,188,328	65,810	60,980	59,756	6,737
Mountain.....	354,235	328,075	19,319	20,360	20,360	1,300
Pacific .....	852,930	860,253	46,491	40,620	39,396	5,437
<b>1995</b>						
<b>Total</b> .....	<b><sup>1</sup>6,409,561</b>	<b><sup>1</sup>6,057,212</b>	<b><sup>1</sup>368,986</b>	<b>300,433</b>	<b>297,896</b>	<b>35,069</b>
Northeast Region <sup>1</sup> .....	(D)	(D)	(D)	(D)	(D)	(D)
North Central Region .....	<sup>1</sup> 1,790,657	<sup>1</sup> 1,661,496	<sup>1</sup> 64,420	151,766	149,492	14,389
East North Central <sup>1</sup> .....	<sup>1</sup> 1,171,706	<sup>1</sup> 1,101,107	<sup>1</sup> 47,100	72,649	72,230	8,462
West North Central.....	618,951	560,389	17,320	79,117	77,262	5,927
South Region .....	<sup>1</sup> 3,429,809	<sup>1</sup> 3,254,716	<sup>1</sup> 243,262	<sup>1</sup> 96,063	<sup>1</sup> 95,822	<sup>1</sup> 14,090
South Atlantic and East South Central .....	<sup>1</sup> 1,932,307	<sup>1</sup> 1,859,196	<sup>1</sup> 175,210	53,502	52,912	6,302
West South Central.....	1,497,502	1,395,520	68,052	<sup>1</sup> 42,561	<sup>1</sup> 42,910	<sup>1</sup> 7,788
West Region.....	1,189,095	1,141,000	<sup>1</sup> 61,304	52,604	52,582	<sup>1</sup> 6,590
Mountain.....	360,503	332,187	18,877	<sup>2</sup> 21,040	<sup>2</sup> 20,947	<sup>1</sup> 1,284
Pacific .....	828,592	808,813	<sup>1</sup> 42,427	31,564	31,635	5,306

D Withheld to avoid disclosing data for individual companies. <sup>1</sup>Revised by 5 percent or more from previously published data.<sup>1</sup>Totals for Northeast Region are combined with East North Central to avoid disclosing data for individual companies.

See note at end of Table 17.



Table 16. Production and Shipments of Argon and Hydrogen by Geographic Area: 1996 and 1995

[Production and quantity in million cubic feet. Value in thousands of dollars]

Geographic area	Argon						Hydrogen					
	1996			1995			1996			1995		
	Production	Shipments		Production	Shipments		Production	Shipments		Production	Shipments	
		Quantity	Value		Quantity	Value		Quantity	Value		Quantity	Value
<b>Total</b> .....	<b>(D)</b>	<b>(D)</b>	<b>(D)</b>	<b>(D)</b>	<b>(D)</b>	<b>(D)</b>	<b>367,309</b>	<b>146,631</b>	<b>325,711</b>	<b>351,679</b>	<b>138,448</b>	<b>310,760</b>
Northeast Region.....	1,641	1,643	27,978	1,564	1,568	24,610	9,893	9,753	32,142	10,715	9,468	34,279
North Central Region .....	(D)	(D)	(D)	(D)	(D)	(D)	48,351	2,638	7,898	29,675	3,608	12,480
East North Central Division .....	8,040	8,081	136,801	6,445	6,430	121,356	(D)	(D)	(D)	(D)	(D)	(D)
West North Central Division .....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
South Region .....	8,538	8,114	144,890	8,870	8,392	134,574	290,776	(D)	(D)	294,138	(D)	(D)
South Atlantic Division .....	1,639	1,631	31,604	1,643	1,622	32,652	12,194	7,383	10,331	11,896	6,486	14,072
East South Central Division .....	1,470	1,454	24,121	1,228	1,225	15,931	4,206	(D)	(D)	4,379	(D)	(D)
West South Central Division .....	5,429	5,029	89,165	5,999	5,545	85,991	274,376	123,407	256,902	277,863	115,629	230,165
West Region .....	1,526	1,494	36,270	1,341	1,326	24,299	18,289	(D)	(D)	17,151	(D)	(D)

D Withheld to avoid disclosing data for individual companies.

See note at end of Table 17.

Table 17. Production and Shipments of Liquid Nitrogen and Oxygen Produced for Merchant Shipment by Geographic Area: 1996 and 1995

[Production and quantity in million cubic feet. Value in thousands of dollars]

Geographic area	Nitrogen						Oxygen					
	1996			1995			1996			1995		
	Production	Shipments		Production	Shipments		Production	Shipments		Production	Shipments	
		Quantity	Value		Quantity	Value		Quantity	Value		Quantity	Value
<b>Total</b> .....	<b>246,267</b>	<b>245,951</b>	<b>631,473</b>	<b>239,144</b>	<b>251,756</b>	<b>639,466</b>	<b>112,454</b>	<b>111,776</b>	<b>334,122</b>	<b>112,900</b>	<b>114,458</b>	<b>350,262</b>
Northeast Region.....	46,898	47,903	114,158	46,403	46,714	116,499	20,820	20,843	60,734	21,125	21,325	62,914
North Central Region .....	71,714	71,655	166,499	72,102	83,611	188,720	37,581	37,685	92,738	36,562	36,462	103,146
East North Central Division .....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
West North Central Division .....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
South Region .....	84,997	84,902	232,490	81,906	83,200	223,438	40,915	41,008	131,122	42,133	43,074	135,328
South Atlantic Division .....	38,385	38,315	98,454	36,217	36,572	98,487	19,598	19,662	58,338	22,831	23,132	68,643
East South Central Division .....	16,700	16,424	45,349	15,440	15,355	39,966	9,385	9,319	28,412	7,712	7,703	25,382
West South Central Division .....	29,912	30,163	88,687	30,249	31,273	84,985	11,932	12,027	44,372	11,590	12,239	41,303
West Region .....	42,658	41,491	118,326	38,733	38,231	110,809	13,138	12,240	49,528	13,080	13,597	48,874

D Withheld to avoid disclosing data for individual companies.      †Revised by 5 percent or more from previously published data.

Note: Northeast Region: Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, and Pennsylvania. North Central Region: East North Central Division: Ohio, Indiana, Illinois, Michigan, and Wisconsin. West North Central Division: Minnesota, Iowa, Missouri, North Dakota, South Dakota, Nebraska, and Kansas. South Region: South Atlantic Division: Delaware, Maryland, District of Columbia, Virginia, West Virginia, North Carolina, South Carolina, Georgia, and Florida. East South Central Division: Kentucky, Tennessee, Alabama, and Mississippi. West South Central Division: Arkansas, Louisiana, Oklahoma, and Texas. West Region: Mountain: Montana, Idaho, Wyoming, Colorado, New Mexico, Arizona, Utah, and Nevada. Pacific: Washington, Oregon, California, Alaska, and Hawaii.

Table 18. Quantity of Primary Production of Specified Industrial Gases: 1996 and 1995

[Production in million cubic feet, except where otherwise noted]

Product code	Product description	1996					1995				
		Total	First quarter	Second quarter	Third quarter	Fourth quarter	Total	First quarter	Second quarter	Third quarter	Fourth quarter
28132 00	Acetylene <sup>1</sup> . . . . .	5,516	1,343	1,369	1,360	1,444	5,897	1,661	1,425	1,445	1,366
28132 11	Produced for compression, including cylinder and pipeline . .	951	247	228	219	257	'979	'284	245	215	'235
28132 21	Produced for pipeline shipment, excluding that shipped to be compressed, and for consumption in this plant . . . . .	4,565	1,096	1,141	1,141	1,187	4,918	1,377	1,180	1,230	1,131
28133 01	Carbon dioxide: <sup>2</sup> Gas, including amounts produced and liquefied (short tons) . .	4,793,840	(S)	(S)	(S)	(S)	5,633,211	(S)	(S)	(S)	(S)
28133 02	Liquid, including amounts produced and used to make dry ice (short tons) . . . . .	6,545,768	1,505,527	1,636,442	1,767,357	1,636,442	'6,409,561	1,538,295	1,602,390	1,730,581	'1,538,295
28133 31	Solid (dry ice) (short tons) . . . . .	319,202	73,416	76,608	89,377	79,801	300,433	'66,095	78,113	84,121	72,104
28137 15	Argon, high purity: Produced for cylinder and bulk delivery and pipeline shipments, and for consumption in this plant . . . . .	18,298	4,392	4,575	4,575	4,756	16,905	4,226	4,057	4,226	4,396
28137 22	Hydrogen <sup>3</sup> . . . . .	367,309	82,879	88,155	85,147	111,128	351,679	80,053	88,336	91,436	91,854
28137 32	Gas produced for: Merchant shipment <sup>4</sup> . . . . .	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
28137 42	Pipeline and onsite use <sup>4</sup> . . . . .	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
28137 52	Consumption in this plant . . . . .	207,061	47,624	49,695	43,483	66,259	196,662	41,299	51,132	51,132	53,099
28137 62	Liquid produced for: Merchant shipment <sup>4</sup> . . . . .	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
28137 62	Other shipments or uses <sup>4</sup> . . . . .	160,248	35,255	38,460	41,664	44,869	155,017	38,754	37,204	40,304	38,755
28135 00	Nitrogen <sup>5</sup> . . . . .	850,299	206,452	209,456	215,859	218,532	844,405	208,066	211,101	211,351	213,887
28135 22	Gas produced by: Cryogenic onsite and pipeline <sup>5</sup> . . . . .	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
28135 23	Noncryogenic processes (psa, vpsa, membranes, etc.) by industrial gas-producing companies <sup>6</sup> . . . . .	562,974	135,114	140,744	140,744	146,372	565,876	141,469	141,469	141,469	141,469
28135 24	Captive uses for consumption in this plant (user-owned): Cryogenic processes <sup>7</sup> . . . . .	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
28135 26	Noncryogenic processes (psa, vpsa, membranes, etc.) <sup>7</sup> . . . . .	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
28135 12	Liquid produced for: Merchant shipment . . . . .	246,267	61,567	59,104	64,029	61,567	239,144	57,395	59,786	59,786	62,177
28135 32	Consumption in this plant <sup>7</sup> . . . . .	24,582	6,146	5,654	6,637	6,145	'25,036	'5,758	'6,259	'6,509	'6,510
28135 34	Other shipments or uses . . . . .	16,476	3,625	3,954	4,449	4,448	14,349	3,444	3,587	3,587	3,731
28136 00	Oxygen . . . . .	695,688	166,965	173,922	173,922	180,879	629,792	157,448	157,448	157,448	157,448
28136 22	Gas produced by: Cryogenic onsite and pipeline <sup>8</sup> . . . . .	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
28136 23	Noncryogenic processes (psa, vpsa, membranes, etc.) by industrial gas-producing companies <sup>8</sup> . . . . .	542,066	130,096	135,517	140,937	135,516	477,431	119,358	119,358	119,358	119,357

See footnotes at end of table.

Table 18. Quantity of Primary Production of Specified Industrial Gases: 1996 and 1995—Con.

[Production in million cubic feet, except where otherwise noted]

Product code	Product description	1996					1995				
		Total	First quarter	Second quarter	Third quarter	Fourth quarter	Total	First quarter	Second quarter	Third quarter	Fourth quarter
	Oxygen—Con.										
28136 24	Captive uses for consumption in this plant (user-owned):										
	Cryogenic processes <sup>9</sup> . . . . .	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
28136 26	Noncryogenic processes (psa, vpsa, membranes, etc.) <sup>9</sup> . . . . .	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
	Liquid produced for:										
28136 12	Merchant shipment . . . . .	112,454	29,238	28,114	26,989	28,113	112,900	29,354	28,225	27,096	28,225
28136 32	Consumption in this plant <sup>9</sup> . . . . .	26,537	(S)	(S)	(S)	(S)	27,277	(S)	(S)	(S)	(S)
28136 34	Other shipments or uses . . . . .	14,631	3,511	3,365	3,511	4,244	12,184	3,168	2,802	3,046	3,168

D Withheld to avoid disclosing data for individual companies.      <sup>r</sup>Revised by 5 percent or more from previously published data.      S Does not meet publication standards.

<sup>1</sup>Excludes information from railroad ships, shipyards, welding shops, and small establishments using portable generators.

<sup>2</sup>Excludes quantities produced and consumed in plants manufacturing soda ash and urea.

<sup>3</sup>Excludes amounts vented, used as fuel, etc., and amounts produced and consumed in manufacturing of synthetic ammonia and methanol, but includes an unspecified amount produced for sale or interplant transfer to plants consuming this gas in production of ammonia. Also excludes amounts produced by ammonia dissociation process (cracking of ammonia). Also excludes amounts produced in petroleum refineries for captive use.

<sup>4</sup>Product codes 28137 22, 28137 32, 28137 52, and 28137 62 have been combined to avoid disclosing data for individual companies.

<sup>5</sup>Excludes amounts produced and consumed in manufacturing of synthetic ammonia derivatives.

<sup>6</sup>Product code 28135 22 has been combined with product code 28135 23 to avoid disclosing data for individual companies.

<sup>7</sup>Product codes 28135 24, 28136 26, and 28135 22 have been combined to avoid disclosing data for individual companies.

<sup>8</sup>Product codes 28136 22 and 28136 23 have been combined to avoid disclosing data for individual companies.

<sup>9</sup>Product codes 28136 24, 28136 26, and 28136 32 have been combined with product codes to avoid disclosing data for individual companies.

Table 19. Production, Exports, Imports, and Apparent Consumption of Industrial Gases: 1996 and 1995

Product code	Product description	Unit of measure	Manufacturers' production	Exports of domestic merchandise <sup>1</sup>	Percent exports to manufacturers' production	Imports for consumption <sup>2</sup>	Apparent consumption <sup>3</sup>	Percent imports to apparent consumption
<b>1996</b>								
28133 01, 02, 31	Carbon dioxide (gas, liquid, and solid).....	Metric tons. . . .	10,583,868	70,461	0.7	18,946	10,532,353	0.2
28137 15	Argon .....	Mil cu meters .	518	204	39.4	27	341	7.9
28137 22, 32, 42, 52, 62	Hydrogen.....	Mil cu meters .	10,402	246	2.4	155	10,311	1.5
28135 00	Nitrogen .....	Mil cu meters .	24,080	49	0.2	74	24,105	0.3
28136 00	Oxygen.....	Mil cu meters .	19,702	143	0.7	14	19,573	0.1
<b>1995</b>								
28133 01, 02, 31	Carbon dioxide (gas, liquid, and solid).....	Metric tons. . . .	11,205,161	68,141	0.6	14,712	11,151,732	0.1
28137 15	Argon .....	Mil cu meters .	479	166	34.7	25	338	7.4
28137 22, 32, 42, 52, 62	Hydrogen.....	Mil cu meters .	9,960	269	2.7	155	9,846	1.6
28135 00	Nitrogen .....	Mil cu meters .	23,914	44	0.2	51	23,921	0.2
28136 00	Oxygen.....	Mil cu meters .	17,836	91	0.5	37	17,782	0.2

<sup>1</sup>Source: Bureau of the Census report EM 545, *U.S. Exports*.

<sup>2</sup>Source: Bureau of the Census report IM 145, *U.S. Imports for Consumption*.

<sup>3</sup>Apparent consumption is derived by subtracting exports from total of production plus imports.

Note: For comparison of SIC-based codes with Schedule B export numbers and HTSUSA import numbers, see "Contact for Data Users" at end of this subsection.

## HISTORICAL NOTE

Data on industrial gases have been collected by the Bureau of the Census since 1941. Prior to 1991, data were collected both monthly and annually. Beginning in 1991, as a result of budget reductions, the monthly series was canceled and replaced with a similar quarterly series. Historical data may be obtained from Current Industrial

Reports (called Facts for Industry before 1959) available at your local Federal Depository Library. Historical data are also available on microfiche; contact Customer Services, 301-457-4100.

## CONTACT FOR DATA USERS

For additional information about these data, contact Suzanne Conard, 301-457-4791.

## PAINT, VARNISH, AND LACQUER (MA28F)

### INTRODUCTION

The data in this subsection were collected in the Current Industrial Report surveys MQ28F and MA28F, Paint and Allied Products. The data consist of quarterly and annual statistics on manufacturers' shipments of paint and allied products for 1996 and 1995. The annual statistics are based on reported data from approximately 500 companies having 20 or more employees and represent approximately 95 percent of the paint industry (SIC 2851). Estimates are used for companies with less than 20 employees, as well as for those companies whose reports were not received in time for publication.

### SUMMARY OF FINDINGS

In 1996, total manufacturers' shipments of paint and allied products amounted to \$16,408.9 million, an increase of 3.3 percent from the 1995 shipments of \$15,889.3 million.

Shipments of architectural coatings increased 3.4 percent to \$6,194.9 million in 1996 from \$5,993.4 million in 1995.

Shipments of original equipment manufactures (OEM) coatings increased 2.6 percent to \$5,459.5 million in 1996 from \$5,322.2 million in 1995.

Shipments of powder coatings decreased 1.4 percent to \$470.8 million in 1996 from \$477.7 million in 1995.

Shipments of special purpose coatings increased 5.6 percent to \$3,240.4 million in 1996 from \$3,069.2 million in 1995.

Shipments of miscellaneous allied paint products increased 0.6 percent to \$1,514.1 million in 1996 from \$1,504.0 million in 1995.

### EXPLANATION OF TERMS

**Architectural coatings.** Coatings for onsite application to interior or exterior surfaces of residential, commercial, institutional, or industrial buildings. These are protective and decorative finishes applied at ambient temperatures for ordinary use and exposure.

*Clear finishes and spar varnishes.* Transparent protective and/or decorative films, including urethane coatings, natural varnishes, and shellac varnishes.

*Eggshell finish.* Low sheen (semimatte) surfaces that exhibit surface reflectance (gloss) similar to that of an eggshell, lying between flat and semigloss.

*Enamels.* Topcoats with the ability to form a smooth surface; usually associated with a high gloss, but also used with lesser gloss, i.e., flat enamels.

*Primer.* First complete coat of a painting system applied to a surface. Designed to provide adequate adhesion to new surfaces and to meet special requirements such as absorption and/or corrosion control.

*Stains.* Transparent and semitransparent solutions or suspensions of coloring matter in a vehicle, designed to color a surface by penetration without hiding it, or to color a material into which it is incorporated.

*Solvent.* Nonaqueous liquid, usually volatile, used to dissolve or disperse the coating constituents. This liquid evaporates during drying and does not become part of the dried coating.

*Lacquers.* Coating composition based on synthetic thermoplastic materials dissolved in organic solvent, which dries primarily by solvent evaporation. Typical lacquers include those based on nitrocellulose and other cellulose derivations, vinyl resins, and acrylic resins.

*Undercoat.* A coat of paint applied on new wood, over a primer, or over a previous coat of paint, to improve the seal and to serve as a base for the top coat.

*Exterior coatings.* Architectural coatings that are expected to possess reasonable durability when exposed to natural weathering.

**Miscellaneous paint products.** Includes thinners for dopes, lacquers, and oleoresinous thinners, including mixtures and proprietary thinners (sold as such); aerosol paints made from purchased paint, both exterior and interior; organosols and plastisols, other than coatings; paint and varnish driers; and miscellaneous related paint products, e.g., pigment dispersions, ink vehicles, and bleached shellac (not varnish).

*Putty and allied products.* Includes wood and textile preservatives (nonpressure type) such as wood fillers and sealers, putty and glazing compounds, paint and varnish removers, and other allied paint products, including brush cleaners.

(Source: *Paint/Coatings Dictionary, Federation of Societies for Coatings Technology, 1978*)

**OEM coatings.** Coatings formulated specifically for OEM to meet conditions of application and product requirements, and applied to such products during the manufacturing process.

*Powder coatings.* One hundred-percent solid coatings applied as dry powders and subsequently formed into a film with heat.

*Electrical insulating coatings.* Coatings (varnishes), often used in combination with materials such as mica, fabrics, and paper, to provide insulation for electrical equipment. These coatings are formulated to have high resistance to electrical conduction.

**Quantity and value of shipments.** Shipments are collected in thousands of gallons and thousands of dollars. The only exception to this is powder coatings that are collected in pounds and converted to gallons by using a conversion factor of 3 (3 lb =1 gallon).

**Special-purpose coatings, including coatings for transportation after market.** These may also be stock type or shelf goods, but differ from general architectural coatings by the fact that they are formulated for special applications and/or special environmental conditions such as extreme temperatures, chemicals, and fumes.

*Industrial new construction and maintenance paints.* High performance coatings formulated to withstand extremes of use such as heavy abrasion, water immersion, chemicals, corrosion, extreme temperatures, and electrical or solvent exposure. Also includes maintenance coatings used to

maintain nonresidential structures; building and nonbuilding requirements in such areas as public utilities, railroads, roads, and highways; and other industrial plant coatings, the primary purpose of which is protection. Industrial new construction and maintenance paints can be used on either interior or exterior applications.

*Marine paints, including ship and offshore.* Paints and coatings specifically formulated to withstand water immersion and exposure to marine atmosphere. Excludes spar varnish. Includes marine refinish paints.

*Traffic marking paints.* Paints specifically formulated to withstand wear of vehicular traffic and to be highly visible at night; used to mark center lines on roadways, traffic lanes, crosswalks, etc. Includes paints manufactured with reflective beads.

*Refinish paints.* Coatings formulated specifically to meet particular product and application requirements, and sold to the refinishing trade or through retail outlets for after-market application.

Table 20. Summary of Estimated U.S. Total Quantity and Value of Shipments of Paint and Allied Products: 1991 to 1996

[Quantity in millions of gallons. Value in millions of dollars]

Year	Total		Architectural coatings		Product coatings OEM		Special-purpose coatings		Miscellaneous allied paint products	
	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
1996	1,438.6	16,473.4	638.2	6,244.4	373.5	5,399.5	210.1	3,276.0	216.8	1,553.5
1995	1,408.3	15,951.6	621.1	6,041.3	376.2	5,263.6	195.1	3,103.0	215.9	1,543.7
1994	1,431.1	15,645.2	644.8	5,888.3	372.9	5,069.9	193.8	3,197.3	219.6	1,489.7
1993	1,336.5	14,630.1	608.1	5,615.3	356.6	4,788.3	179.0	2,937.7	192.8	1,288.8
1992	1,236.0	13,595.1	575.6	5,294.3	311.7	4,213.5	172.7	2,933.8	176.0	1,153.5
1991	1,226.8	13,009.4	537.9	4,900.7	320.4	4,005.4	179.5	2,910.8	189.0	1,192.5

Note: Data for 1991 through 1996 are estimates of total U.S. value of shipments of paint, varnish, and lacquer. These estimates were developed by increasing product class totals shown in Table 21 by adjustment factors. For 1996 through 1992, these factors are: 1.008 for "Architectural coatings," .989 for "Product coatings OEM," 1.011 for "Special-purpose coatings," and 1.026 for "Miscellaneous allied paint products." For 1991, these factors are: 1.00 for "Architectural coatings," 1.04 for "Product coatings OEM," 1.06 for "Special-purpose coatings," and 1.16 for "Miscellaneous allied paint products." For example: quantity and value of OEM coatings for 1996 shown in Table 21 amounted to 377,659 and \$5,459,536, respectively. Adjusting these data by factor of .989 (multiplying 377,659 and \$5,459,536 by .989) equals adjusted and rounded quantity and value of 373.5 and \$5,399.5 shown above in Table 20. These factors are used because annual survey panel was selected to measure approximately 95 percent of total shipments in paint industry (SIC 2851). Adjustment factors (based on 1992 census relationships) bring each product code value up to 100 percent. Quarterly data for 1996 and 1995 reflect adjusted totals in Table 20 and are shown in Table 22 along with quarterly data originally published in Current Industrial Reports, quarterly series MQ28F, *Paint, Varnish, and Lacquer*.

Table 21. Quantity and Value of Shipments of Paint and Allied Products: 1996 and 1995

[Quantity in thousands of gallons. Value in thousands of dollars]

Product code	Product description	1996		1995	
		Quantity	Value	Quantity	Value
2851—	Paint and allied products <sup>1</sup>	1,429,909	16,408,878	1,399,983	15,889,329
28511 —	Architectural coatings	633,139	6,194,856	616,173	5,993,366
	Exterior solvent type	67,222	771,884	74,259	809,174
28511 12	Solvent thinned paints and tinting bases, including barn and roof paints	13,995	150,632	17,489	161,635
28511 15	Solvent thinned enamels and tinting bases, including exterior-interior floor enamels	13,829	229,867	15,084	240,694
28511 25	Solvent thinned undercoaters and primers	8,278	94,835	8,496	92,702
28511 35	Solvent thinned clear finishes and sealers	7,330	69,157	8,804	82,554
28511 37	Solvent thinned stains, including shingle and shake	15,616	149,719	16,509	159,231
28511 39	Other exterior solvent thinned coatings, including bituminous paints	8,174	77,674	7,877	72,358
	Exterior water-type	163,085	1,518,412	151,858	1,430,114
28511 41	Water thinned paints and tinting bases, including barn and roof paints	116,652	1,074,818	104,951	997,903
28511 42	Water thinned exterior-interior deck and floor enamels	2,603	24,130	1,959	22,105
28511 44	Water thinned undercoaters and primers	8,890	109,397	9,701	113,200
28511 49	Water thinned stains and sealers	11,860	112,074	10,311	94,809
28511 55	Other exterior water thinned coatings	23,080	197,993	24,936	202,097
	Interior solvent type	57,948	729,978	58,380	743,874
28511 63	Flat solvent thinned wall paints and tinting bases, including mill white paints	5,125	55,538	5,953	70,256
28511 65	Gloss and quick drying enamels and other gloss-solvent thinned paints and enamels	4,448	52,799	4,001	52,422
28511 69	Semigloss, eggshell, satin solvent thinned paints, and tinting bases	15,449	217,882	14,843	205,660
28511 71	Solvent thinned undercoaters and primers	10,833	109,572	11,229	111,246
28511 75	Solvent thinned clear finishes and sealers	8,595	121,113	9,082	133,483
28511 77	Solvent thinned stains	5,533	78,826	5,915	85,924
28511 79	Other interior solvent thinned coatings	7,965	94,248	7,357	84,883

See footnotes at end of table.

Table 21. Quantity and Value of Shipments of Paint and Allied Products: 1996 and 1995—Con.

[Quantity in thousands of gallons. Value in thousands of dollars]

Product code	Product description	1996		1995	
		Quantity	Value	Quantity	Value
2851—	Paint and allied products—Con.				
28511 —	Architectural coatings—Con.				
28511 81	Interior water-type .....	326,940	2,994,601	309,962	2,781,654
28511 83	Flat water thinned paints and tinting bases .....	149,886	1,342,986	143,622	1,293,672
28511 86	Semigloss, eggshell, satin, and other water thinned paints and tinting bases .....	121,642	1,217,592	117,249	1,091,594
28511 88	Water thinned undercoaters and primers .....	25,657	174,973	22,069	156,993
28511 93	Other interior water thinned coatings, stains, and sealers .....	29,755	259,050	27,022	239,395
28511 00	Architectural lacquers .....	5,452	49,222	6,765	68,479
28512	Architectural coatings, n.s.k. ....	12,492	130,759	14,949	160,071
28512	Product finishes for original equipment manufactures (OEM), excluding marine coatings .....	377,659	5,459,536	380,396	5,322,159
28512 21	Automobile, light truck, van, and sport utility vehicle finishes .....	43,784	1,162,813	45,529	1,125,587
28512 24	Automobile parts finishes .....	2,059	63,924	2,096	67,303
28512 26	Heavy duty truck, bus, and recreational vehicle finishes ..	14,593	348,238	15,443	363,992
28512 28	Other transportation equipment finishes, including aircraft and railroad .....	9,159	138,459	9,460	147,311
28512 35	Appliance, heating equipment, and air-conditioner finishes .....	6,404	94,261	6,414	93,467
28512 37	Wood furniture, cabinet, and fixture finishes .....	45,576	439,686	37,619	356,002
28512 39	Wood and composition board flat stock finishes .....	15,544	155,841	10,378	111,903
28512 41	Metal building product finishes, including coatings for aluminum extrusions and siding .....	31,254	537,587	29,241	484,710
28512 43	Container and closure finishes .....	54,690	503,701	55,073	487,450
28512 47	Machinery and equipment finishes, including road building equipment and farm implements .....	15,331	231,511	17,723	262,834
28512 49	Nonwood furniture and fixture finishes, including business equipment finishes .....	27,142	402,725	34,265	465,081
28512 52	Paper, paper board, film, and foil finishes, excluding pigment binders .....	16,246	134,533	18,687	130,144
28512 53	Electrical insulating coatings .....	4,779	137,402	5,077	125,456
28512 54	Appliance powder coatings <sup>2</sup> .....	7,687	75,071	9,335	81,736
28512 56	Automotive powder coatings <sup>2</sup> .....	11,454	101,584	11,869	109,518
28512 58	Architectural powder coatings (such as aluminum extrusions) <sup>2</sup> .....	2,203	14,704	2,137	14,160
28512 60	Lawn and garden powder coatings <sup>2</sup> .....	2,845	33,730	2,553	27,578
28512 62	General metal finishing powder coatings <sup>2</sup> .....	25,535	245,729	26,373	244,720
28512 67	Other industrial product finishes .....	31,751	505,667	28,849	457,710
28512 00	Product finishes for original equipment manufactures (OEM), excluding marine coatings, n.s.k. ....	9,623	132,370	12,275	165,497
28513	Special-purpose coatings, including all marine coatings ....	207,847	3,240,397	192,976	3,069,234
28513 01	Industrial new construction and maintenance paints (especially formulated coatings for special conditions of industrial plants and/or facilities requiring protection against extreme temperatures, fungi, chemicals, fumes, etc.):				
28513 05	Interior .....	23,035	250,033	20,308	214,085
28513 11	Exterior .....	49,541	681,422	42,168	693,612
28513 13	Traffic marking paints (all types, shelf goods, and highway department) .....	36,944	239,769	33,163	212,267
28513 15	Automotive, other transportation and machinery refinish paints and enamels, including primers .....	48,162	1,438,094	48,108	1,302,084
28513 19	Marine paints, ship and off-shore facilities and shelf goods for both new construction and marine refinish and maintenance, excluding spar varnish .....	15,358	275,382	18,420	287,100
28513 31	Marine paints for yacht and pleasure craft, new construction, refinish, and maintenance .....	75	1,317	(D)	(D)
28513 00	Aerosol-paint concentrates produced for packaging in aerosol containers .....	30,113	265,836	26,340	272,252
28513 00	Special-purpose coatings, n.s.k. ....	4,619	88,544	(D)	(D)

See footnotes at end of table.





Table 23. Shipments, Exports, Imports, and Apparent Consumption of Selected Paints: 1996 and 1995

[Quantity in millions of gallons. Value in millions of dollars]

Product code	Product description	Manufacturers' shipments		Exports of domestic merchandise <sup>1</sup>		Percent exports to manufacturers' production		Imports for consumption <sup>2</sup>		Apparent consumption <sup>4</sup>		
		Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value <sup>3</sup>	Quantity	Value	
28511 00, 28512 00, 28513 00	Paint, varnish, and lacquer . . . . .	1996 . . . . .	1,218.6	14,894.8	(NA)	678.3	(NA)	4.5	(NA)	240.3	(NA)	14,456.8
		1995 . . . . .	1,189.5	14,384.8	(NA)	609.9	(NA)	4.2	(NA)	206.7	(NA)	13,981.6
28515 23, 31	Paint and varnish remover, including thinners . . . . .	1996 . . . . .	65.8	304.3	(NA)	49.4	(NA)	16.2	(NA)	14.8	(NA)	269.7
		1995 . . . . .	57.5	273.1	(NA)	52.2	(NA)	19.1	(NA)	35.7	(NA)	256.6
28515 98	Other miscellaneous allied paint products . . . . .	1996 . . . . .	108.9	726.2	(NA)	114.9	(NA)	14.7	(NA)	56.1	(NA)	667.4
		1995 . . . . .	115.2	746.8	(NA)	102.3	(NA)	14.0	(NA)	33.3	(NA)	677.8

NA Not available.

<sup>1</sup>Source: Bureau of the Census report EM 545, *U.S. Exports*.<sup>2</sup>Source: Bureau of the Census report IM 145, *U.S. Imports for Consumption*.<sup>3</sup>Dollar value represents c.i.f. (cost, insurance, and freight) value at first port of entry in the United States plus U.S. import duties.<sup>4</sup>Apparent consumption is equal to domestic shipments, plus imports, minus exports.

Note: For comparison of SIC-based codes with Schedule B export numbers and HTSUSA import numbers, see "Contact for Data Users" at end of this subsection.

## HISTORICAL NOTE

Data on paint, varnish, and lacquer have been collected by the Bureau of the Census since 1928. Prior to 1981, a monthly sample survey, benchmarked to the census of manufactures, was used to collect these data. Beginning with data year 1981, an annual survey on paint and related products was added. The monthly survey was still conducted through 1990. Beginning in 1991, due to budget reductions, the monthly series was canceled and replaced with a similar quarterly series.

Historical data may be obtained from the Current Industrial Reports available at your local Federal Depository Library. Prior to 1959, the series was titled "*Facts for Industry*." Historical data are also available on microfiche; contact Customer Services, 301-457-4100.

## CONTACT FOR DATA USERS

For additional information about these data, contact Kim Credito, 301-457-1606.

## PHARMACEUTICAL PREPARATIONS, EXCEPT BIOLOGICALS (MA28G)

### INTRODUCTION

The data in this subsection are from the survey MA28G, Pharmaceutical Preparations, which covers manufacturers of pharmaceutical preparations, except biologicals. The data include all preparations that can be dispensed in measured portions, to produce the therapeutic effect for which the preparation is most commonly employed (liquids, tablets, pills, capsules, lozenges, powders, ointments, jellies, salves, inhaler tubes, etc.). The survey excludes all uncompounded medicinal chemicals and botanicals.

### EXPLANATION OF TERMS

**Bulk domestic shipments.** Represents the value of dosage forms shipped in bulk to other plants of the same company or other companies in large drums or other

bulk-type containers requiring only repackaging. Shipments to hospitals or similar users are excluded from this item description and are reported in the product areas described in the Prescription and Nonprescription definition.

**Nonprescription.** A drug product that is sold over the counter, whether advertised or otherwise promoted to the professions, or advertised or otherwise promoted to the general public. (Note: Prior to 1984, separate figures were collected for drugs promoted to the professions, "OTC Professional," and drugs promoted to the general public, "Proprietary".)

**Prescription legend.** A drug product that by Federal law is available only by prescription by a licensed physician.

Table 24. **Value of Product Class Shipments of Pharmaceutical Preparations, Except Biologicals: 1987 to 1996**

[In millions of dollars]

Product code	Product description	1996	1995	1994	1993	1992	1991	1990	1989	1988	1987
28341 —	Pharmaceutical preparations: Pharmaceutical preparations affecting neoplasms, endocrine system, and metabolic diseases, for human use .....	4,775.1	4,075.9	4,119.8	3,820.3	3,317.8	2,877.4	2,743.2	2,507.4	2,071.2	1,994.9
28342 —	Pharmaceutical preparations acting on the central nervous system and sense organs, for human use .....	10,207.3	9,228.2	8,989.9	8,926.8	8,319.3	7,430.8	7,218.5	6,441.3	6,172.7	5,740.5
28343 —	Pharmaceutical preparations acting on the cardiovascular system, for human use .....	6,965.3	5,987.9	5,673.9	5,234.2	4,908.7	4,810.3	4,814.6	4,874.9	4,449.9	3,795.9
28344 —	Pharmaceutical preparations acting on the respiratory system, for human use .....	5,179.0	5,196.1	5,566.4	5,509.8	5,276.8	4,259.7	3,724.1	3,286.2	3,224.0	2,811.4
28345 —	Pharmaceutical preparations acting on the digestive or genito-urinary system, for human use .....	8,602.5	8,593.4	8,479.2	7,995.7	7,110.9	5,624.8	4,840.2	4,363.0	3,860.8	2,954.8
28346 —	Pharmaceutical preparations acting on the skin, for human use .....	2,074.4	2,171.0	2,089.7	1,979.7	1,759.6	1,578.5	1,558.0	1,451.7	1,388.5	1,288.3
28347 —	Vitamin, nutrient, and hematinic preparations, for human use .....	5,412.7	4,811.6	4,402.1	3,559.8	2,923.7	2,787.2	2,587.9	2,672.4	2,538.5	2,570.7
28348 —	Pharmaceutical preparations affecting parasitic and infective diseases, for human use .....	7,217.9	7,195.5	7,257.4	7,233.6	7,017.6	6,006.1	5,411.0	4,936.2	4,593.6	4,024.9
28349 —	Pharmaceutical preparations for veterinary use .....	1,750.4	1,604.7	1,631.0	1,352.5	1,327.3	1,462.2	1,056.8	1,071.1	1,051.5	997.1

Table 25. Value of Shipments of Pharmaceutical Preparations, Except Biologicals: 1996 and 1995

[In thousands of dollars]

Product code	Product description	1996				1995			
		Total	Prescription legend	Non-prescription	Bulk shipments <sup>1</sup>	Total	Prescription legend	Non-prescription	Bulk shipments <sup>1</sup>
2834—	Pharmaceutical preparations (except biologicals) . . . . .	52,184,509	40,001,135	11,055,448	1,127,926	48,864,310	36,814,909	10,918,998	<sup>r</sup> 1,130,403
28341—	Pharmaceutical preparations affecting neoplasms, endocrine system, and metabolic diseases, for human use . . . . .	4,775,056	4,686,832	47,896	40,328	4,075,943	3,981,876	65,988	28,079
	Hormones and synthetic substitutes:								
	Corticoids:								
28341 11	Systemic . . . . .	213,457	(D)	(D)	(D)	252,564	(D)	(D)	(D)
28341 15	Local and topical including anti-infective combinations . . . . .	424,457	(D)	(D)	(D)	437,174	(D)	(D)	-
28341 17	Androgens . . . . .	(D)	(D)	-	-	(D)	(D)	-	-
28341 19	Estrogens . . . . .	173,558	173,558	-	(D)	154,238	154,238	-	(D)
28341 21	Insulin and antidiabetic agents . . . . .	(D)	(D)	(D)	-	(D)	(D)	(D)	-
28341 25	ACTH (corticotropin) . . . . .	3,672	3,672	-	-	(D)	(D)	-	-
28341 27	Oral contraceptive preparations . . . . .	58,223	58,223	-	-	55,378	55,378	-	-
28341 29	Progestogens, excluding premenstrual tension preps (see product code 28345 85) . . . . .	(D)	(D)	-	(D)	(D)	(D)	-	(D)
28341 31	Sex hormone combinations (except progestogen combinations) . . . . .	(D)	(D)	-	-	(D)	(D)	-	-
28341 35	Thyroid and antithyroid preparations, including iodides . . . . .	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
28341 37	Anabolic agents . . . . .	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
28341 39	Other hormone preparations . . . . .	284,118	(D)	(D)	(D)	269,226	(D)	(D)	(D)
	Antineoplastic agents:								
28341 43	Radioactive isotopes for internal use . . . . .	18,333	18,333	-	-	(D)	(D)	-	-
283416	Specific antineoplastic agents . . . . .	670,248	670,248	-	(D)	645,145	645,145	-	(D)
28341 98	Other pharmaceutical preparations affecting neoplasms, the endocrine system, and metabolic diseases, for human use . . . . .	1,488,202	(D)	(D)	(D)	1,018,083	1,014,934	3,149	(D)
28342—	Pharmaceutical preparations acting on the central nervous system and the sense organs, for human use . . . . .	10,207,294	7,983,097	2,147,177	77,022	<sup>r</sup> 9,228,199	6,981,238	2,153,123	<sup>r</sup> 93,838
28342 11	Parasympathomimetic cholinergic drugs . . . . .	<sup>a</sup> 21,605	<sup>a</sup> 21,605	-	-	16,900	16,900	-	(D)
28342 13	Skeletal muscle relaxants . . . . .	313,009	(D)	(D)	(D)	357,225	(D)	(D)	(D)
	Internal analgesics and antipyretics:								
	Narcotic:								
28342 19	Opium and derivatives . . . . .	398,655	398,655	-	(D)	439,703	439,703	-	(D)
28342 20	Synthetic narcotics . . . . .	319,226	319,226	-	-	259,019	259,019	-	(D)
	Nonnarcotic:								
	Salicylates:								
28342 22	Aspirin (acetylsalicylic acid) . . . . .	241,525	(D)	(D)	7,304	213,783	2,148	211,635	(D)
28342 24	Other salicylates, such as sodium salicylate <sup>2</sup> . . . . .	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
28342 25	Aspirin combinations . . . . .	276,490	(D)	(D)	(D)	334,560	(D)	(D)	(D)
28342 26	Acetaminophen and combinations . . . . .	445,727	100,132	345,595	26,135	431,411	98,878	332,533	17,742
28342 27	Antiarthritic (nonhormonal) . . . . .	646,840	471,521	<sup>a</sup> 175,319	(D)	<sup>r</sup> 877,323	<sup>r</sup> 697,660	179,663	(D)

See footnotes at end of table.

Table 25. Value of Shipments of Pharmaceutical Preparations, Except Biologicals: 1996 and 1995—Con.

[In thousands of dollars]

Product code	Product description	1996				1995			
		Total	Prescription legend	Non-prescription	Bulk shipments <sup>1</sup>	Total	Prescription legend	Non-prescription	Bulk shipments <sup>1</sup>
2834—	Pharmaceutical preparations, except biologicals—Con.								
28342—	Pharmaceutical preparations acting on the central nervous system and the sense organs, for human use—Con.								
	Internal analgesics and antipyretics—Con.								
28342 28	Other internal analgesics and antipyretics, including effervescent types and suppositories <sup>2</sup> . . . . .	244,678	166,822	77,856	4,230	'263,880	'139,078	'124,802	4,521
28342 41	Anticonvulsants (except phenobarbital) . . . . .	442,688	(D)	(D)	(D)	'241,232	(D)	(D)	(D)
	Psychotherapeutic agents:								
28342 51	Antidepressants . . . . .	2,004,305	(D)	(D)	(D)	1,708,726	(D)	(D)	(D)
	Tranquilizers:								
28342 55	Phenothiazine derivatives . . . . .	382,824	382,824	-	(D)	401,376	401,214	(D)	(D)
28342 57	Other tranquilizers . . . . .	73,789	73,789	-	-	'85,246	'85,246	-	(D)
28342 59	Other psychotherapeutic agents . . . . .	253,997	(D)	(D)	(D)	'133,569	'133,569	-	(D)
	Central nervous system stimulants (respiratory and cerebral stimulants, including sympathomimetic agents employed mainly as CNS stimulants); excluding nondrug dietaries for weight control:								
28342 61	Amphetamines . . . . .	(D)	(D)	-	-	(D)	(D)	-	-
28342 63	Anorexiant (except amphetamines) . . . . .	276,717	275,259	1,458	(D)	105,733	104,246	1,487	(D)
28342 69	Other CNS stimulants . . . . .	256,468	(D)	(D)	349	175,306	(D)	(D)	325
	Sedatives and hypnotics:								
	Prescription:								
28342 71	Barbiturates . . . . .	36,159	36,159	(X)	(D)	44,978	44,978	(X)	(D)
28342 75	Nonbarbiturates . . . . .	49,163	49,163	(X)	(D)	45,279	45,279	(X)	(D)
	Nonprescription:								
28342 77	Sleep inducers . . . . .	49,191	(X)	49,191	(D)	52,846	(X)	52,846	(D)
28342 79	Calming agents . . . . .	(D)	(X)	(D)	-	(D)	(X)	(D)	-
	Anesthetics (except urinary tract anesthetics) and skin preparations used as antipruritics:								
28342 81	Local and topical . . . . .	254,784	248,510	6,274	-	257,804	(D)	(D)	-
28342 85	General . . . . .	111,490	(D)	(D)	(D)	96,397	(D)	(D)	(D)
	Eye and ear preparations, excluding anti-infectives, corticoids, and antibacterials and antiseptics:								
28342 91	Mydriatics and miotics . . . . .	(D)	(D)	(D)	-	(D)	(D)	(D)	-
28342 93	Contact lens solutions . . . . .	611,486	(D)	(D)	-	613,652	(D)	(D)	-
28342 94	Other eye and ear preparations . . . . .	446,349	186,222	260,127	(D)	521,392	250,535	270,857	(D)
28342 98	Other pharmaceutical preparations acting on the central nervous system and the sense organs, for human use . . . . .	1,666,808	1,553,644	113,164	4,802	1,187,055	1,140,178	46,877	(D)
28343—	Pharmaceutical preparations acting on the cardiovascular system, for human use . . . . .	6,965,310	6,811,790	22,655	130,865	5,987,883	5,833,090	13,475	141,318
28343 11	Anticoagulants . . . . .	867,347	(D)	(D)	(D)	763,122	(D)	(D)	(D)
28343 21	Hemostatics . . . . .	(D)	(D)	-	-	59,197	(D)	(D)	-
28343 31	Digitalis preparations . . . . .	(D)	(D)	-	(D)	(D)	(D)	-	(D)

See footnotes at end of table.

Table 25. Value of Shipments of Pharmaceutical Preparations, Except Biologicals: 1996 and 1995—Con.

[In thousands of dollars]

Product code	Product description	1996				1995			
		Total	Prescription legend	Non-prescription	Bulk shipments <sup>1</sup>	Total	Prescription legend	Non-prescription	Bulk shipments <sup>1</sup>
2834—	Pharmaceutical preparations, except biologicals—Con.								
28343—	Pharmaceutical preparations acting on the cardiovascular system, for human use—Con.								
	Hypotensives:								
28343 43	Rauwolfia-alkaloid preparations . . . . .	14,876	(D)	(D)	-	23,070	(D)	(D)	-
28343 47	Beta receptor blocking agents . . . . .	100,423	100,423	-	(D)	116,381	116,381	-	(D)
28343 48	Other hypotensives . . . . .	226,437	226,437	-	(D)	299,384	299,384	-	(D)
	Vasodilators:								
28343 51	Coronary . . . . .	467,338	467,338	-	(D)	422,384	422,384	-	(D)
28343 55	Peripheral . . . . .	78,772	78,772	-	(D)	119,417	119,417	-	(D)
28343 61	Antiarrhythmics such as propanolol and quinidine . . . . .	220,337	220,337	-	-	228,222	228,222	-	-
28343 71	Calcium channel blockers such as isoptin, calan, procardia, cardizem, and adalat . . . . .	591,713	591,713	-	(D)	622,747	622,747	-	(D)
28343 81	Ace inhibitors such as vasotec, capoten, prinvil, and zestril . . . . .	2,218,353	2,218,353	-	(D)	2,074,735	(D)	-	(D)
28343 97	Other pharmaceutical preparations acting on the cardiovascular system, including vasopressors, and antiheparin agents, for human use . . . . .	1,777,912	(D)	(D)	(D)	953,566	(D)	(D)	(D)
28344—	Pharmaceutical preparations acting on the respiratory system, for human use . . . . .	5,178,997	3,283,472	1,802,652	92,873	5,196,084	3,274,310	1,865,855	55,919
28344 11	Antihistamines (except cold preparations and antiemetics).	679,424	440,030	239,394	(D)	570,151	309,643	260,508	(D)
28344 15	Bronchial dilators, including antiasthmatics . . . . .	923,745	585,352	65,393	(D)	935,393	874,805	60,588	(D)
	Cough and cold preparations (prescription):								
	Cough preparations and expectorants (containing antitussive or other ingredients intended primarily to treat cough only):								
28344 21	Narcotic . . . . .	56,768	56,768	(X)	-	104,171	104,171	(X)	-
28344 25	Nonnarcotic . . . . .	96,957	96,957	(X)	543	112,798	112,798	(X)	420
	Cold preparations containing combinations of the following ingredients (but not antitussive): nasal decongestant, antihistamine, analgesic, bioflavanoid, or antibiotic:								
28344 31	Nasal decongestants . . . . .	6,197	6,197	(X)	(D)	14,096	14,096	(X)	(D)
28344 35	Antihistamine cold preparations . . . . .	20,980	20,980	(X)	-	18,499	18,499	(X)	-
28344 39	Other prescription cold preparations . . . . .	60,810	60,810	(X)	-	88,636	88,636	(X)	(D)
28344 41	Cough and cold combinations (prescription) . . . . .	129,577	129,577	(X)	666	138,023	138,023	(X)	650

See footnotes at end of table.

Table 25. Value of Shipments of Pharmaceutical Preparations, Except Biologicals: 1996 and 1995—Con.

[In thousands of dollars]

Product code	Product description	1996				1995			
		Total	Prescription legend	Non-prescription	Bulk shipments <sup>1</sup>	Total	Prescription legend	Non-prescription	Bulk shipments <sup>1</sup>
2834—	Pharmaceutical preparations, except biologicals—Con.								
28344—	Pharmaceutical preparations acting on the respiratory system, for human use—Con.								
	Cough and cold preparations (nonprescription):								
	Decongestants:								
28344 51	Nasal sprays.....	103,044	(X)	103,044	-	106,417	(X)	106,417	(D)
28344 55	Nose drops.....	(D)	(X)	(D)	-	452	(X)	452	-
28344 59	Other decongestants.....	222,353	(X)	222,353	(D)	228,118	(X)	228,118	(D)
28344 61	Cough syrups.....	446,287	(X)	446,287	(D)	422,935	(X)	422,935	(D)
28344 63	Capsules and tablets.....	452,747	(X)	452,747	33,601	490,179	(X)	490,179	32,026
28344 65	Lozenges.....	33,217	(X)	33,217	(D)	40,109	(X)	40,109	(D)
28344 67	Topical preparations.....	(D)	(X)	(D)	-	(D)	(X)	(D)	-
28344 71	Cough drops.....	35,517	(X)	35,517	-	57,987	(X)	57,987	-
28344 79	Other nonprescription cough and cold preparations.....	187,721	(X)	187,721	(D)	183,014	(X)	183,014	(D)
28344 81	Beta agonists such as proventil and ventolin.....	1,167,772	(D)	(D)	(D)	1,223,176	(D)	(D)	(D)
28344 98	Other pharmaceutical preparations acting on the respiratory system, for human use.....	461,774	446,644	15,130	(D)	405,014	390,676	14,338	(D)
28345—	Pharmaceutical preparations acting on the digestive or the genito-urinary systems, for human use.....	8,602,477	7,298,907	1,258,925	44,645	8,593,410	7,231,960	1,327,870	33,580
	Digestive system preparations:								
28345 11	Enzymes.....	78,482	59,931	18,551	(D)	70,467	55,006	15,461	(D)
28345 15	Antacids, including acid neutralizing products with coating functions, but excluding effervescent salicylate products classified as analgesics.....	450,858	9,816	441,042	2,005	494,531	<sup>a</sup> 10,581	<sup>a</sup> 483,950	(D)
28345 19	Antidiarrheals.....	201,805	6,316	195,489	(D)	223,963	7,516	216,447	(D)
	Laxatives:								
28345 21	Irritants.....	79,902	(D)	(D)	(D)	83,675	(D)	(D)	(D)
28345 23	Bulk producing.....	199,159	(D)	(D)	1,983	194,079	(D)	(D)	959
28345 25	Fecal softeners.....	<sup>a</sup> 46,923	-	<sup>a</sup> 46,923	14,565	50,345	(D)	(D)	(D)
28345 27	Emollients.....	21,223	(D)	(D)	-	20,587	(D)	(D)	-
28345 28	Saline.....	15,424	10,543	4,881	-	14,321	(D)	(D)	-
28345 29	Enema specialties.....	37,767	(D)	(D)	(D)	40,561	(D)	(D)	(D)
28345 31	Digestants.....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
28345 33	Bile therapy preparations, including bile products, cholagogues, and cholagogues.....	(D)	(D)	(D)	-	(D)	(D)	(D)	(D)
28345 35	Antinauseants and motion sickness remedies (antiemetics), including antihistaminic antiemetic preparations.....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
28345 37	Lipotropics and cholesterol reducers.....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
28345 39	Diet aids containing local anesthetics such as benzocaine.....	(D)	-	(D)	(D)	(D)	(D)	(D)	(D)

See footnotes at end of table.

Table 25. Value of Shipments of Pharmaceutical Preparations, Except Biologicals: 1996 and 1995—Con.

[In thousands of dollars]

Product code	Product description	1996				1995			
		Total	Prescription legend	Non-prescription	Bulk shipments <sup>1</sup>	Total	Prescription legend	Non-prescription	Bulk shipments <sup>1</sup>
2834—	Pharmaceutical preparations, except biologicals—Con.								
28345 —	Pharmaceutical preparations acting on the digestive or the genito-urinary system, for human use—Con.								
	Antispasmodics and anticholinergics:								
28345 41	Synthetics . . . . .	12,904	12,904	-	-	16,870	16,870	-	-
28345 43	Ataractic combinations . . . . .	(D)	(D)	-	-	(D)	(D)	-	-
28345 45	Belladonna and derivatives . . . . .	(D)	(D)	(D)	(D)	(D)	(D)	(D)	171
28345 47	H <sub>2</sub> blocking agents such as zantac, tagamet, carafate, and pepcid . . . . .	3,772,091	(D)	(D)	-	3,922,367	(D)	(D)	(D)
28345 49	Other antispasmodics and anticholinergics . . . . .	(D)	(D)	-	-	(D)	(D)	(D)	(D)
28345 58	Other digestive system preparations, including emetics . . . . .	96,666	(D)	(D)	(D)	81,587	78,933	2,654	(D)
28345 61	Genito-urinary preparations:								
	Urinary antibacterials and antiseptics . . . . .	112,857	(D)	(D)	(D)	123,296	(D)	(D)	(D)
	Diuretics, excluding aminophylline, xanthine, and rauwolfia-diuretic combinations (see cardiovascular preparations):								
28345 71	Thiazides and related agents . . . . .	32,672	32,672	-	-	62,081	(D)	(D)	(D)
28345 73	Other diuretics . . . . .	105,186	(D)	(D)	-	136,530	(D)	(D)	-
28345 81	Oxytocics . . . . .	(D)	(D)	-	-	18,510	18,510	-	-
28345 83	Contraceptive agents (except oral contraceptives; i.e., aerosols, jels, sponges, and creams) . . . . .	(D)	(D)	(D)	-	76,370	(D)	(D)	-
28345 85	Premenstrual tension preparations . . . . .	(D)	-	(D)	(D)	(D)	(D)	(D)	(D)
28345 87	Vaginal cleaners . . . . .	89,899	(D)	(D)	-	112,220	(D)	(D)	(D)
28345 98	Other pharmaceutical preparations acting on the genito-urinary system, including urinary tract anesthetics, for human use . . . . .	152,158	104,546	47,612	<sup>a</sup> 1,267	<sup>r</sup> 143,638	<sup>r</sup> 96,170	<sup>r</sup> 47,468	<sup>a</sup> 1,455
28346 —	Pharmaceutical preparations acting on the skin, for human use . . . . .	2,074,398	729,903	1,329,983	14,512	2,170,966	668,336	1,479,835	22,795
28346 11	Dermatological preparations: Emollients and protectives, including burn remedies and ointment bases . . . . .	774,907	(D)	(D)	(D)	653,513	(D)	(D)	(D)
28346 13	Antipruritics and local anesthetic skin preparations . . . . .	120,726	<sup>a</sup> 12,521	108,205	(D)	147,538	<sup>a</sup> 38,016	109,522	(D)
28346 15	Coal tar, sulfur and resorcinol preparations . . . . .	29,645	(D)	(D)	(D)	7,115	(D)	(D)	-
28346 16	Antiacne preparations . . . . .	208,982	(D)	(D)	(D)	332,892	78,785	254,107	(D)
28346 18	Antidandruff and antiseborrheic preparations (except dandruff shampoos) . . . . .	12,405	-	12,405	-	(D)	(D)	(D)	-
28346 19	Other dermatological preparations . . . . .	191,188	<sup>a</sup> 117,435	73,753	(D)	196,224	<sup>a</sup> 121,085	75,139	(D)

See footnotes at end of table.



Table 25. Value of Shipments of Pharmaceutical Preparations, Except Biologicals: 1996 and 1995—Con.

[In thousands of dollars]

Product code	Product description	1996				1995			
		Total	Prescription legend	Non-prescription	Bulk shipments <sup>1</sup>	Total	Prescription legend	Non-prescription	Bulk shipments <sup>1</sup>
2834—	Pharmaceutical preparations, except biologicals—Con.								
28346—	Pharmaceutical preparations acting on the skin, for human use—Con.								
28346 21	Hemorrhoidal preparations . . . . .	112,316	(D)	(D)	(D)	127,621	(D)	(D)	-
28346 31	External analgesics and counterirritants: Ointments, jellies, pastes, creams, cerates, and salves. . . . .	222,190	(D)	(D)	(D)	170,187	(D)	(D)	(D)
28346 35	Liquid, excluding rubbing alcohol, but including liniments . . . . .	69,109	-	69,109	(D)	56,139	(D)	(D)	(D)
28346 37	Rubbing alcohol . . . . .	<sup>a</sup> 53,429	-	<sup>a</sup> 53,429	-	135,719	-	135,719	-
28346 39	Other external analgesics and counterirritants . . . . .	73,767	(D)	(D)	(D)	74,378	(D)	(D)	14,225
28346 98	Other pharmaceutical preparations acting on the skin, for human use . . . . .	191,222	146,688	44,534	(D)	<sup>r</sup> 208,259	<sup>r</sup> 153,301	<sup>r</sup> 54,958	(D)
28347—	Vitamin, nutrient, and hematinic preparations, for human use . . . . .	5,412,698	1,755,148	3,119,223	538,327	<sup>r</sup> 4,811,596	<sup>r</sup> 1,739,111	2,584,599	<sup>r</sup> 487,886
28347 11	Vitamins: Multivitamins, plain and with minerals, (except B complex vitamins and fish liver oils) . . . . .	1,315,966	12,481	1,303,485	210,427	1,154,404	29,615	1,124,789	166,351
28347 13	Pediatric vitamin preparations (drops, suspensions, and chewable tablets) . . . . .	96,183	(D)	(D)	1,901	91,775	(D)	(D)	822
28347 14	Prenatal vitamin preparations . . . . .	30,264	10,329	19,935	1,394	29,998	<sup>r</sup> 6,751	23,247	1,186
28347 15	B complex preparations . . . . .	115,434	<sup>a</sup> 12,418	103,016	6,129	104,388	<sup>a</sup> 15,301	89,087	7,414
28347 17	Fluoride preparations . . . . .	1,397	(D)	(D)	(D)	1,722	1,487	(D)	-
28347 19	All other vitamin preparations . . . . .	791,380	8,142	783,238	191,938	616,701	6,312	610,389	192,808
28347 21	Fish liver oils (cod, etc.) . . . . .	13,746	(D)	(D)	(D)	11,854	(D)	(D)	(D)
28347 31	Nutrients, excluding therapeutic dietary foods and infant formulas . . . . .	311,259	39,887	271,372	(D)	<sup>r</sup> 261,181	44,321	<sup>r</sup> 216,860	(D)
28347 41	Tonics and alteratives . . . . .	18,863	-	18,863	(D)	19,918	-	19,918	(D)
28347 51	Hematinics: With B <sub>12</sub> : Oral . . . . .	18,806	16,737	2,069	174	15,425	12,873	2,552	141
28347 53	Parenteral . . . . .	(D)	(D)	-	-	(D)	(D)	-	-
28347 55	Other hematinics: Oral . . . . .	24,064	(D)	(D)	137	24,585	(D)	(D)	727
28347 57	Parenteral . . . . .	(D)	(D)	-	-	(D)	(D)	(D)	-
28347 61	Hospital solutions, including dextran, etc., but excluding biologicals such as blood plasma . . . . .	1,484,077	(D)	(D)	-	<sup>r</sup> 1,470,312	(D)	(D)	(D)
28347 98	Other vitamin, nutrient, and hematinic preparations, for human use . . . . .	596,928	192,762	404,166	77,651	<sup>r</sup> 477,584	<sup>r</sup> 188,826	288,758	52,239

See footnotes at end of table.

Table 25. Value of Shipments of Pharmaceutical Preparations, Except Biologicals: 1996 and 1995—Con.

[In thousands of dollars]

Product code	Product description	1996				1995			
		Total	Prescription legend	Non-prescription	Bulk shipments <sup>1</sup>	Total	Prescription legend	Non-prescription	Bulk shipments <sup>1</sup>
2834— 28348—	Pharmaceutical preparations, except biologicals—Con. Pharmaceutical preparations affecting parasitic and infective diseases, for human use . . . . .	7,217,901	6,457,854	618,057	141,990	7,195,493	6,314,325	686,689	194,479
28348 11	Anti-infective agents, excluding corticoid anti-infective combinations (see product code 28341 15): Amebicides and trichomonocides . . . . .	51,090	(D)	(D)	(D)	91,408	(D)	(D)	(D)
28348 15	Anthelmintics . . . . .	20,853	(D)	(D)	(D)	8,735	(D)	(D)	(D)
	Systemic antibiotic preparations: Broad and medium spectrum (single or in combinations with other antibiotics):								
28348 20	Tetracyclines, including chlortetracycline and congeners . . . . .	71,554	71,554	-	-	68,454	68,454	-	-
28348 22	Cephalosporins such as cefamandole nafate and cephalexin . . . . .	1,679,932	1,679,932	-	52,411	1,721,354	1,721,354	-	100,112
28348 24	Erythromycins such as erythromycin ethylsuccinate and erythromycin stearate . . . . .	105,853	105,853	-	(D)	138,315	138,315	-	(D)
	Penicillins (single): Semisynthetic penicillins such as ampicillin and ampicillin:								
28348 26	Injectable . . . . .	21,514	21,514	-	(D)	22,476	22,476	-	(D)
28348 28	Other forms . . . . .	1,650,478	1,650,478	-	-	1,871,298	1,871,298	-	(D)
	Other penicillins (except semisynthetic) such as penicillin V and penicillin G:								
28348 30	Injectable . . . . .	(D)	(D)	-	-	(D)	(D)	-	-
28348 32	Other forms . . . . .	<sup>a</sup> 7,363	<sup>a</sup> 7,363	-	(D)	10,507	10,507	-	(D)
28348 34	Other broad and medium spectrum antibiotics (except sulfa-antibiotic combinations) . . . . .	557,088	(D)	(D)	(D)	594,051	(D)	(D)	(D)
28348 36	Antibiotics in combination with sulfonamides . . . . .	17,030	17,030	-	-	(D)	(D)	-	-
28348 38	Other systemic antibiotic preparations, including narrow-spectrum antibiotics and streptomycins . . . . .	87,026	87,026	-	(D)	66,288	66,288	-	(D)
28348 41	Topical antibiotic preparations . . . . .	138,195	97,273	40,922	(D)	138,911	96,189	42,722	(D)
28348 51	Tuberculostatic agents: Isoniazid (isonicotinic acid hydrazide) preparations . . . . .	<sup>a</sup> 2,716	<sup>a</sup> 2,716	-	(D)	<sup>a</sup> 3,585	<sup>a</sup> 3,585	-	-
28348 55	Other antituberculars . . . . .	(D)	(D)	(D)	-	(D)	(D)	(D)	-
28348 61	Antimalarials (plasmodicides) . . . . .	72,227	72,227	-	(D)	150,730	150,730	-	(D)

See footnotes at end of table.

Table 25. Value of Shipments of Pharmaceutical Preparations, Except Biologicals: 1996 and 1995—Con.

[In thousands of dollars]

Product code	Product description	1996				1995			
		Total	Prescription legend	Non-prescription	Bulk shipments <sup>1</sup>	Total	Prescription legend	Non-prescription	Bulk shipments <sup>1</sup>
2834—	Pharmaceutical preparations, except biologicals—Con.								
28348—	Pharmaceutical preparations affecting parasitic and infective diseases, for human use—Con.								
28348 63	Anti-infective agents, excluding corticoid anti-infective combinations (see product code 28341 15)—Con.								
	Sulfonamides (except antibiotic)—sulfonamide combinations .....	56,384	(D)	(D)	-	62,819	(D)	(D)	(D)
28348 65	Antifungal preparations.....	393,335	265,766	127,569	(D)	294,904	135,085	159,819	(D)
28348 67	Antivirals, systemic such as zovirax, and retrovir .....	1,327,442	1,327,442	-	(D)	(D)	(D)	-	(D)
28348 69	Other anti-infective agents.....	274,001	(D)	(D)	-	346,995	(D)	(D)	-
	Antibacterials and antiseptics:								
28348 71	General .....	58,925	22,248	36,677	14,891	67,415	14,358	53,057	15,639
28348 75	Mouth and throat preparations .....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
28348 98	Other pharmaceutical preparations affecting parasitic and infective diseases, for human use .....	108,829	73,011	35,818	(D)	122,913	94,078	28,835	(D)
28349—	Pharmaceutical preparations for veterinary use.....	1,750,378	994,132	708,880	47,366	1,604,736	790,663	741,564	72,509
28349 11	Anesthetics .....	(D)	(D)	(D)	-	27,008	(D)	(D)	-
28349 21	Anthelmintics .....	182,815	114,910	67,905	(D)	146,405	70,792	75,613	2,761
	Antibiotics:								
28349 22	Tetracyclines.....	127,406	(D)	(D)	(D)	133,602	(D)	(D)	(D)
28349 24	Penicillins .....	90,911	46,429	44,482	1,904	82,032	35,520	46,512	2,424
28349 26	Other antibiotics.....	190,561	129,377	61,184	(D)	173,155	100,849	72,306	(D)
28349 27	Antiseptics, wound dressings, and fungicides .....	82,664	(D)	(D)	(D)	83,313	(D)	(D)	(D)
28349 31	Hematinics <sup>3</sup> .....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
28349 33	Hemostatics <sup>3</sup> .....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
	Hormones:								
28349 34	Insulin preparations .....	-	-	-	-	-	-	-	-
28349 36	ACTH (corticotropin) preparations .....	(D)	(D)	(D)	-	(D)	(D)	(D)	-
28349 38	Other hormone preparations .....	77,802	(D)	(D)	(D)	57,597	(D)	(D)	(D)
28349 39	Intravenous solutions and electrolytes .....	10,465	(D)	(D)	-	9,575	6,917	2,658	-
28349 41	Nitrofurans .....	1,018	-	1,018	(D)	1,199	-	1,199	(D)
28349 43	Nutrients and tonics .....	25,814	-	25,814	(D)	21,887	-	21,887	6,566
28349 45	Parasiticides, external.....	247,101	(D)	(D)	(D)	156,703	(D)	(D)	(D)
28349 47	Sulfonamides .....	11,308	(D)	(D)	(D)	17,023	(D)	(D)	(D)
28349 51	Tranquillizers and ataractics.....	12,950	12,950	-	(D)	8,886	8,886	-	(D)
28349 55	Vitamins and minerals .....	140,343	18,482	121,861	(D)	171,827	21,512	150,315	(D)
28349 98	Other pharmaceutical preparations for veterinary use.....	456,875	(D)	(D)	(D)	423,907	(D)	(D)	(D)

- Represents zero. D Withheld to avoid disclosing data for individual companies. <sup>1</sup>Revised by 5 percent or more from previously published data. X Not applicable.

<sup>1</sup>Data for "Bulk shipments" are excluded from all horizontal seven-digit product detail totals; however, these data are included in all five-digit product code and four-digit industry level totals. Since bulk shipments are typically reported by a small number of producers, and often must be suppressed, inclusion of bulk shipments in all horizontal totals would require the suppression of additional detail.

<sup>2</sup>Product code 28242 24 combined with product code 28342 28.

<sup>3</sup>Product code 28349 31 combined with product code 28349 33.

Note: Percent of estimation of each item is indicated as follows: <sup>a</sup>20 percent or more of this item is estimated.

Table 26. Domestic Value of Shipments, Exports, Imports, and Apparent Consumption of Pharmaceutical Preparations, Except Biologicals: 1996 and 1995

[In thousand of dollars]

Product code	Product description	Manufacturers' shipments (value f.o.b. plant)	Exports of domestic merchandise <sup>1</sup>	Percent exports to manufacturers' shipments	Imports for consumption <sup>2</sup> (value)	Apparent consumption <sup>3</sup> (value)	Percent imports to apparent consumption
<b>1996</b>							
	Pharmaceutical preparations . . . . .	52,184,509	2,464,672	4.7	3,078,499	52,798,336	5.8
28341 —	Pharmaceutical preparations affecting neoplasms, endocrine system, and metabolic diseases, for human use . . . . .	4,775,056	506,793	10.6	898,074	5,166,337	17.4
28342 —	Pharmaceutical preparations acting on the central nervous system and sense organs, for human use . . . . .	10,207,294	177,143	1.7	263,938	10,294,089	2.6
28343 —	Pharmaceutical preparations acting on the cardiovascular system, for human use . . . . .	6,965,310	176,047	2.5	258,809	7,048,072	3.7
28344 —	Pharmaceutical preparations acting on the respiratory system, for human use . . . . .	5,178,997	158,361	3.1	158,655	5,179,291	3.1
28345 —	Pharmaceutical preparations acting on the digestive or genito-urinary system, for human use . . . . .	8,602,477	107,103	1.2	330,893	8,826,267	3.7
28346 —	Pharmaceutical preparations acting on the skin, for human use . . . . .	2,074,398	33,150	1.6	106,451	2,147,699	5.0
28347 —	Vitamin, nutrient, and hematinic preparations, for human use . . . . .	5,412,698	151,582	2.8	32,778	5,293,894	0.6
28348 —	Pharmaceutical preparations affecting parasitic and infective diseases, for human use . . . . .	7,217,901	1,038,044	14.4	846,255	7,026,112	12.0
28349 —	Pharmaceutical preparations for veterinary use . . . . .	1,750,378	116,449	6.7	182,646	1,816,575	10.1
<b>1995</b>							
	Pharmaceutical preparations . . . . .	48,864,310	1,707,882	3.5	2,625,490	49,781,918	5.3
28341 —	Pharmaceutical preparations affecting neoplasms, endocrine system, and metabolic diseases, for human use . . . . .	4,075,943	305,389	7.5	619,573	4,390,127	14.1
28342 —	Pharmaceutical preparations acting on the central nervous system and sense organs, for human use . . . . .	9,228,199	134,145	1.5	231,948	9,326,001	2.5
28343 —	Pharmaceutical preparations acting on the cardiovascular system, for human use . . . . .	5,987,883	163,862	2.7	238,136	6,062,157	3.9
28344 —	Pharmaceutical preparations acting on the respiratory system, for human use . . . . .	5,196,084	129,888	2.5	135,212	5,201,408	2.6
28345 —	Pharmaceutical preparations acting on the digestive or genito-urinary system, for human use . . . . .	8,593,410	104,784	1.2	155,742	8,644,368	1.8
28346 —	Pharmaceutical preparations acting on the skin, for human use . . . . .	2,170,966	23,215	1.1	97,029	2,244,779	4.3
28347 —	Vitamin, nutrient, and hematinic preparations, for human use . . . . .	4,811,596	126,505	2.6	29,115	4,714,207	0.6
28348 —	Pharmaceutical preparations affecting parasitic and infective diseases, for human use . . . . .	7,195,493	643,092	8.9	978,348	7,530,749	13.0
28349 —	Pharmaceutical preparations for veterinary use . . . . .	1,604,736	77,002	4.8	140,388	1,668,121	8.4

<sup>1</sup>Source: Bureau of the Census report EM 545, *U.S. Exports*.<sup>2</sup>Source: Bureau of the Census report IM 145, *U.S. Imports for Consumption*.<sup>3</sup>Apparent consumption represents new domestic supply and is derived by subtracting exports from total of manufacturers' shipments plus imports.

Note: For comparison of SIC-based codes with Schedule B export numbers and HTSUSA import numbers, see "Contact for Data Users" at end of this subsection.

**HISTORICAL NOTE**

Data on pharmaceutical preparations, except biologicals, have been collected by the Bureau of the Census since 1962. Historical data may be obtained from Current Industrial Reports available at your local Federal

Depository Library. Historical data are also available on microfiche; contact Customer Services, 301-457-4100.

**CONTACT FOR DATA USERS**

For additional information about these data, contact Walter R. Hunter, Jr., 301-457-4798.

## Chapter 5. Glass Products

### FLAT GLASS (MQ32A)

#### INTRODUCTION

The data in this section are from a survey of all companies engaged in the manufacturing of flat or float glass, except laminated or otherwise fabricated flat glass products, as collected on the quarterly report MQ32A, Flat Glass. The survey panel includes all known manufacturers of flat glass, approximately 6 companies. Prior to 1975, the panel included approximately 10 companies.

#### SUMMARY OF FINDINGS

Flat glass production increased 3.1 percent to 5.8 billion square feet in 1996, from 5.6 billion square feet in 1995. The quantity of flat glass shipments increased 10.2 percent to 5.8 billion square feet in 1996, from 5.3 billion square feet in 1995. Also, the value of flat glass shipments increased 1.9 percent to \$1.96 billion in 1996, from \$1.92 billion in 1995.

By type, sheet, plate, and float glass up to .107 inch accounted for approximately 46 percent of the total production and total quantity of shipments in 1996 and 1995. By color, clear glass accounted for approximately 60 percent of total production and total quantity of shipments in 1996 and 1995.

In 1996, outside customer sales accounted for 65.2 percent of total production, 69.6 percent of total quantity of shipments, and 74.9 percent of total value of shipments. This compares with 64.6 percent of total production, 69.4 percent of total quantity of shipments, and 71.7 percent of total value of shipments in 1995.

#### EXPLANATION OF TERMS

**Unit of measure.** Quantities of glass by thickness, by color designation, and outside customer sales are reported in short tons and thousands of square feet. Total value of

shipments is reported in thousands of dollars. Tonnage is based on a conversion of actual square feet at 0.01294 pound/square foot/mil of thickness for thickness category.

**Production.** Includes flat glass packed direct from the production line for shipments to customers, finished glass transferred to other establishments of the producing company or added to finished inventory, and consumption within the same plant. Glass blanks are included in production when they are cut and packed for shipments or put into finished inventory. Blanks transferred to another raw glass producing plant of the same company are reported by the receiving plant when cut and packed for shipment or added to finished inventory.

**Quantities produced and consumed.** Includes quantities of each type of glass produced by each company for internal consumption within each company (i.e., the quantity of interplant transfer and the quantity produced and consumed within that same producing plant).

**Stocks.** Includes total quantity of ending finished stock inventory, excluding glass blanks.

**Sheet glass.** Flat glass made by continuous drawing.

**Plate glass.** Flat glass formed by a rolling process, ground and polished on both sides, with surfaces essentially plane and parallel.

**Float glass.** Flat glass, identical in appearance to plate glass, but formed by a process in which thickness is controlled by floating the glass on a molten bed of tin.

**Sales to outside customers.** Sales outside the reporting company to nonraw glass producing companies.

Table 1. Summary of Flat Glass Production, Shipments, and Inventories: 1994 to 1996

Year and quarter	Production		Total shipments			Quantity produced and consumed within each company (1,000 sq ft)	Inventory (end of quarter) (1,000 sq ft)	Producer Price Index (1982=100.0)
	Total (short tons)	Total (1,000 sq ft)	Quantity (includes produced and consumed within each company) (1,000 sq ft)	Value in current dollars (\$1,000)	Value in constant dollars <sup>1</sup> (\$1,000)			
<b>1996</b>								
<b>Total . . . . .</b>	<b>4,592,094</b>	<b>5,809,846</b>	<b>5,852,449</b>	<b>1,957,950</b>	<b>1,836,096</b>	<b>1,779,473</b>	<b>(X)</b>	<b>(X)</b>
Fourth quarter . . . . .	1,216,363	1,517,946	1,467,301	488,355	464,657	439,965	740,568	105.1
Third quarter . . . . .	1,225,091	1,543,422	1,574,728	517,376	494,151	465,438	689,923	104.7
Second quarter . . . . .	1,088,943	1,381,591	1,448,116	482,378	458,534	430,299	721,229	105.2
First quarter . . . . .	1,061,697	1,366,887	1,362,304	469,841	418,753	443,771	787,754	112.2
<b>1995</b>								
<b>Total . . . . .</b>	<b>4,437,545</b>	<b>5,635,303</b>	<b>5,309,957</b>	<b>1,921,143</b>	<b>1,670,179</b>	<b>1,655,565</b>	<b>(X)</b>	<b>(X)</b>
Fourth quarter . . . . .	1,082,985	1,356,223	1,322,945	467,924	404,779	397,232	783,171	115.6
Third quarter . . . . .	1,121,069	1,440,564	1,323,459	476,672	408,459	388,644	749,893	116.7
Second quarter . . . . .	1,135,495	1,440,675	1,300,923	473,996	405,818	417,602	632,788	116.8
First quarter . . . . .	1,097,996	1,397,841	1,362,630	502,551	451,123	452,087	493,036	111.4
<b>1994</b>								
<b>Total . . . . .</b>	<b>4,288,390</b>	<b>5,349,865</b>	<b>5,578,868</b>	<b>1,863,444</b>	<b>1,741,901</b>	<b>1,743,969</b>	<b>(X)</b>	<b>(X)</b>
Fourth quarter . . . . .	1,119,448	1,377,332	1,399,291	482,768	430,275	436,137	457,825	112.2
Third quarter . . . . .	1,097,391	1,379,567	1,449,596	489,757	445,234	429,268	479,784	110.0
Second quarter . . . . .	1,049,248	1,300,991	1,403,755	461,784	438,541	430,667	549,813	105.3
First quarter . . . . .	1,022,303	1,291,975	1,326,226	429,135	427,851	447,897	652,577	100.3

X Not applicable.

<sup>1</sup>Adjustments for price changes were made to data using producer price index for flat glass as published by the Bureau of Labor Statistics (BLS).

Table 2. Summary of Production, Shipments, and Inventories of Flat Glass: 1996

Product code	Product description	Number of companies	Production		Total shipments		Quantity produced and consumed within each company (1,000 sq ft)	Inventory (end of quarter) (1,000 sq ft) <sup>1</sup>
			Total (short tons)	Total (1,000 sq ft)	Quantity (includes produced and consumed within each company) (1,000 sq ft)	Value in current dollars (\$1,000)		
32110 00	<b>Flat glass</b> . . . . .	(X)	<b>4,592,094</b>	<b>5,809,846</b>	<b>5,852,449</b>	<b>1,957,950</b>	<b>1,779,473</b>	(X)
	Fourth quarter . . . . .	6	1,216,363	1,517,946	1,467,301	488,355	439,965	740,568
	Third quarter . . . . .	6	1,225,091	1,543,422	1,574,728	517,376	465,438	689,923
	Second quarter . . . . .	6	1,088,943	1,381,591	1,448,116	482,378	430,299	721,229
	First quarter . . . . .	6	1,061,697	1,366,887	1,362,304	469,841	443,771	787,754
	By type:							
32115 12	Sheet, plate, and float glass up to .107 inch . . . . .	(X)	1,456,381	2,655,221	2,691,266	(X)	732,505	(X)
	Fourth quarter . . . . .	6	382,959	697,393	678,847	(X)	183,880	308,021
	Third quarter . . . . .	6	390,376	709,860	735,612	(X)	189,209	289,475
	Second quarter . . . . .	6	338,751	611,741	647,672	(X)	165,192	315,227
	First quarter . . . . .	6	344,295	636,227	629,135	(X)	194,224	351,158
32115 13	.108 inch through .134 inch . . . . .	(X)	1,169,158	1,298,747	1,305,076	(X)	496,958	(X)
	Fourth quarter . . . . .	6	317,418	358,093	327,329	(X)	123,302	(D)
	Third quarter . . . . .	6	325,561	354,419	357,566	(X)	139,914	(D)
	Second quarter . . . . .	6	284,572	311,276	335,636	(X)	124,807	(D)
	First quarter . . . . .	6	241,607	274,959	284,545	(X)	108,935	(D)
32115 14	.135 inch through .199 inch . . . . .	(X)	1,113,273	1,259,808	1,246,052	(X)	501,422	(X)
	Fourth quarter . . . . .	6	260,554	290,620	300,818	(X)	119,988	171,477
	Third quarter . . . . .	6	296,850	338,612	321,723	(X)	124,536	181,675
	Second quarter . . . . .	6	280,534	321,337	320,294	(X)	128,368	164,786
	First quarter . . . . .	6	275,335	309,239	303,217	(X)	128,530	163,743
32115 15	.200 inch and thicker . . . . .	(X)	853,282	596,070	610,055	(X)	48,588	(X)
	Fourth quarter . . . . .	6	255,432	171,840	160,307	(X)	12,795	(D)
	Third quarter . . . . .	6	212,304	140,531	159,827	(X)	11,779	(D)
	Second quarter . . . . .	6	185,086	137,237	144,514	(X)	11,932	(D)
	First quarter . . . . .	6	200,460	146,462	145,407	(X)	12,082	(D)
	By color:							
32110 14	Pyrolytically coated . . . . .	(X)	223,660	244,822	245,845	(X)	69,918	42,958
	Fourth quarter . . . . .	4	(X)	(X)	63,940	(X)	17,899	(X)
	Third quarter . . . . .	4	(X)	(X)	68,560	(X)	18,413	(X)
	Second quarter . . . . .	4	(X)	(X)	60,738	(X)	17,999	(X)
	First quarter . . . . .	4	(X)	(X)	52,607	(X)	15,607	(X)
	Nonpyrolytically coated:							
32110 15	Clear . . . . .	(X)	2,737,080	3,474,782	3,505,561	(X)	680,770	367,386
	Fourth quarter . . . . .	6	(X)	(X)	870,448	(X)	167,163	(X)
	Third quarter . . . . .	6	(X)	(X)	970,166	(X)	193,201	(X)
	Second quarter . . . . .	6	(X)	(X)	878,638	(X)	161,906	(X)
	First quarter . . . . .	6	(X)	(X)	786,309	(X)	158,500	(X)
32110 16	Green . . . . .	(X)	1,114,223	1,511,567	1,525,295	(X)	814,560	198,773
	Fourth quarter . . . . .	4	(X)	(X)	377,485	(X)	191,324	(X)
	Third quarter . . . . .	4	(X)	(X)	387,886	(X)	201,808	(X)
	Second quarter . . . . .	4	(X)	(X)	380,143	(X)	211,505	(X)
	First quarter . . . . .	4	(X)	(X)	379,781	(X)	209,923	(X)
32110 17	Bronze . . . . .	(X)	93,539	83,302	87,321	(X)	(D)	(D)
	Fourth quarter . . . . .	4	(X)	(X)	22,296	(X)	(D)	(X)
	Third quarter . . . . .	4	(X)	(X)	23,407	(X)	(D)	(X)
	Second quarter . . . . .	4	(X)	(X)	21,018	(X)	(D)	(X)
	First quarter . . . . .	4	(X)	(X)	20,600	(X)	(D)	(X)
32110 18	Other . . . . .	(X)	423,592	495,373	488,427	(X)	(D)	(D)
	Fourth quarter . . . . .	5	(X)	(X)	133,132	(X)	(D)	(X)
	Third quarter . . . . .	5	(X)	(X)	124,709	(X)	(D)	(X)
	Second quarter . . . . .	5	(X)	(X)	107,579	(X)	(D)	(X)
	First quarter . . . . .	5	(X)	(X)	123,007	(X)	(D)	(X)
32110 04	Outside customer sales . . . . .	(X)	3,072,035	3,789,571	4,072,976	1,466,349	(X)	(X)
	Fourth quarter . . . . .	6	(X)	(X)	1,027,336	379,460	(X)	(X)
	Third quarter . . . . .	6	(X)	(X)	1,109,290	394,715	(X)	(X)
	Second quarter . . . . .	6	(X)	(X)	1,017,817	359,638	(X)	(X)
	First quarter . . . . .	6	(X)	(X)	918,533	332,536	(X)	(X)
32110 21	Glass tempered by primary producers of flat glass . . . . .	(X)	472,906	502,551	492,789	(X)	320,952	(D)
	Fourth quarter . . . . .	5	(X)	(X)	123,770	(X)	76,513	(X)
	Third quarter . . . . .	5	(X)	(X)	136,305	(X)	92,585	(X)
	Second quarter . . . . .	5	(X)	(X)	124,893	(X)	84,360	(X)
	First quarter . . . . .	5	(X)	(X)	107,821	(X)	67,494	(X)
32110 23	Glass used for high-speed tempered residential products . . . . .	(X)	268,380	316,837	317,228	(X)	295,850	(D)
	Fourth quarter . . . . .	4	(X)	(X)	75,302	(X)	69,594	(X)
	Third quarter . . . . .	4	(X)	(X)	91,574	(X)	85,817	(X)
	Second quarter . . . . .	4	(X)	(X)	83,392	(X)	78,317	(X)
	First quarter . . . . .	4	(X)	(X)	66,960	(X)	62,122	(X)

D Withheld to avoid disclosing data for individual companies. X Not applicable.

<sup>1</sup>Total ending inventories for 1996 are those shown for fourth quarter.

Note: Data are limited to inventories at manufacturing establishments.

Table 3. Summary of Production, Shipments, and Inventories of Flat Glass: 1995

Product code	Product description	Number of companies	Production		Total shipments		Quantity produced and consumed within each company (1,000 sq ft)	Inventory (end of quarter) (1,000 sq. ft.) <sup>1</sup>
			Total (short tons)	Total (1,000 sq ft)	Quantity (includes produced and consumed within each company) (1,000 sq ft)	Value in current dollars (\$1,000)		
32110 00	<b>Flat glass</b> . . . . .	(X)	<b>4,437,545</b>	<b>5,635,303</b>	<b>5,309,957</b>	<b>1,921,143</b>	<b>1,655,565</b>	(X)
	Fourth quarter . . . . .	6	1,082,985	1,356,223	1,322,945	467,924	397,232	783,171
	Third quarter . . . . .	6	1,121,069	1,440,564	1,323,459	476,672	388,644	749,893
	Second quarter . . . . .	6	1,135,495	1,440,675	1,300,923	473,996	417,602	632,788
	First quarter . . . . .	6	1,097,996	1,397,841	1,362,630	502,551	452,087	493,036
	By type:							
32115 12	Sheet, plate, and float glass up to .107 inch . . . . .	(X)	1,350,704	2,545,903	2,375,978	(X)	631,346	(X)
	Fourth quarter . . . . .	6	321,221	593,154	584,903	(X)	156,728	344,066
	Third quarter . . . . .	6	349,813	663,491	593,087	(X)	136,604	335,815
	Second quarter . . . . .	6	349,737	667,618	594,016	(X)	163,944	265,411
	First quarter . . . . .	6	329,933	621,640	603,972	(X)	174,070	191,809
32115 13	.108 inch through .134 inch . . . . .	(X)	1,121,220	1,254,385	(D)	(X)	483,601	(X)
	Fourth quarter . . . . .	6	295,893	332,420	(D)	(X)	115,796	(D)
	Third quarter . . . . .	6	277,225	316,379	(D)	(X)	124,144	(D)
	Second quarter . . . . .	6	277,030	291,504	(D)	(X)	119,428	(D)
	First quarter . . . . .	6	271,072	314,082	(D)	(X)	124,233	(D)
32115 14	.135 inch through .199 inch . . . . .	(X)	1,052,530	1,210,819	1,182,173	(X)	486,542	(X)
	Fourth quarter . . . . .	6	240,051	277,026	285,854	(X)	111,414	157,721
	Third quarter . . . . .	6	270,895	312,774	289,850	(X)	115,007	166,549
	Second quarter . . . . .	6	281,891	319,422	292,704	(X)	120,081	143,625
	First quarter . . . . .	6	259,693	301,597	313,765	(X)	140,040	116,907
32115 15	.200 inch and thicker . . . . .	(X)	913,091	624,196	(D)	(X)	54,076	(X)
	Fourth quarter . . . . .	6	225,820	153,623	(D)	(X)	13,294	(D)
	Third quarter . . . . .	6	223,136	147,920	(D)	(X)	12,889	(D)
	Second quarter . . . . .	6	226,837	162,131	(D)	(X)	14,149	(D)
	First quarter . . . . .	6	237,298	160,522	(D)	(X)	13,744	(D)
	By color:							
32110 14	Pyrolytically coated . . . . .	(X)	209,181	243,525	234,288	(X)	61,524	43,981
	Fourth quarter . . . . .	4	(X)	(X)	59,612	(X)	15,385	(X)
	Third quarter . . . . .	4	(X)	(X)	59,553	(X)	14,821	(X)
	Second quarter . . . . .	4	(X)	(X)	56,217	(X)	14,267	(X)
	First quarter . . . . .	4	(X)	(X)	58,906	(X)	17,051	(X)
	Nonpyrolytically coated:							
32110 15	Clear . . . . .	(X)	2,622,965	3,392,672	3,197,363	(X)	690,394	398,165
	Fourth quarter . . . . .	6	(X)	(X)	811,322	(X)	166,634	(X)
	Third quarter . . . . .	6	(X)	(X)	812,549	(X)	173,076	(X)
	Second quarter . . . . .	6	(X)	(X)	772,516	(X)	171,422	(X)
	First quarter . . . . .	6	(X)	(X)	800,976	(X)	179,262	(X)
32110 16	Green . . . . .	(X)	1,058,187	1,411,379	1,325,970	(X)	696,828	212,501
	Fourth quarter . . . . .	4	(X)	(X)	309,041	(X)	165,035	(X)
	Third quarter . . . . .	4	(X)	(X)	319,624	(X)	157,155	(X)
	Second quarter . . . . .	4	(X)	(X)	335,382	(X)	177,183	(X)
	First quarter . . . . .	4	(X)	(X)	361,923	(X)	197,455	(X)
32110 17	Bronze . . . . .	(X)	128,258	108,504	94,130	(X)	(D)	(D)
	Fourth quarter . . . . .	4	(X)	(X)	24,447	(X)	(D)	(X)
	Third quarter . . . . .	4	(X)	(X)	23,246	(X)	(D)	(X)
	Second quarter . . . . .	4	(X)	(X)	23,639	(X)	(D)	(X)
	First quarter . . . . .	4	(X)	(X)	22,798	(X)	(D)	(X)
32110 18	Other . . . . .	(X)	418,954	479,223	458,206	(X)	(D)	(D)
	Fourth quarter . . . . .	5	(X)	(X)	118,523	(X)	(D)	(X)
	Third quarter . . . . .	5	(X)	(X)	108,487	(X)	(D)	(X)
	Second quarter . . . . .	5	(X)	(X)	113,169	(X)	(D)	(X)
	First quarter . . . . .	5	(X)	(X)	118,027	(X)	(D)	(X)
32110 04	Outside customer sales . . . . .	(X)	2,863,641	3,638,526	3,684,392	1,378,371	(X)	(X)
	Fourth quarter . . . . .	6	(X)	(X)	925,713	343,117	(X)	(X)
	Third quarter . . . . .	6	(X)	(X)	934,815	354,873	(X)	(X)
	Second quarter . . . . .	6	(X)	(X)	883,321	339,924	(X)	(X)
	First quarter . . . . .	6	(X)	(X)	940,543	340,457	(X)	(X)
32110 21	Glass tempered by primary producers of flat glass . . . . .	(X)	388,408	421,775	426,074	(X)	335,916	(D)
	Fourth quarter . . . . .	5	(X)	(X)	93,163	(X)	66,940	(X)
	Third quarter . . . . .	5	(X)	(X)	101,549	(X)	73,096	(X)
	Second quarter . . . . .	5	(X)	(X)	106,872	(X)	96,078	(X)
	First quarter . . . . .	5	(X)	(X)	124,490	(X)	99,802	(X)
32110 23	Glass used for high-speed tempered residential products . . . . .	(X)	252,007	297,751	294,442	(X)	272,974	(D)
	Fourth quarter . . . . .	4	(X)	(X)	67,363	(X)	62,161	(X)
	Third quarter . . . . .	4	(X)	(X)	73,829	(X)	68,329	(X)
	Second quarter . . . . .	4	(X)	(X)	75,787	(X)	70,334	(X)
	First quarter . . . . .	4	(X)	(X)	77,463	(X)	72,150	(X)

D Withheld to avoid disclosing data for individual companies. X Not applicable.

<sup>1</sup>Total ending inventories for 1995 are those shown for the fourth quarter.

Note: Data are limited to inventories at manufacturing establishments.



Table 4. Value of Shipments, Exports, and Imports of Flat Glass: 1994 to 1996

[Thousands of dollars]

Year and quarter	Manufacturers' shipments (f.o.b. plant) <sup>1</sup>	Exports of domestic merchandise <sup>2</sup> (value at port)	Percent exports to manufacturers' shipments	Imports for consumption <sup>3</sup> (value at port)	Apparent consumption <sup>4</sup>	Percent imports to apparent consumption
<b>1996</b>						
<b>Total</b> .....	<b>1,957,950</b>	<b>486,239</b>	<b>24.8</b>	<b>145,099</b>	<b>1,616,810</b>	<b>9.0</b>
Fourth quarter .....	488,355	127,034	26.0	39,031	400,352	9.7
Third quarter .....	517,376	130,133	25.2	39,632	426,875	9.3
Second quarter .....	482,378	118,817	24.6	36,898	400,459	9.2
First quarter .....	469,841	110,255	23.5	29,538	389,124	7.6
<b>1995</b>						
<b>Total</b> .....	<b>1,921,143</b>	<b>422,825</b>	<b>22.0</b>	<b>168,748</b>	<b>1,667,066</b>	<b>10.1</b>
Fourth quarter .....	467,924	119,577	25.6	31,250	379,597	8.2
Third quarter .....	476,672	121,733	25.5	42,621	397,560	10.7
Second quarter .....	473,996	90,757	19.1	43,448	426,687	10.2
First quarter .....	502,551	90,758	18.1	51,429	463,222	11.1
<b>1994</b>						
<b>Total</b> .....	<b>1,863,444</b>	<b>363,835</b>	<b>19.5</b>	<b>157,154</b>	<b>1,656,763</b>	<b>9.5</b>
Fourth quarter .....	482,768	92,475	19.2	53,392	443,685	12.0
Third quarter .....	489,757	90,230	18.4	36,098	435,625	8.3
Second quarter .....	461,784	91,618	19.8	33,650	403,816	8.3
First quarter .....	429,135	89,512	20.9	34,014	373,637	9.1

<sup>1</sup>Value of "Manufacturers' shipments" is in current dollars.<sup>2</sup>Source: Bureau of the Census report EM 545, *U.S. Exports*.<sup>3</sup>Source: Bureau of the Census report IM 145, *U.S. Imports for Consumption*.<sup>4</sup>Apparent consumption is derived by subtracting exports from total of manufacturers' shipments plus imports, including duty.

## HISTORICAL NOTE

Data on flat glass have been collected by the Bureau of the Census since 1957. Historical data may be obtained from Current Industrial Reports available at your local Federal Depository Library. Historical data are also

available on microfiche; contact the Bureau of the Census, Customer Services, 301-457-4100.

## CONTACT FOR DATA USERS

For additional information about these data, contact Susan Sundermann, 301-457-4837.

## CONSUMER, SCIENTIFIC, TECHNICAL, AND INDUSTRIAL GLASSWARE (MA32E)

### INTRODUCTION

The data in this section are from a survey of manufacturers of consumer, scientific, technical, and industrial glassware in the United States. Establishments manufacturing glassware from glass produced in their own establishment, and establishments manufacturing glassware from glass purchased or transferred from other establishments are included. Data are collected by value of shipments in three major categories: table, kitchen, art, and novelty glassware; lighting and electronic glassware; and all other glassware. Related import and export data are also shown.

### SUMMARY OF FINDINGS

In 1996, total factory shipments of consumer, scientific, technical, and industrial glassware amounted to \$5,265.8 million, an increase of 5 percent from the \$5,026.9 million reported in 1995. Establishments manufacturing glassware from glass produced in their own establishment accounted for approximately 71 percent of the total glassware shipments.

Consumer (table, kitchen, art, and novelty) glassware accounted for approximately 36 percent of the total glassware shipments and showed a 3-percent increase for the 1996 shipments of \$1,884.1 million, from the 1995 level of \$1,837.8 million.

### EXPLANATION OF TERMS

**Tumblers.** Nonstemmed drinking glasses. Excludes packers' tumblers.

**Stemware.** Vessels with long and short stem and footed-ware used generally for drinking; however, may be used as dessert dishes.

**Tableware.** Items from which food and beverages are served or consumed, but not prepared. Excludes stemware and tumblers.

**Cookware, ovenware, and kitchenware.** Items of ceramic glass and heat-resistant glass used to cook over direct heat or in the oven, and items used in the preparation and storage of foods (e.g., cookie jars, mixing bowls, refrigerator dishes, and measuring cups).

**Microwave specialty pieces.** Cookware and ovenware designed especially for microwave usage.

**Ornamental, decorative, novelty glassware, and smokers' accessories.** Includes floralware, ash trays, humidors, apothecary, bathroom dishes, candy dishes, beverage coasters, fish bowls, and piggy banks.

**Automotive lighting glassware.** Includes sealed beam lenses, and other outside lenses, and interior automotive glassware.

**Searchlight and other lenses.** Includes railroad, marine, air, and traffic lighting glassware.

**Electric light bulb blanks.** Includes incandescent, photo flash and mercury vapor, and high temperature lamps.

**Tubing and cane for electric light bulbs and fluorescent and neon lighting.** Includes exhaust tubes and flares for incandescent and fluorescent lamps.

**Electronic tube blanks.** Includes radio, X-ray, radar, special tubes, cathode ray, power tubes, microwave, and storage tubes. Excludes television picture tube blanks and parts.

**Television tube blanks and parts.** Includes cylinders, rod-support insulators, diodebeads and bodies, multiform parts, and moisture getters.

**Bowls and enclosing globes, etc.** Includes lantern globes, chimneys, enclosing globes, shades, prismatic and diffusing globes, luminaire globes, decorative lighting glass parts, and shields and plates for fluorescent and incandescent lighting fixtures.

**Other lighting and electronic glassware.** Includes dials, insulators, custom-made lighting, and electronic glassware.

**Scientific and laboratory glassware.** Includes beads, beakers, bottles, burrets, centrifuge tubes, condensers, connecting tubes, crucibles, cylinders, desiccators, fritted discs, flasks, funnels, ground joints, jars, microscope slides, cover glasses, Petri culture dishes, pipets, special laboratory apparatus, stopcocks, test and culture tubes, thermometer and hydrometer blanks, and custom-made laboratory apparatus.

**Tubing, rods, and canes, all types (except electrical and electronic).** Items used for volumetric ware, advertising purposes, heat absorbing uses, and precision base applications.

**Industrial and technical glassware.** Includes battery jars, industrial beads, blender jars, caps and bodies, coffee urn liners, explosion capsules, flow meter blanks, gauge glasses, lubrication glasses, copy machine cylinders, sight glasses, vacuum bottle parts, godet wheels, heat exchangers, milking machine accessories, glass pipe for chemical and food process and drainlines, rashing rings, ground glass, glass knobs, and insulators.

filters, photographic window blanks, prism blanks, telescope mirror blanks, infrared and ultraviolet transmitting glasses, and fiber optic glass parts. Excludes finished or semifinished lenses.

**Ophthalmic lens blanks and optical instrument lens blanks.** Includes ophthalmic and optical lens blanks, color

**Other glassware.** Includes such products as glass blocks, nursery bottles, balls, radomes, nose cones, vials, and towel bars.

Table 5. Value of Shipments of Consumer, Scientific, Technical, and Industrial Glassware: 1992 to 1996

[Millions of dollars]

Product code	Product description	1996	1995	1994	1993	1992
32295, 32298, 32311, 32312	Table, kitchen, art, and novelty glassware <sup>1</sup> . . . . .	1,884.1	1,837.8	1,747.0	1,633.9	1,575.5
32296, 32298, 32311, 32312	Lighting and electronic glassware <sup>1</sup> . . . . .	1,622.5	1,589.1	1,523.2	1,370.6	1,288.6
32297, 32298, 32311, 32312	All other glassware <sup>1</sup> . . . . .	1,748.4	1,589.7	1,410.7	1,273.1	1,241.1

<sup>1</sup>Difference between industry 3229 and 3231 is as follows: industry 3229 represents glassware produced from glass made in same establishment; whereas, industry 3231 represents glassware produced or fabricated from glass purchased or transferred from other establishments.

Table 6. Value of Shipments of Consumer, Scientific, Technical, and Industrial Glassware by Industry: 1996 and 1995

[Millions of dollars]

Product code	Product description	1996			1995		
		Total (all industries)	SIC 3229	All other industries	Total (all industries)	SIC 3229	All other industries
3229 —, 32311 —, 32312 —	Consumer, scientific, technical, and industrial glassware . . . . .	5,265.8	3,731.2	1,534.6	5,026.9	3,500.0	1,526.9
32295 —, 32298 —, 32311 —, 32312 —	Table, kitchen, art, and novelty glassware . . . . .	1,884.1	1,174.7	709.4	1,837.8	1,132.7	705.1
32296 —, 32298 —, 32311 —, 32312 —	Lighting and electronic glassware . . . . .	1,622.5	1,566.4	56.1	1,589.1	1,508.0	81.1
32297 —, 32298 —, 32311 —, 32312 —	All other glassware . . . . .	1,748.4	982.1	766.3	1,589.7	851.7	738.0
32295 00, 32296 00, 32297 00, 32298 00, 32311 00, 32312 00	Consumer, scientific, technical, and industrial glassware, n.s.k. . . . .	10.8	8.0	2.8	10.3	7.6	2.7

n.s.k. Not specified by kind.

Note: Detail may not add to total because of independent rounding.

Table 7. Shipments of Consumer Glassware: 1996 and 1995

[Value in thousands of dollars]

Product code	Product description <sup>1</sup>	Unit of measure	Number of companies	Total (all industries)		Machine-made <sup>2</sup> (SIC 3229)		Handmade <sup>2</sup> (SIC 3229)	
				Quantity	Value	Quantity	Value	Quantity	Value
<b>1996</b>									
32295 —, 32298 —, 32311 —, 32312 —	Table, kitchen, art, and novelty glassware .....	.....(X).....	(X)	(X)	1,884,069	(X)	1,077,686	(X)	100,758
3229X 21, 3231X 21	Tumblers (one piece, excluding packers' tumblers) .....	Mil dozens ..	21	46,160	294,265	(D)	(D)	(D)	(D)
3229X 22, 3231X 22	Stemware .....	.....do.....	25	14,500	172,747	(D)	(D)	(D)	(D)
3229X 23, 3231X 23	Tableware .....	Mil pieces ...	28	117,109	266,483	95,647	99,346	(D)	(D)
3229X 25, 3231X 25, 3229X 27, 3231X 27	Cookware, ovenware, and kitchenware, including microwave specialty pieces ...	.....do.....	(NA)	84,377	276,597	(D)	(D)	-	-
3229X 28, 3231X 28	Ornamental, decorative, and novelty glassware, and smokers' accessories <sup>3</sup> ..	.....do.....	60	(X)	(D)	(X)	(D)	(X)	(D)
3229X 38, 3231X 38	Other table, kitchen, art, and novelty glassware <sup>3</sup> .....	.....(X).....	27	(X)	(D)	(X)	(D)	(X)	(D)
3229X 39, 3231X 39	Interplant transfers of shipments of partially made glassware to other glassware establishments <sup>4</sup> .....	.....(X).....	(X)	(X)	873,977	(X)	484,446	(X)	65,747
<b>1995</b>									
32295 —, 32298 —, 32311 —, 32312 —	Table, kitchen, art, and novelty glassware .....	.....(X).....	(X)	(X)	1,837,764	(X)	1,035,706	(X)	97,028
3229X 21, 3231X 21	Tumblers (one piece, excluding packers' tumblers) .....	Mil dozens ..	21	45,332	278,587	43,802	270,828	(D)	(D)
3229X 22, 3231X 22	Stemware .....	.....do.....	24	13,416	161,065	(D)	(D)	(D)	(D)
3229X 23, 3231X 23	Tableware .....	Mil pieces ...	27	130,721	270,835	109,188	101,515	(D)	(D)
3229X 25, 3231X 25, 3229X 27, 3231X 27	Cookware, ovenware, and kitchenware, including microwave specialty pieces ...	.....do.....	(NA)	97,683	292,47	(D)	(D)	-	-
3229X 28, 3231X 28	Ornamental, decorative, and novelty glassware, and smokers' accessories <sup>3</sup> ..	.....do.....	61	(X)	(D)	(X)	(D)	(X)	(D)
3229X 38, 3231X 38	Other table, kitchen, art, and novelty glassware <sup>3</sup> .....	.....do.....	30	(X)	(D)	(X)	(D)	(X)	(D)
3229X 39, 3231X 39	Interplant transfers of shipments of partially made glassware to other glassware establishments <sup>4</sup> .....	.....(X).....	(X)	(X)	834,802	(X)	472,726	(X)	63,720

- Represents zero. D Withheld to avoid disclosing data for individual companies. NA Not available. X Not applicable.

<sup>1</sup>See text for specific definitions of individual products.

<sup>2</sup>Shipments by establishments manufacturing glassware primarily from glass produced in the same establishment.

<sup>3</sup>Product codes 3229X 28, 3231X 28, 3229X 38, and 3231X 38 are included with product codes 3229X 39 and 3231X 39 to avoid disclosure of individual company data.

<sup>4</sup>Processing establishments report finished product on appropriate lines, in order to avoid duplicate reporting of same product by separate establishments.

Table 8. Value of Shipments of Scientific, Technical, and Industrial Glassware: 1996 and 1995

[Value in thousands of dollars]

Product code	Product description <sup>1</sup>	Number of companies	1996		1995	
			Total (all industries)	Machine-made <sup>2</sup> (SIC 3229)	Total (all industries)	Machine-made <sup>2</sup> (SIC 3229)
32296 —, 32298 —, 32311 —, 32312 —	Lighting and electronic glassware.....	(X)	1,622,549	1,566,388	1,589,074	1,507,976
3229Y 41, 3231Y 41	Automotive lighting glassware.....	5	(D)	(D)	(D)	(D)
3229Y 43, 3231Y 43	Searchlight and other lenses.....	5	(D)	(D)	12,820	(D)
3229Y 45, 3231Y 45	Electric light bulb blanks.....	5	161,694	161,694	154,260	154,260
3229Y 47, 3231Y 47	Tubing and cane for electric light bulbs and fluorescent and neon lighting.....	6	(D)	(D)	(D)	(D)
3229Y 51, 3231Y 51	Electric tube blanks (except television).....	7	12,979	(D)	14,119	(D)
3229Y 55, 3231Y 55	Television tube blanks and parts; tubing, cane, and glass parts for electronic tubes and devices.....	17	1,016,784	1,009,153	952,408	917,006
3229Y 57, 3231Y 57	Bowls and enclosing globes, lamp chimneys, lamp parts, shades, reflectors, and torchieres: Interior.....	24	56,031	50,792	52,250	47,404
3229Y 59, 3231Y 59	Exterior.....	10	14,829	(D)	15,831	12,224
3229Y 65, 3231Y 65	Other lighting and electronic glassware.....	12	(D)	7,919	(D)	6,567
3229Y 69, 3231Y 69	Interplant transfers and shipments of partially made glassware to other glassware establishments <sup>3</sup> .....	(X)	108,897	(D)	129,904	124,777
32297—, 32298—, 32311—, 32312—	All other glassware.....	(X)	1,748,424	982,105	1,589,676	851,742
3229Z 71, 3231Z 71	Tubing, rods, canes, all types (except electrical and electronic).....	21	62,653	(D)	58,324	(D)
3229Z 72, 3231Z 72	Scientific and laboratory glassware.....	(X)	616,703	368,510	566,438	334,222
3229Z 74, 3231Z 74	Reusable.....	62	311,024	176,974	288,047	159,552
3229Z 75, 3231Z 75	Disposable.....	23	305,679	191,536	278,391	174,670
3229Z 77, 3231Z 77	Technical and industrial glassware.....	53	576,432	168,270	504,435	146,790
3229Z 79, 3231Z 79	Ophthalmic lens blanks and optical instruments' lens blanks.....	19	132,664	110,543	120,015	102,678
3229Z 89, 3231Z 89	Other glassware (e.g., radomes, nose cones, nursery bottles, and vials).....	28	263,822	195,948	277,814	164,899
32295 00, 32296 00, 32297 00, 32298 00, 32311 00, 32312 00	Interplant transfers and shipments of partially made glassware to other glassware establishments <sup>3</sup> .....	(X)	96,150	(D)	62,650	(D)
32295 00, 32296 00, 32297 00, 32298 00, 32311 00, 32312 00	Consumer, scientific, technical, and industrial glassware, n.s.k. <sup>4</sup> .....	(X)	10,722	7,994	10,231	7,665

D Withheld to avoid disclosing data for individual companies. n.s.k. Not specified by kind. 'Revised by 5 percent or more from previously published data. X Not applicable.

<sup>1</sup>See text for specific definitions of individual products.

<sup>2</sup>Shipments by establishments manufacturing glassware primarily from glass produced in same establishment.

<sup>3</sup>Processing establishments report the finished product on the appropriate lines, in order to avoid duplicate reporting of same product by separate establishments.

<sup>4</sup>Not specified by kind (n.s.k.) represents value of shipments for establishments that did not provide detailed information by type of product. These establishments, typically with less than five employees, are not included in the MA32E mailing panel. Value of shipments has been estimated for series MA32E based on year-to-year rate of change for reporting establishments applied to previous year's n.s.k. value.

Table 9. Value of Shipments, Exports, Imports, and Apparent Consumption of Consumer, Scientific, Technical, and Industrial Glassware: 1996 and 1995

[Thousands of dollars]

Product description	Manu- facturers' shipments	Exports of domestic merchandise <sup>1 2</sup>	Percent exports to manufac- turers' shipments	Imports for consumption <sup>1 3</sup>	Apparent consumption <sup>4</sup>	Percent imports to apparent consumption
<b>1996</b>						
Table, kitchen, art, and novelty glassware . . . . .	1,884,069	206,670	11.0	874,287	2,551,686	34.3
Searchlight and other lenses . . . . .	(D)	10,874	(D)	2,713	(D)	(D)
Lighting glassware . . . . .	161,694	35,818	22.2	15,081	140,957	10.7
Electronic tube blanks, including television tube blanks and parts. . . . .	1,016,784	39,938	3.9	270,907	1,247,753	21.7
Lamp chimneys, bowls, shades, globes, parts, and other glassware, interior and exterior. . . . .	70,860	14,122	19.9	83,381	140,119	59.5
Glass tubing, rods, and canes, all types (except electrical and electronic) . . . . .	62,653	139,387	222.5	112,198	35,464	316.4
Scientific and laboratory glassware, reusable and disposable . . . . .	616,703	139,681	22.6	28,976	505,998	5.7
Ophthalmic lens blanks and optical lens blanks .	132,664	68,088	51.3	28,604	93,180	30.7
<b>1995</b>						
Table, kitchen, art, and novelty glassware . . . . .	1,837,764	200,017	10.9	844,453	2,482,200	34.0
Searchlight and other lenses . . . . .	12,820	27,125	211.6	4,250	(10,055)	-42.3
Lighting glassware . . . . .	154,260	33,699	21.8	18,321	138,882	13.2
Electronic tube blanks, including television blanks and parts. . . . .	952,408	69,851	7.3	239,429	1,121,986	21.3
Lamp chimneys, bowls, shades, globes, parts, and other glassware, interior and exterior. . . . .	68,081	12,163	12.6	85,636	162,948	52.6
Glass tubing, rods, and canes, all types (except electrical and electronic) . . . . .	58,324	112,300	179.2	92,977	39,001	238.4
Scientific and laboratory glassware, reusable and disposable . . . . .	566,438	121,267	21.4	30,544	475,715	6.4
Ophthalmic lens blanks and optical lens blanks .	120,015	57,198	47.7	19,441	82,258	23.6

D Withheld to avoid disclosing data for individual companies.

<sup>1</sup>For comparison of SIC-based codes with Schedule B export numbers and HTSUSA import numbers, see "Contact for Data Users" at end of this subsection.<sup>2</sup>Source: Bureau of the Census data relating to EM 545, *U.S. Exports*.<sup>3</sup>Source: Bureau of the Census data relating to IM 146, *U.S. Imports for Consumption and General Imports*.<sup>4</sup>Apparent consumption is derived by subtracting exports from total of shipments, plus imports, including duty.**HISTORICAL NOTE**

Data on glassware have been collected by the Bureau of the Census since 1942. Historical data may be obtained from Current Industrial Reports (called Facts for Industry before 1959) available at your local Federal Depository Library. Historical data are also available on microfiche;

contact the Bureau of the Census, Customer Services, 301-457-4100.

**CONTACT FOR DATA USERS**

For additional information about these data, contact Joyce Pomeroy, 301-457-4840.

## GLASS CONTAINERS (M32G)

### INTRODUCTION

The series on glass containers provides data on the production of glass containers regardless of where they are manufactured. Many containers are actually produced by companies that produce the container as a secondary operation to making the product that goes in the container.

### SUMMARY OF FINDINGS

In 1996, production of glass containers amounted to 253.9 million gross, while shipments were 257.4 million gross. This compares with 1995 production of 270.6 million gross and shipments of 269.3 million gross. In 1996, shipments of narrow neck containers amounted to 179.8 million gross, and shipments of wide mouth containers were 77.6 million gross. Stocks on hand at the end of 1996 totaled 38.8 million gross.

### EXPLANATION OF TERMS

**Narrow neck.** Less than 38-millimeter outside diameter.

**Wide mouth.** 38-millimeter or greater outside diameter.

**Food, narrow neck.** Narrow neck bottles for commercial food packers. For example, bottles to contain the following: catsup; concentrated beverage syrup; edible oils; flavoring extracts; fruit juices, blends and ades, including milk style bottle; meat sauces; infant formula; syrups; liquid salad dressings; vegetable juices; and vinegars.

**Food, wide mouth (including packers' tumblers, fruit jars, and jelly glasses).** Wide mouth containers sold to commercial food packers and for home canning. Examples of the products put in these jars are as follows: baby foods; candies; coffee; edible oils; fruits and vegetables; fruit juices (e.g., apple juice and orange juice); mayonnaise and salad dressings; meat and fish products; mustard; peanut butter; pickles and relishes; preserves; jams and jellies; and syrups.

**Dairy products.** Containers used by dairies for fluid milk and cream; cottage cheese; whole or skim milk (flavored or unflavored) when bottled at the dairy, are included under dairy products even though they are bottled in beverage style bottles with crown closures.

**Beverage, refillable.** Bottles for soft drinks, carbonated or noncarbonated, designed for multiple-trip use.

**Beverage, nonrefillable.** Bottles for soft drinks, carbonated or noncarbonated, designed for single-trip use.

**Beer, refillable.** Bottles for alcoholic cereal beverages (e.g., beer, ale, and porter) designed for multiple-trip use, including malt coolers.

**Beer, nonrefillable.** Bottles for alcoholic cereal beverages designed for single-trip use, including malt coolers.

**Liquors.** Bottles designed for bottling alcoholic beverages, except wines and malt beverages. Included are such products as brandies, cordials, gins, rum, and distilled spirits.

**Wine.** Bottles designed for bottling wines, whether sparkling or still, and champagnes and vermouths, including wine coolers.

**Medicinal and health supplies.** Containers for products that are primarily intended to improve or maintain the health of human beings or animals. Examples of the products/bottles are as follows: citrate of magnesia; essential oils; extracts for medicinal purposes; liniments; nursing bottles; oral antiseptic; pharmaceuticals; prescription bottles; proprietary medicines; serums and parenterals; and veterinary supplies.

**Chemical, household, and industrial.** Containers for products not used in connection with human or animal bodies. Examples of the products/bottles are as follows: ammonias; bleaches; bluing; cements; cleaning fluids; disinfectants; dyes; embalming fluids; glues; inks; insecticides; lubricating oils; polishes and waxes; refrigerator water bottles; and waxes.

**Toiletries and cosmetics.** Containers for products intended primarily to improve personal appearance or to impart a pleasing odor. Examples of these products are as follows: bath salts and oils; hair shampoos/conditioners; hair tonics; hand/body lotions and creams; liquid soaps; nail care products; perfumes and colognes; personal deodorants; powders; and toilet waters.

Table 10. Summary of Shipments, Production, and Stocks of Glass Containers: 1996 and 1995

[Thousands of gross]

Month and year	Shipments			Production			Stocks, end of month		
	Total	Narrow neck containers <sup>1</sup>	Wide mouth containers <sup>1</sup>	Total	Narrow neck containers <sup>1</sup>	Wide mouth containers <sup>1</sup>	Total	Narrow neck containers <sup>1 2</sup>	Wide mouth containers <sup>1 2</sup>
<b>1996</b>									
<b>Total .....</b>	<b>257,358</b>	<b>179,790</b>	<b>77,568</b>	<b>253,869</b>	<b>178,622</b>	<b>75,247</b>	<b>(<sup>3</sup>)</b>	<b>(<sup>3</sup>)</b>	<b>(<sup>3</sup>)</b>
December.....	17,482	12,172	5,310	15,441	10,804	4,637	38,816	25,616	13,200
November.....	18,638	12,936	5,702	19,529	13,690	5,839	40,422	26,537	13,885
October.....	21,678	14,746	6,932	21,011	14,724	6,287	39,871	26,306	13,565
September.....	20,180	13,895	6,285	19,871	14,248	5,623	40,564	26,729	13,835
August.....	22,876	16,282	6,594	22,187	16,465	5,722	41,155	26,479	14,676
July.....	23,501	17,571	5,930	22,196	15,754	6,442	41,815	26,185	15,630
June.....	22,099	14,696	7,403	21,595	14,788	6,807	43,458	26,265	17,193
May.....	25,461	18,193	7,268	24,448	17,159	7,289	44,582	26,505	18,077
April.....	22,918	16,663	6,255	22,185	15,774	6,411	46,381	28,236	18,145
March.....	22,522	15,485	7,037	22,724	16,070	6,654	47,335	30,372	16,963
February.....	19,677	13,387	6,290	<sup>†</sup> 21,380	<sup>†</sup> 14,562	6,818	47,448	29,788	17,660
January.....	20,326	13,764	6,562	21,302	<sup>†</sup> 14,584	6,718	45,831	28,581	17,250
<b>1995</b>									
<b>Total .....</b>	<b>269,289</b>	<b>184,254</b>	<b>85,035</b>	<b>270,620</b>	<b>184,939</b>	<b>85,681</b>	<b>(<sup>3</sup>)</b>	<b>(<sup>3</sup>)</b>	<b>(<sup>3</sup>)</b>
December.....	17,034	12,056	4,978	16,868	11,909	4,959	45,469	28,384	17,085
November.....	19,309	13,447	5,862	19,960	14,231	5,729	45,633	28,333	17,300
October.....	22,415	15,129	7,286	23,523	16,296	7,227	45,163	27,915	17,248
September.....	22,382	14,958	7,424	20,376	14,055	6,321	44,167	26,879	17,288
August.....	25,110	17,126	7,984	23,976	16,601	7,375	46,203	27,801	18,402
July.....	22,697	15,762	6,935	23,721	16,308	7,413	47,488	28,335	19,153
June.....	25,161	17,456	7,705	24,406	16,034	8,372	46,621	27,901	18,720
May.....	25,472	17,423	8,049	24,610	16,547	8,063	47,380	29,194	18,186
April.....	22,217	15,197	7,020	23,335	15,656	7,679	48,404	30,262	18,142
March.....	25,491	17,254	8,237	25,358	17,003	8,355	47,583	29,942	17,641
February.....	20,654	13,905	6,749	22,259	15,163	7,096	47,765	30,101	17,664
January.....	21,347	14,541	6,806	22,228	15,136	7,092	46,221	29,343	16,878

<sup>†</sup>Revised by 5 percent or more from previously published data.<sup>1</sup>Some narrow neck and wide mouth combined categories are included with "narrow neck containers."<sup>2</sup>Data are limited to stocks at manufacturing establishments. Prior month end-of-month stocks plus current month production minus current month shipments may not equal current month end-of-month stocks due to breakage and stock adjustments.<sup>3</sup>Total stocks for end of a year are shown in December of that year.



Table 11. Shipments and Production of Glass Containers by Type of Container: 1991 to 1996

[Thousands of gross]

Product code	Product description	1996	1995	1994	1993	1992	1991
	<b>SHIPMENTS</b>						
	Total <sup>1</sup> .....	257,358	269,289	284,667	289,501	282,703	278,575
	By type:						
	Narrow neck containers <sup>2</sup> .....	179,790	184,254	196,466	212,390	210,437	203,892
	Wide mouth containers <sup>2</sup> .....	77,568	85,035	88,201	77,111	72,266	74,683
	By end use:						
	Food:						
32210 11	Narrow neck .....	13,764	19,959	23,566	31,846	26,516	23,477
32210 31, 37	Wide mouth, including dairy .....	77,568	85,035	88,201	77,111	72,266	74,683
32210 19, 50	Beverages (refillable and nonrefillable) ..	(D)	16,410	30,713	45,602	53,865	57,141
32210 23, 60	Beer (refillable and nonrefillable) .....	115,895	111,030	104,372	94,747	88,825	84,304
32210 27	Liquor .....	9,636	10,148	10,547	11,434	11,312	10,565
32210 29	Wine .....	14,231	14,000	13,567	14,151	14,591	13,473
32210 13, 15, 17, 32, 33, 34	Other (narrow neck and wide mouth) <sup>3</sup> ..	(D)	12,707	13,701	14,610	15,328	14,932
	<b>PRODUCTION</b>						
	Total <sup>1</sup> .....	253,869	270,620	288,570	291,624	286,046	282,048
	By type:						
	Narrow neck containers <sup>2</sup> .....	178,622	184,939	199,541	214,014	212,646	207,944
	Wide mouth containers <sup>2</sup> .....	75,247	85,681	89,029	77,610	73,400	74,104
	By end use:						
	Food:						
32210 11	Narrow neck .....	13,551	19,993	23,774	33,279	28,282	24,641
32210 31, 37	Wide mouth, including dairy .....	75,247	85,681	89,029	77,610	73,400	74,104
32210 19, 50	Beverages (refillable and nonrefillable) ..	(D)	14,182	31,599	44,316	49,900	57,119
32210 23, 60	Beer (refillable and nonrefillable) .....	116,252	113,295	106,290	95,843	91,229	84,601
32210 27	Liquor .....	9,789	10,217	10,976	11,227	11,663	11,261
32210 29	Wine .....	14,548	14,217	13,665	13,975	13,726	13,906
32210 13, 15, 17, 32, 33, 34	Other (narrow neck and wide mouth) <sup>3</sup> ..	(D)	13,035	13,237	15,374	17,846	16,416

D Withheld to avoid disclosing data for individual companies.

<sup>1</sup>Includes exports.<sup>2</sup>Some narrow neck and wide mouth combined categories are included with "narrow neck containers."<sup>3</sup>Includes containers for chemical, cosmetic, health, household, industrial, medicinal, and toiletry products.

Table 12. Shipments, Production, and Stocks of Glass Containers: 1996

Product code	Product description	Total	January	February	March	April	May	June	July	August	September	October	November	December
	<b>NET PACKED WEIGHT</b> (Thousands of pounds)													
	Total <sup>1</sup> . . . . .	19,587,150	1,645,503	1,647,018	1,768,954	1,732,648	1,829,477	1,672,399	1,681,417	1,687,629	1,544,265	1,653,561	1,531,646	1,192,633
	By type:													
	Narrow neck containers <sup>2</sup> . . .	13,774,305	1,119,544	1,141,721	1,224,139	1,238,757	1,266,109	1,170,821	1,197,393	1,267,082	1,094,319	1,156,633	1,070,977	826,810
	Wide mouth containers <sup>2</sup> . . .	5,812,845	525,959	505,297	544,815	493,891	563,368	501,578	484,024	420,547	449,946	496,928	460,669	365,823
	By end use:													
	Food:													
32210 11	Narrow neck . . . . .	1,046,171	96,786	111,021	118,342	92,108	96,631	101,113	76,070	101,372	74,686	70,310	52,678	55,054
32210 31, 37	Wide mouth, including dairy . . . . .	5,812,845	525,959	505,297	544,815	493,891	563,368	501,578	484,024	420,547	449,946	496,928	460,669	365,823
32210 19, 50	Beverages (refillable and nonrefillable) . . . . .	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
32210 23, 60	Beer (refillable and nonrefillable) . . . . .	8,058,119	654,795	631,843	693,420	660,941	712,194	705,455	761,473	761,855	667,564	701,455	641,649	465,475
32210 27	Liquor . . . . .	1,392,477	110,679	112,972	117,414	118,896	100,477	102,663	111,160	150,675	131,633	130,418	118,166	87,324
32210 29	Wine . . . . .	2,219,374	177,201	198,836	189,762	195,118	232,294	195,014	181,155	174,864	158,657	185,767	198,066	132,640
32210 13, 15, 17, 32, 33, 34	Other (narrow neck and wide mouth) <sup>3</sup> . . . . .	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
	<b>SHIPMENTS</b> (Thousands of gross)													
	Total <sup>1</sup> . . . . .	257,358	20,326	19,677	22,522	22,918	25,461	22,099	23,501	22,876	20,180	21,678	18,638	17,482
	By type:													
	Narrow neck containers <sup>2</sup> . . .	179,790	13,764	13,387	15,485	16,663	18,193	14,696	17,571	16,282	13,895	14,746	12,936	12,172
	Wide mouth containers <sup>2</sup> . . .	77,568	6,562	6,290	7,037	6,255	7,268	7,403	5,930	6,594	6,285	6,932	5,702	5,310
	By end use:													
	Food:													
32210 11	Narrow neck . . . . .	13,764	1,294	1,411	1,711	1,269	1,189	1,171	1,072	1,135	1,070	952	703	787
32210 31, 37	Wide mouth, including dairy . . . . .	77,568	6,562	6,290	7,037	6,255	7,268	7,403	5,930	6,594	6,285	6,932	5,702	5,310
32210 19, 50	Beverages (refillable and nonrefillable) . . . . .	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
32210 23, 60	Beer (refillable and nonrefillable) . . . . .	115,895	8,606	8,577	9,830	10,188	11,289	9,933	11,233	10,258	9,249	9,913	8,742	8,077
32210 27	Liquor . . . . .	9,636	854	753	850	835	810	764	801	859	792	895	737	686
32210 29	Wine . . . . .	14,231	1,178	1,012	1,273	1,333	1,552	1,470	1,331	1,261	932	1,007	1,014	868
32210 13, 15, 17, 32, 33, 34	Other (narrow neck and wide mouth) <sup>3</sup> . . . . .	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
	<b>PRODUCTION</b> (Thousands of gross)													
	Total <sup>1</sup> . . . . .	253,869	21,302	21,380	22,724	22,185	24,448	21,595	22,196	22,187	19,871	21,011	19,529	15,441
	By type:													
	Narrow neck containers <sup>2</sup> . . .	178,622	14,584	14,562	16,070	15,774	17,159	14,788	15,754	16,465	14,248	14,724	13,690	10,804
	Wide mouth containers <sup>2</sup> . . .	75,247	6,718	6,818	6,654	6,411	7,289	6,807	6,442	5,722	5,623	6,287	5,839	4,637
	By end use:													
	Food:													
32210 11	Narrow neck . . . . .	13,551	1,343	1,544	1,715	1,341	1,133	1,197	904	1,171	887	825	671	820
32210 31, 37	Wide mouth, including dairy . . . . .	75,247	6,718	6,818	6,654	6,411	7,289	6,807	6,442	5,722	5,623	6,287	5,839	4,637
32210 19, 50	Beverages (refillable and nonrefillable) . . . . .	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
32210 23, 60	Beer (refillable and nonrefillable) . . . . .	116,252	9,429	9,139	9,976	9,407	10,311	9,851	10,888	10,981	9,862	10,221	9,389	6,798
32210 27	Liquor . . . . .	9,789	919	889	927	885	651	667	758	906	872	852	832	631
32210 29	Wine . . . . .	14,548	1,256	1,225	1,294	1,299	1,557	1,462	1,271	1,061	942	1,099	1,241	841
32210 13, 15, 17, 32, 33, 34	Other (narrow neck and wide mouth) <sup>3</sup> . . . . .	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)

See footnotes at end of table.

Table 12. Shipments, Production, and Stocks of Glass Containers: 1996—Con.

Product code	Product description	Total	January	February	March	April	May	June	July	August	September	October	November	December
	<b>STOCKS, END OF MONTH<sup>4</sup></b> (Thousands of gross)													
	Total <sup>1</sup> . . . . .	( <sup>5</sup> )	45,831	47,448	47,335	46,381	44,582	43,458	41,815	41,155	40,564	39,871	40,422	38,816
	By type:													
	Narrow neck containers <sup>2</sup> . . .	( <sup>5</sup> )	28,581	29,788	30,372	28,236	26,505	26,265	26,185	26,479	26,729	26,306	26,537	25,616
	Wide mouth containers <sup>2</sup> . . .	( <sup>5</sup> )	17,250	17,660	16,963	18,145	18,077	17,193	15,630	14,676	13,835	13,565	13,885	13,200
	By end use:													
	Food:													
32210 11	Narrow neck . . . . .	( <sup>5</sup> )	3,619	3,726	3,769	3,305	2,725	2,940	2,937	2,974	2,895	2,525	2,075	2,293
32210 31, 37	Wide mouth, including dairy . . . . .	( <sup>5</sup> )	17,250	17,660	16,963	18,145	18,077	17,193	15,630	14,676	13,835	13,565	13,885	13,200
32210 19, 50	Beverages (refillable and nonrefillable) . . . . .	( <sup>5</sup> )	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
32210 23, 60	Beer (refillable and nonrefillable) . . . . .	( <sup>5</sup> )	12,969	13,516	13,630	12,886	11,730	11,595	11,138	11,923	12,363	12,538	13,051	12,126
32210 27	Liquor . . . . .	( <sup>5</sup> )	2,301	2,448	2,531	2,609	2,437	2,306	2,256	2,268	2,343	2,293	2,383	2,325
32210 29	Wine . . . . .	( <sup>5</sup> )	3,063	3,276	3,298	2,884	3,260	2,861	2,792	2,600	2,583	2,625	2,822	2,782
32210 13, 15, 17, 32, 33, 34	Other (narrow neck and wide mouth) <sup>3</sup> . . . . .	( <sup>5</sup> )	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)

D Withheld to avoid disclosing data for individual companies. <sup>1</sup>Revised by 5 percent or more from previously published data.

<sup>1</sup>Includes exports.

<sup>2</sup>Some narrow neck and wide mouth combined categories are included with "narrow neck containers."

<sup>3</sup>Includes containers for chemical, cosmetic, health, household, industrial, medicinal, and toiletry products.

<sup>4</sup>Data are limited to stocks at manufacturing establishments. Prior month end-of-month stocks plus current month production minus current month shipments may not equal current month end-of-month stocks due to breakage and stock adjustments.

<sup>5</sup>Total stocks for end of a year are shown in December of that year.

Note: One thousands gross = 144,000.

Table 13. Shipments, Production, and Stocks of Glass Containers: 1995

Product code	Product description	Total	January	February	March	April	May	June	July	August	September	October	November	December
	<b>NET PACKED WEIGHT</b> (Thousands of pounds)													
	Total <sup>1</sup> . . . . .	21,272,883	1,754,082	1,734,781	1,952,842	1,800,304	2,136,580	1,901,655	1,811,218	1,853,652	1,637,736	1,826,612	1,540,528	1,322,893
	By type:													
	Narrow neck containers <sup>2</sup> . . . . .	14,423,517	1,216,382	1,157,476	1,295,326	1,188,457	1,401,768	1,244,519	1,227,859	1,277,223	1,132,254	1,265,416	1,079,329	937,508
	Wide mouth containers <sup>2</sup> . . . . .	6,849,366	537,700	577,305	657,516	611,847	734,812	657,136	583,359	576,429	505,482	561,196	461,199	385,385
	By end use:													
	Food:													
32210 11	Narrow neck . . . . .	1,498,388	118,797	126,748	146,495	130,717	138,049	127,954	130,349	117,814	103,844	137,861	118,121	101,639
32210 31, 37	Wide mouth, including dairy . . . . .	6,849,366	537,700	577,305	657,516	611,847	734,812	657,136	583,359	576,429	505,482	561,196	461,199	385,385
32210 19, 50	Beverages (refillable and nonrefillable) . . . . .	1,017,467	126,214	122,159	100,924	92,047	127,153	86,522	69,468	57,928	71,618	68,277	48,844	46,313
32210 23, 60	Beer (refillable and nonrefillable) . . . . .	8,047,095	638,299	626,135	699,278	656,428	799,164	697,288	717,394	757,560	632,479	709,217	583,643	530,210
32210 27	Liquor . . . . .	1,362,927	121,706	91,210	123,133	115,642	116,283	125,364	105,949	118,868	125,333	133,886	104,798	80,755
32210 29	Wine . . . . .	2,085,379	174,189	159,600	187,223	161,270	182,995	175,627	174,307	193,406	169,273	179,824	181,054	146,611
32210 13, 15, 17, 32, 33, 34	Other (narrow neck and wide mouth) <sup>3</sup> . . . . .	412,261	37,177	31,624	38,273	32,353	38,124	31,764	30,392	31,647	29,707	36,351	42,869	31,980
	<b>SHIPMENTS</b> (Thousands of gross)													
	Total <sup>1</sup> . . . . .	269,289	21,347	20,654	25,491	22,217	25,472	25,161	22,697	25,110	22,382	22,415	19,309	17,034
	By type:													
	Narrow neck containers <sup>2</sup> . . . . .	184,254	14,541	13,905	17,254	15,197	17,423	17,456	15,762	17,126	14,958	15,129	13,447	12,056
	Wide mouth containers <sup>2</sup> . . . . .	85,035	6,806	6,749	8,237	7,020	8,049	7,705	6,935	7,984	7,424	7,286	5,862	4,978
	By end use:													
	Food:													
32210 11	Narrow neck . . . . .	19,959	1,591	1,701	2,296	1,842	1,956	1,773	1,630	1,937	1,495	1,368	1,225	1,145
32210 31, 37	Wide mouth, including dairy . . . . .	85,035	6,806	6,749	8,237	7,020	8,049	7,705	6,935	7,984	7,424	7,286	5,862	4,978
32210 19, 50	Beverages (refillable and nonrefillable) . . . . .	16,410	1,427	1,430	1,769	1,586	1,763	1,696	1,350	1,606	1,112	989	863	819
32210 23, 60	Beer (refillable and nonrefillable) . . . . .	111,030	8,635	8,179	9,820	8,735	10,332	10,336	9,864	10,182	9,422	9,671	8,469	7,385
32210 27	Liquor . . . . .	10,148	801	647	931	779	828	1,079	764	948	910	996	791	674
32210 29	Wine . . . . .	14,000	1,072	913	1,346	1,216	1,382	1,460	1,165	1,361	947	1,060	1,070	1,008
32210 13, 15, 17, 32, 33, 34	Other (narrow neck and wide mouth) <sup>3</sup> . . . . .	12,707	1,015	1,035	1,092	1,039	1,162	1,112	989	1,092	1,072	1,045	1,029	1,025
	<b>PRODUCTION</b> (Thousands of gross)													
	Total <sup>1</sup> . . . . .	270,620	22,228	22,259	25,358	23,335	24,610	24,406	23,721	23,976	20,376	23,523	19,960	16,868
	By type:													
	Narrow neck containers <sup>2</sup> . . . . .	184,939	15,136	15,163	17,003	15,656	16,547	16,034	16,308	16,601	14,055	16,296	14,231	11,909
	Wide mouth containers <sup>2</sup> . . . . .	85,681	7,092	7,096	8,355	7,679	8,063	8,372	7,413	7,375	6,321	7,227	5,729	4,959
	By end use:													
	Food:													
32210 11	Narrow neck . . . . .	19,993	1,687	1,798	1,998	1,864	1,844	1,622	1,746	1,700	1,351	1,567	1,641	1,175
32210 31, 37	Wide mouth, including dairy . . . . .	85,681	7,092	7,096	8,355	7,679	8,063	8,372	7,413	7,375	6,321	7,227	5,729	4,959
32210 19, 50	Beverages (refillable and nonrefillable) . . . . .	14,182	1,425	1,807	1,493	1,318	1,532	1,179	1,047	896	968	1,093	856	568
32210 23, 60	Beer (refillable and nonrefillable) . . . . .	113,295	8,888	8,800	10,156	9,299	9,849	9,873	10,348	10,811	8,731	10,370	8,548	7,622
32210 27	Liquor . . . . .	10,217	869	687	1,010	894	818	947	824	853	947	1,021	793	554
32210 29	Wine . . . . .	14,217	1,187	1,137	1,217	1,268	1,369	1,321	1,310	1,211	982	1,128	1,184	903
32210 13, 15, 17, 32, 33, 34	Other (narrow neck and wide mouth) <sup>3</sup> . . . . .	13,035	1,080	934	1,129	1,013	1,135	1,092	1,033	1,130	1,076	1,117	1,209	1,087

See footnotes at end of table.

Table 13. Shipments, Production, and Stocks of Glass Containers: 1995—Con.

Product code	Product description	Total	January	February	March	April	May	June	July	August	September	October	November	December
	<b>STOCKS, END OF MONTH<sup>4</sup></b> (Thousands of gross)													
	Total <sup>1</sup> . . . . .	( <sup>5</sup> )	46,221	47,765	47,583	48,404	47,380	46,621	47,488	46,203	44,167	45,163	45,633	45,469
	By type:													
	Narrow neck containers <sup>2</sup> . . . . .	( <sup>5</sup> )	29,343	30,101	29,942	30,262	29,194	27,901	28,335	27,801	26,879	27,915	28,333	28,384
	Wide mouth containers <sup>2</sup> . . . . .	( <sup>5</sup> )	16,878	17,664	17,641	18,142	18,186	18,720	19,153	18,402	17,288	17,248	17,300	17,085
	By end use:													
	Food:													
	Narrow neck . . . . .	( <sup>5</sup> )	4,255	3,809	3,593	3,681	3,585	3,585	3,724	3,500	3,350	3,565	3,648	3,985
32210 11	Wide mouth, including													
32210 31,	dairy . . . . .	( <sup>5</sup> )	16,878	17,664	17,641	18,142	18,186	18,720	19,153	18,402	17,288	17,248	17,300	17,085
37														
32210 19,	Beverages (refillable and													
50	nonrefillable) . . . . .	( <sup>5</sup> )	4,784	5,224	4,991	4,698	4,462	3,987	3,684	3,030	2,891	2,974	3,015	2,676
32210 23,	Beer (refillable and													
60	nonrefillable) . . . . .	( <sup>5</sup> )	10,787	11,388	11,688	12,110	11,487	10,974	11,332	11,899	11,206	11,844	11,970	12,121
32210 27	Liquor . . . . .	( <sup>5</sup> )	2,411	2,459	2,556	2,657	2,614	2,461	2,515	2,404	2,436	2,379	2,342	2,239
32210 29	Wine . . . . .	( <sup>5</sup> )	2,842	3,066	2,939	2,980	2,952	2,828	2,973	2,824	2,860	2,951	3,058	2,952
32210 13,	Other (narrow neck and													
15, 17,	wide mouth) <sup>3</sup> . . . . .	( <sup>5</sup> )	4,264	4,155	4,175	4,136	4,094	4,066	4,107	4,144	4,136	4,202	4,300	4,411
32, 33,														
34														

<sup>1</sup>Includes exports.

<sup>2</sup>Some narrow neck and wide mouth combined categories are included with "narrow neck containers."

<sup>3</sup>Includes containers for chemical, cosmetic, health, household, industrial, medicinal, and toiletry products.

<sup>4</sup>Data are limited to stocks at manufacturing establishments. Prior month end-of-month stocks plus current month production minus current month shipments may not equal current month end-of-month stocks due to breakage and stock adjustments.

<sup>5</sup>Total stocks for end of a year are shown in December of that year.

Note: One thousands gross = 144,000.

**HISTORICAL NOTE**

Data on glass containers have been collected by the Bureau of the Census since 1945. Historical data may be obtained from the Current Industrial Reports (called Facts for Industry before 1959) available at your local Federal Depository Library. Historical data are also available on microfiche; contact Customer Services, 301-457-4100.

**FUNDING**

For several years, these data have been collected under the sponsorship of the Glass Packaging Institute.

**CONTACT FOR DATA USERS**

For additional information about these data, contact Jim Jamski, 301-457-1603.

## Chapter 6. Primary Metals

### IRON AND STEEL CASTINGS (MA33A)

#### INTRODUCTION

These data cover producers of ferrous castings, whether for commercial sale or for use by the producing company. The statistics originate from the annual data for 1996 collected on Bureau of the Census form MA33A, Iron and Steel Foundries. The annual survey panel consists of approximately 532 weighted sample establishments, taken from a list of over 960 known producers from the 1992 Census of Manufactures universe.

The panel for this survey was selected using a cut-off sampling methodology from a frame that was constructed from the 1992 Census of Manufactures. The sampling frame consisted of all establishments in the census that satisfied at least one of the following criteria:

1. Shipments of castings were reported, or
2. Consumption of materials commonly used in the manufacture of castings was reported, or
3. Foundry activity was indicated by the completion of a special census inquiry.

For sampling purposes, a number of item codes, roughly equivalent to the items collected on the annual survey form, were created from the census product class and materials consumed codes defined by the above criteria. In some cases, the relationship between the item code and a corresponding census code was one to one. In other cases, the item code consisted of a combination of census codes. In either of these cases, a value was assigned to the item code at the establishment level to the corresponding summed values (quantities) of the census codes comprising it. Potentially, a given establishment might have had a multiple number of item codes assigned.

Each individual item code was sampled independently by cutoff methods, by first arraying the establishments with the item in descending order of value and by selecting the largest establishments, which in the cumulative accounted for 85 percent of the total item value. Because of the

potential for establishments to be coded to more than one item code, the effective coverage of all item codes exceeded 85 percent. Plants selected because of their size in one code contributed to the coverage in other codes for which they had a small amount of data.

The select cases constitute the mailing panel for the annual survey. For a given survey year, final estimates are formed for a given item by summing the data obtained for the mail panel and adjusting it by the coverage rate for the item, so that a complete coverage estimate is obtained. This methodology presumes that the nonmail cases exhibit the same growth characteristics as the mail cases.

#### SUMMARY OF FINDINGS

In 1996, the quantity of iron and steel castings shipped were estimated at 11,893 thousand short tons, a 1-percent decrease from the 12,017 thousand short tons shipped in 1995. Ductile iron and gray iron castings quantity shipped were estimated at 4,220 and 6,189 thousand tons respectively, a 2-percent decrease from the 4,304 and 6,260 thousand short tons shipped in 1995. Manufactures of malleable iron castings shipped 262 thousand short tons in 1996, an 11-percent decrease from the 293 thousand short tons shipped in 1995. The quantity of steel castings shipped in 1996 increased 5 percent to 1,222 thousand short tons from the 1,160 thousand short ton in 1995.

#### EXPLANATION OF TERMS

**Shipments for sale.** Represents commercial sales only (castings shipped to the trade). Intracompany sales are not included in this category.

**Shipments for own use.** Represents castings shipped for use by the reporting company or by a subsidiary, parent, or other affiliated company. Castings produced and consumed at the same location in the production of finished products are also included.

**All other gray iron castings.** Includes abrasives, rolls, chilled iron railroad car wheels, grinding balls, white iron castings, semisteel castings, and pressure and soil pipe fittings that require machining, threading, or assembling.

**Cast iron pressure pipe and fittings.** Includes only those fittings that do not require any machining, threading, or assembling.

**Pearlitic malleable.** This classification is reported pursuant to ASTM (American Society for Testing Materials) Designation A220-76.

**Alloy steel.** Steel that contains alloying elements in excess of the maximum standard ranges of the American Iron and Steel Institute as follows:

Manganese ..... in excess of 1.65%  
 Silicon..... in excess of .60%  
 Copper..... in excess of .40%  
 Chromium..... in excess of .30%

Aluminum, cobalt, Any amount specified  
 niobium, molybdenum, nickel, or known to have  
 titanium, tungsten, vanadium, been added to  
 zirconium, or any other obtain a desired  
 alloying element. alloying effect.

**High alloy steel castings.** Heat and/or corrosion resistant steel castings containing 8 percent or more of chromium or nickel or both, with or without molybdenum or other elements.

Table 1. **Quantity of Shipments of Iron and Steel Castings: 1996 and 1995**

[Thousands of short tons]

Year	Ductile iron castings			Gray iron castings			Malleable iron castings			Steel castings		
	Total	For sale	For own use	Total	For sale	For own use	Total	For sale	For own use	Total	For sale	For own use
1996.....	4,220	3,807	413	6,189	4,599	1,590	262	123	139	1,222	1,175	47
1995.....	4,304	3,869	435	6,260	4,612	1,648	293	141	152	1,160	1,118	42

Table 2. **Value of Shipments of Iron and Steel Castings: 1996 and 1995**

[Millions of dollars]

Product description	Value of shipments		Standard error of estimate (percent) for column—	
	1996	1995	A	B
	A	B	A	B
Ductile iron castings.....	3,949.9	3,664.6	1.0	1.0
Gray iron castings.....	4,509.6	4,503.0	2.0	2.0
Malleable iron castings.....	266.1	270.9	1.2	1.3
Steel castings.....	2,487.4	2,179.1	1.0	1.0
Steel investment castings.....	4,893.4	4,168.5	17.0	17.0

<sup>1</sup>Revised by 5 percent or more from previously published data.

Note: Dollar value represents value of castings for sale.



Table 3. Shipments of Iron and Steel Castings by Type of Castings: 1996 and 1995

[Quantity in short tons]

Product code	Product description	1996		1995	
		Quantity	Standard error (percent)	Quantity	Standard error (percent)
	Iron and steel castings (except investment castings) . . . . .	11,892,992	(NA)	<sup>1</sup> 12,017,236	(NA)
	For sale . . . . .	9,703,176	(NA)	<sup>1</sup> 9,740,418	(NA)
	For own use . . . . .	2,189,816	(NA)	2,276,818	(NA)
	Ductile (nodular) iron castings . . . . .	4,219,689	(NA)	<sup>1</sup> 4,304,391	(NA)
	For sale . . . . .	3,806,796	(NA)	<sup>1</sup> 3,869,298	(NA)
	For own use . . . . .	412,893	(NA)	435,093	(NA)
	Ductile iron pressure pipe:				
	Under 14 inches (inside diameter) . . . . .	1,344,072	-	<sup>1</sup> 1,385,972	-
33211 32	14 to 24 inches . . . . .	(D)	(X)	(D)	(X)
33211 35	30 inches and over . . . . .	(D)	(X)	(D)	(X)
	Ductile iron fittings:				
	Under 14 inches (inside diameter) . . . . .	78,441	-	86,545	2.0
33211 36	14 to 24 inches . . . . .	18,999	-	<sup>1</sup> 28,543	-
33211 37	30 inches and over . . . . .	6,883	-	6,894	1.0
33212 24	Construction and utility castings . . . . .	20,799	1.0	19,158	1.0
33212 22	Automotive uses . . . . .	1,011,069	-	1,026,070	-
33212 33	Machinery uses . . . . .	151,855	1.0	<sup>1</sup> 164,582	2.1
33212 79	Other ductile iron castings (except pressure pipe and fittings):				
	For sale . . . . .	722,875	1.0	723,574	1.0
	For own use . . . . .	102,116	2.0	126,002	2.0
	Gray iron castings . . . . .	6,189,194	(NA)	<sup>1</sup> 6,260,410	(NA)
	For sale . . . . .	4,598,696	(NA)	<sup>1</sup> 4,612,206	(NA)
	For own use . . . . .	1,590,498	(NA)	1,648,204	(NA)
33216 00	Molds and stools for heavy steel ingots . . . . .	163,898	-	<sup>1</sup> 175,066	-
	Gray iron pressure pipe fittings: <sup>1</sup>				
33217 44	Under 14 inches (inside diameter) . . . . .	36,302	-	<sup>1</sup> 47,485	-
33217 45	14 inches and over (inside diameter) . . . . .	3,392	-	<sup>1</sup> 5,040	1.1
33218 00	Gray iron soil pipe . . . . .	218,758	-	<sup>1</sup> 210,933	-
33218 04	Gray iron soil pipe fittings <sup>1</sup> . . . . .	56,907	-	<sup>1</sup> 53,224	-
33219 39	Automotive uses . . . . .	1,288,760	1.0	<sup>1</sup> 1,221,926	1.0
33219 41	Construction and utility castings . . . . .	567,160	1.0	<sup>1</sup> 560,721	1.0
33219 97	All other gray iron castings, including white iron castings:				
	For sale . . . . .	2,263,519	2.0	<sup>1</sup> 2,361,551	2.0
	For own use . . . . .	374,640	5.0	390,801	2.0
	Malleable iron castings . . . . .	262,374	(NA)	292,441	(NA)
	For sale . . . . .	122,957	(NA)	140,713	(NA)
	For own use . . . . .	139,417	(NA)	151,728	(NA)
33221 00	Standard malleable . . . . .	175,117	1.0	189,873	1.0
33222 00	Pearlitic malleable . . . . .	87,257	-	102,568	-
	Steel castings (except investment) . . . . .	1,221,735	(NA)	<sup>1</sup> 1,159,994	(NA)
	For sale . . . . .	1,174,727	(NA)	<sup>1</sup> 1,118,201	(NA)
	For own use . . . . .	47,008	(NA)	<sup>1</sup> 41,793	(NA)
	Carbon steel . . . . .	825,635	(NA)	<sup>1</sup> 772,595	(NA)
	Railroad specialties . . . . .	593,406	(NA)	<sup>1</sup> 552,075	(NA)
33252 02	Side frames, bolsters, couplers, yokes, draft gear, snubbers (self-contained unit type), hopper doors and frames, and break beams . . . . .	275,501	-	273,896	-
33252 29	Other carbon steel railway and transit rolling stock castings . . . . .	317,905	-	<sup>1</sup> 278,179	1.0
33252 39	Other carbon steel castings, including rolls for rolling mills:				
	For sale . . . . .	226,714	1.0	214,237	1.0
	For own use . . . . .	5,515	8.0	6,283	9.1
	Alloy (except high alloy) steel castings . . . . .	264,468	(NA)	<sup>1</sup> 259,694	(NA)
33255 51	Railway specialties . . . . .	29,944	8.0	<sup>1</sup> 35,148	15.4
33255 57	Other alloy steel castings, including rolls for rolling mills . . . . .	234,524	21.1	224,546	14.0
33254 00	High alloy steel castings:				
	For sale . . . . .	118,738	1.1	115,046	1.2
	For own use . . . . .	12,894	2.1	<sup>1</sup> 12,659	4.1

See footnotes at end of table.

Table 3. Shipments of Iron and Steel Castings by Type of Castings: 1996 and 1995—Con.

[Quantity in short tons]

Product code	Product description	1996		1995	
		Quantity	Standard error (percent)	Quantity	Standard error (percent)
	Iron and steel castings (except investment castings)—Con.				
	Steel investment castings <sup>2</sup> .....	88,877	(NA)	92,660	(NA)
	For sale <sup>2</sup> .....	82,497	(NA)	86,901	(NA)
	For own use <sup>2</sup> .....	6,380	(NA)	5,759	(NA)
33240 63	Carbon, including low alloy <sup>2</sup> .....	32,173	1.0	31,918	1.0
33240 68	Alloy, including stainless <sup>2</sup> .....	56,704	2.0	60,743	2.0

- Represents zero. D Withheld to avoid disclosing data of individual companies. NA Not available. <sup>1</sup>Revised by 5 percent or more from previously published data. X Not applicable.

<sup>1</sup>Does not include machined, threaded, or assembled fittings.

<sup>2</sup>Shipments are in thousands of pounds.

Table 4. Manufacturers' Shipments, Exports, and Imports of Iron and Steel Castings: 1996

[Quantity in short tons]

Product code	Product description <sup>1</sup>	Manufacturers' shipments	Exports of domestic merchandise <sup>1 2</sup>	Imports for consumption <sup>1 3</sup>
33211 32, 33, 35	Ductile iron pressure pipe .....	1,795,875	63,361	-
33211 36, 37, 39	Ductile iron fittings .....	104,323	13,326	64,763
33216 00	Molds for heavy steel ingot .....	163,898	3,061	827
33217 44, 45	Gray iron pressure pipe fittings .....	39,694	30,588	27,627
33218 00	Gray iron soil pipe .....	218,758	27,156	-
33218 04	Gray iron soil pipe fittings .....	56,907	2,788	4,054
33212 22, 24, 33, 79, 33219 39, 41, 97, 33221 00, 33222 00, 33252 02, 29, 39, 33255 51, 57, 33254 00, 33240 63, 68	Iron and steel castings, n.e.c. ....	8,075,779	257,891	117,287

- Represents zero. n.e.c. Not elsewhere classified.

<sup>1</sup>For comparison of SIC-based codes with Schedule B export numbers and HTSUSA import numbers, see "Contact for Data Users" at end of this subsection.

<sup>2</sup>Source: Bureau of the Census report FT 446, *U.S. Exports*.

<sup>3</sup>Source: Bureau of the Census report IM 145, *U.S. Imports for Consumption*.

## HISTORICAL NOTE

Data on iron and steel castings have been collected by the Bureau of the Census since 1943. Historical data may be obtained from Current Industrial Reports (called Facts for Industry before 1959) available at your local Federal Depository Library. Historical data are also

available on microfiche; contact Customer Services, 301-457-4100.

## CONTACT FOR DATA USERS

For additional information about these data, contact Brenda Campbell, 301-457-1031.

## STEEL MILL PRODUCTS (MA33B)

### INTRODUCTION

These data cover all known producers of steel mill products. The statistics were collected by mail on Bureau of the Census annual Form MA33B, Steel Mill Products. The survey panel includes all known producers of steel mill products, approximately 382 companies.

### SUMMARY OF FINDINGS

In 1996, steel mill product manufacturers had shipments of \$66.0 billion which decreased slightly from \$66.3 billion reported in 1995. Steel ingot and semifinished shapes increased 3 percent to \$4.6 billion in 1996, from \$4.5 billion in 1995. Hot rolled sheet and strip, including tin mill products decreased 2 percent to \$21.8 billion, from \$22.1 billion. Hot-rolled bar and shapes, plates, structural shapes, and piling decreased by 2 percent to \$12.5 billion, from \$12.8 billion. Steel wire decreased 4 percent to \$2.2 billion, from \$2.3 billion. Other wire products increased to \$2.1 billion, from \$2.0 billion, a 2-percent increase. Steel pipe and tube incurred a 4-percent increase to \$8.7 billion, from \$8.4 billion. Cold rolled steel sheet and strip increased to \$11.5 billion, from \$11.3 billion. Cold finished steel bars and bar shapes decreased 5 percent to \$2.2 billion in 1996, from \$2.3 billion in 1995. Other steel mill products increased 7 percent.

### EXPLANATION OF TERMS

**Net shipments.** This figure is derived by subtracting domestic receipts from total quantity shipments plus steel consumed in producing plants. Prior to 1980, import receipts

were also used in the net shipments calculation. Beginning in 1980, import receipts of steel mill products for further processing were collected separately and were no longer used in the net shipments calculation.

**Carbon steel.** All ferrous materials other than alloy and stainless that are usefully malleable and that contain, by weight, 2 percent or less of carbon (in effect, all steel other than that complying with the definition for alloy or stainless).

**Alloy steel.** Steels not complying with the definition of stainless steel and containing, by weight, one or more of the following elements, in proportion shown: 0.3 percent or more of aluminum, chromium, cobalt, or nickel; 0.0008 percent or more of boron; 0.4 percent or more of copper or lead; 1.65 percent or more of manganese; 0.08 percent or more of molybdenum; 0.06 percent or more of niobium; or 0.6 percent or more of silicon.

**Stainless steel.** Alloy steels containing, by weight, 1.2 percent or less of carbon and 10.5 percent or more of chromium, with or without other elements and a minimum of 50-percent iron. However, all tool steel and valve steel are excluded.

**Heat resisting steel.** Alloy steels containing, by weight, less than 0.3 percent of carbon and 4 percent or more, but less than 10.5 percent, of chromium.

Table 5. Value of Shipments of Steel Mill Products by Class of Products: 1991 to 1996

[Value in thousands of dollars]

Product code	Product description	1996	1995	1994	1993	1992	1991
	<b>Total</b> .....	<b>65,990,081</b>	<b>66,290,835</b>	<b>62,946,066</b>	<b>55,785,677</b>	<b>52,455,326</b>	<b>50,662,849</b>
33122	Steel ingot and semifinished shapes. ....	4,630,064	4,507,013	4,019,085	4,009,430	3,415,196	3,631,923
33123	Hot-rolled sheet and strip, including tin mill products <sup>1</sup> .....	21,784,811	22,150,260	21,591,225	18,309,957	16,975,734	16,936,408
33124	Hot-rolled bars and shapes, plates, structural shapes, and piling. ....	12,503,579	12,821,931	11,650,166	10,167,332	10,240,582	9,407,166
33155	Steel wire .....	2,237,746	2,326,919	2,192,747	1,994,117	1,890,995	1,855,641
3315-	Other wire products .....	2,060,354	2,021,554	2,004,631	1,958,214	1,774,025	1,666,042
33170	Steel pipe and tube .....	8,650,625	8,356,064	7,780,954	6,864,754	6,578,797	6,480,766
33167	Cold-rolled steel sheet and strip .....	11,456,101	11,346,478	11,219,960	10,193,244	9,503,015	8,763,633
33168	Cold-finished steel bars and bar shapes ....	2,188,096	2,312,078	2,047,335	1,880,106	1,700,129	1,586,208
3312C	Other steel mill products (except wire products) .....	478,705	448,538	439,963	408,523	376,853	335,062

<sup>1</sup>Galvanized, metallic coated, and electrical sheet and strip are included in product code 33123, "Hot-rolled sheet and strip."

Table 6. Production of Raw Steel: 1994 to 1996

[Thousands of metric tons]

Product description	1996	1995	1994
<b>Total</b> .....	<b>94,307</b>	<b>94,063</b>	<b>90,459</b>
By grade of steel:			
Carbon .....	82,813	81,846	79,415
Alloy .....	9,582	10,137	9,197
Stainless .....	1,912	2,079	1,847
By type of furnace:			
Electric .....	38,145	37,529	34,381
Basic oxygen, open hearth, and other types of furnaces .....	56,163	56,534	56,078

<sup>1</sup>Revised by 5 percent or more from previously published data.

Table 7. Receipts, Consumption, Shipments, and Net Shipments of Steel Mill Products: 1996

[Quantity in metric tons. Value in thousands of dollars]

Product code <sup>1</sup>	Product description	Number of companies	Receipts <sup>2 3</sup> (quantity)	Steel consumed in producing plants (quantity)	Total shipments		Net shipments <sup>4</sup> (quantity)
					Quantity	Value f.o.b. plant	
	Steel .....	(NA)	26,524,340	1,835,474	112,162,215	65,990,081	87,473,349
33122 11	Carbon steel .....	278	23,987,851	1,662,015	100,190,087	52,491,100	77,864,252
	Ingots .....	6	(D)	(D)	136,292	59,192	262,690
	Semifinished products:						
33122 13	Blooms, billets, sheet bars, tin mill bars, tube rounds, and skelp .....	34	(D)	(D)	2,553,920	833,629	(D)
33122 19	Wire rods .....	20	2,940,324	148,164	4,918,313	1,823,737	2,126,154
33122 20	Slabs .....	12	676,259	1,703	848,391	235,128	173,835
	Finished products:						
33124 13	Plates, cut lengths .....	16	(D)	(D)	4,126,674	2,003,183	3,933,662
33124 14	Plates, in coils .....	6	(D)	(D)	314,126	123,579	267,798
	Sheet:						
33123 11	Hot rolled, including hot rolled bands .....	25	11,801,642	637,069	19,985,955	7,842,070	8,821,382
33167 11	Cold rolled .....	26	1,383,952	370,309	14,391,072	7,315,037	13,377,429
	Sheet and strip:						
	Galvanized:						
33123 13	Hot dipped .....	16	(D)	(D)	8,617,323	5,554,131	8,482,159
33123 15	Electrolytic .....	13	(D)	(D)	2,763,423	2,043,669	2,750,604
33123 17	Electrical .....	3	(D)	(D)	(D)	(D)	(D)
33123 18	All other metallic coated, including long ternes ..	11	(D)	(D)	1,041,887	780,352	1,031,968
	Strip:						
33123 19	Hot rolled .....	18	(D)	(D)	2,438,527	954,964	1,858,105
33167 15	Cold rolled .....	21	(D)	(D)	1,213,960	1,088,073	1,052,166
	Tin mill products:						
33123 24	Blackplate .....	9	(D)	(D)	518,271	278,280	499,607
33123 26	Electrolytic and hot dipped tinplate .....	8	(D)	(D)	2,683,683	1,813,166	2,695,582
33123 28	Tin free steel .....	5	(D)	(D)	466,915	302,925	466,915
33123 29	All other tin mill products, including short ternes and foil .....	2	-	-	(D)	(D)	(D)
	Structural shapes (heavy):						
33124 15	Wide flange .....	5	-	-	(D)	(D)	(D)
33124 17	Standard heavy shapes .....	10	-	-	2,256,898	1,035,192	2,256,898
33124 18	Sheet piling and bearing piles .....	4	-	-	(D)	(D)	(D)
	Bars:						
33124 22	Hot-rolled bars (except concrete reinforcing) ....	35	979,274	7,481	6,132,372	2,837,299	5,160,579
33124 24	Light structurals (under 3 inches) .....	9	(D)	(D)	1,355,087	533,829	1,354,906
33124 26	Concrete reinforcing bars .....	19	(D)	(D)	4,927,159	1,633,623	4,953,890
33168 11	Cold-finished bars .....	36	(D)	(D)	1,320,589	1,094,874	1,256,076
3312C —	Rails, wheels, and track accessories <sup>5</sup> .....	9	(D)	(D)	732,572	478,705	642,679
	Pipe and tubes:						
	Line pipe:						
33170 14	16 inches outside diameter and under .....	23	(D)	(D)	1,114,575	649,167	1,115,076
33170 15	Over 16 inches outside diameter .....	8	-	-	479,011	325,633	479,011
33170 19	Oil country goods .....	15	(D)	(D)	1,197,158	801,528	1,205,600
	Pressure tubing:						
33170 21	Seamless .....	8	(D)	(D)	53,748	79,257	47,040
33170 22	Welded .....	15	(D)	(D)	340,800	404,112	341,532
	Mechanical tubing:						
33170 23	Seamless .....	13	(D)	(D)	106,265	128,516	104,458
33170 24	Welded .....	57	54,519	41,780	2,063,922	2,006,977	2,051,183
33170 27	Structurals .....	25	(D)	(D)	1,238,952	760,877	1,235,324
33170 29	Miscellaneous, including standard pipe .....	30	(D)	(D)	1,472,925	1,006,923	1,469,870
	Wire:						
	Plain wire:						
33155 01	Flat wire .....	8	(D)	(D)	30,485	34,392	28,312
	Round wire:						
	Thermally treated:						
33155 02	Under 1.5 mm in diameter .....	17	(D)	(D)	53,533	61,002	16,010
33155 03	1.5 mm or above in diameter .....	22	(D)	(D)	226,184	188,159	176,858
	Other round wire:						
33155 04	Under 1.5 mm in diameter .....	12	(D)	(D)	222,699	268,335	140,717
33155 05	1.5 mm or above in diameter .....	36	(D)	(D)	1,151,257	637,263	936,606
33155 06	Other shape wire .....	10	(D)	(D)	274,665	134,613	274,541

See footnotes at end of table.

Table 7. Receipts, Consumption, Shipments, and Net Shipments of Steel Mill Products: 1996—Con.

[Quantity in metric tons. Value in thousands of dollars]

Product code <sup>1</sup>	Product description	Number of companies	Receipts <sup>2 3</sup> (quantity)	Steel consumed in producing plants (quantity)	Total shipments		Net shipments <sup>4</sup> (quantity)
					Quantity	Value f.o.b. plant	
	Steel—Con.						
	Carbon steel—Con.						
	Finished products—Con.						
	Plated or coated with zinc:						
	Round wire:						
33155 13	Under 1.5 mm in diameter . . . . .	12	(D)	(D)	55,202	48,296	39,605
33155 14	1.5 mm or above in diameter . . . . .	23	(D)	(D)	270,276	183,625	189,216
33155 15	Other shape wire, including flat . . . . .	9	(D)	(D)	76,335	55,003	51,002
	Other coated wire:						
33155 17	Flat wire . . . . .	2	(D)	(D)	(D)	(D)	(D)
33155 18	Round wire . . . . .	18	(D)	(D)	121,761	132,534	125,769
33155 21	Other shape wire . . . . .	6	(D)	(D)	48,844	59,497	48,834
	Wire products: <sup>6</sup>						
33152 21	Nails and staples . . . . .	23	(D)	(D)	602,759	724,978	601,746
33159 51	Barbed and twisted wire . . . . .	8	(D)	(D)	154,834	166,757	154,830
33156 21	Wire fence, woven and welded . . . . .	12	(D)	(D)	422,823	285,040	421,961
33159 55	Bale ties . . . . .	7	-	-	31,811	25,812	31,811
33151 13	Wire rope and cable . . . . .	14	(D)	(D)	170,607	345,662	170,104
	Wire strand:						
33151 33	For prestressed concrete . . . . .	8	-	-	242,722	160,818	242,722
33151 35	Other . . . . .	15	-	-	222,008	259,598	222,008
33157 71	Woven wire netting . . . . .	10	(D)	(D)	98,567	91,689	97,098
	Alloy steel . . . . .	82	1,630,529	150,607	9,630,894	7,284,534	8,150,972
33122 31	Ingots . . . . .	12	22,250	97,874	322,631	205,045	398,254
	Semifinished products:						
33122 37	Blooms, billets, sheet bars, rounds, and skelp . . . . .	18	(D)	(D)	1,604,685	897,991	568,379
33122 39	Wire rods . . . . .	4	(D)	(D)	(D)	(D)	(D)
33122 41	Slabs . . . . .	5	(D)	(D)	(D)	(D)	(D)
	Finished products:						
33124 33	Plates, cut lengths . . . . .	7	(D)	(D)	(D)	(D)	(D)
33124 36	Plates, in coils . . . . .	3	(D)	(D)	(D)	(D)	(D)
33124 38	Structural shapes (3 inches and under) . . . . .	4	-	-	(D)	(D)	(D)
	Sheet:						
33123 31	Hot rolled . . . . .	10	21,654	-	1,503,745	665,949	1,482,092
33167 31	Cold rolled . . . . .	8	(D)	(D)	(D)	(D)	(D)
	Sheet and strip:						
	Galvanized:						
33123 35	Hot dipped . . . . .	3	-	-	125,674	88,744	125,674
33123 37	All other metallic coated, including electrolytic . . . . .	6	(D)	(D)	(D)	(D)	(D)
	Strip:						
33123 39	Hot rolled . . . . .	4	(D)	(D)	2,523	1,241	(D)
33167 35	Cold finished . . . . .	13	(D)	(D)	(D)	(D)	(D)
	Bars:						
33124 41	Hot rolled, including structural shapes under 3 inches . . . . .	17	(D)	(D)	2,281,303	1,402,684	2,066,808
33168 31	Cold finished . . . . .	24	(D)	(D)	406,210	481,350	406,154
	Tool steel:						
33124 48	High speed . . . . .	7	(D)	(D)	12,434	112,385	11,404
33124 49	Other than high speed . . . . .	7	(D)	(D)	47,164	180,804	46,259
	Pipe and tubes:						
33170 32	Oil country goods and line pipe . . . . .	8	(D)	(D)	940,587	774,572	864,687
33170 43	Pressure tubing . . . . .	7	(D)	(D)	9,342	30,800	8,868
33170 45	Mechanical tubing . . . . .	11	(D)	(D)	628,846	777,520	504,338
33170 48	Miscellaneous, including standard and structural . . . . .	5	(D)	(D)	(D)	(D)	(D)
33155 37	Wire (plain and coated) . . . . .	14	4,233	-	51,684	126,540	47,451

See footnotes at end of table.

Table 7. Receipts, Consumption, Shipments, and Net Shipments of Steel Mill Products: 1996—Con.

[Quantity in metric tons. Value in thousands of dollars]

Product code <sup>1</sup>	Product description	Number of companies	Receipts <sup>2 3</sup> (quantity)	Steel consumed in producing plants (quantity)	Total shipments		Net shipments <sup>4</sup> (quantity)
					Quantity	Value f.o.b. plant	
	Steel—Con.						
33122 51	Stainless steel.....	83	905,961	22,852	2,341,234	6,214,447	1,458,125
	Ingots.....	12	(D)	(D)	22,994	32,508	(D)
	Semifinished products:						
33122 56	Blooms, billets, slabs, sheet bars, tube rounds, and skelp.....	15	(D)	(D)	257,521	399,760	97,758
33122 59	Wire rods.....	4	(D)	(D)	33,848	105,852	24,329
	Finished products:						
33124 53	Plates and structurals.....	7	6,823	-	167,158	520,475	160,336
	Sheet and strip:						
33123 57	Hot rolled.....	5	(D)	(D)	510,240	873,621	(D)
33167 57	Cold rolled.....	15	(D)	(D)	972,304	2,377,850	894,981
	Bars:						
33124 61	Hot rolled.....	7	(D)	(D)	57,652	200,120	35,903
33168 51	Cold finished.....	14	(D)	(D)	123,978	611,872	122,795
	Pipe and tubes:						
	Pressure tubing:						
33170 61	Seamless.....	8	-	-	9,974	107,936	9,974
33170 62	Welded.....	12	-	-	53,230	269,739	53,230
	Mechanical tubing:						
33170 63	Seamless.....	5	(D)	(D)	(D)	(D)	(D)
33170 64	Welded.....	17	(D)	(D)	66,160	314,362	66,159
33170 65	Other pipe and tube.....	6	(D)	(D)	3,944	26,600	3,985
	Wire:						
	Round wire:						
33155 52	Under 0.75 mm in diameter.....	11	(D)	(D)	7,708	61,976	7,225
33155 53	0.75 mm to under 1.5 mm in diameter.....	11	169	-	4,961	31,921	4,792
33155 54	1.5 mm and above in diameter.....	14	(D)	(D)	32,020	139,925	31,469
33155 57	Other shape wire, including flat wire.....	11	(D)	(D)	(D)	(D)	(D)

- Represents zero. D Withheld to avoid disclosing data for individual companies. In some cases, data that are otherwise publishable are withheld to avoid disclosing by subtraction from higher-level totals or from related data. NA Not available.

<sup>1</sup>Product codes in 33155 series also include products in 33125 series; same applies for 33167 and 33127; 33168 and 33128; and 33170 and 33126.

<sup>2</sup>Excludes receipts and shipments of steel processed on a conversion basis for nonsteel producing companies. Receipts data represent receipts at producing mills only and include receipts from domestic sources.

<sup>3</sup>Import receipts of steel mill products for 1996 are as follows: total, 6,533,679 metric tons; carbon, 6,269,942 metric tons; alloy, 99,775 metric tons; stainless 163,962 metric tons.

<sup>4</sup>Net shipments are derived by subtracting domestic receipts from total quantity shipments, plus steel consumed in producing plants.

<sup>5</sup>Product code 3312C combines product codes 3312C 11, 3312C 13, 3312C 15, 3312C 17, 3312C 19, 3312C 21, and 3312C 23.

<sup>6</sup>Represents wire products produced within steel works and wire drawing establishments. See the 1992 Census of Manufactures, MC92-I-33A, Tables 6A-1 and 6A-2 for detailed information.

Note: Quantity data converted to metric tons; therefore, detail may not add to total because of rounding.

Table 8. Receipts, Consumption, Shipments, and Net Shipments of Steel Mill Products: 1995

[Quantity in metric tons. Value in thousands of dollars]

Product code <sup>1</sup>	Product description	Number of companies	Receipts <sup>2 3</sup> (quantity)	Steel consumed in producing plants (quantity)	Total shipments		Net shipments <sup>4</sup> (quantity)
					Quantity	Value f.o.b. plant	
	Steel .....	(NA)	25,850,765	'1,983,676	108,984,820	66,290,835	'85,117,731
	Carbon steel .....	278	23,320,594	'1,803,700	97,019,524	52,296,298	'75,502,630
33122 11	Ingots .....	6	(D)	(D)	202,757	75,397	'291,040
	Semifinished products:						
33122 13	Blooms, billets, sheet bars, tin mill bars, tube rounds, and skelp .....	34	(D)	(D)	'2,288,543	'773,978	(D)
33122 19	Wire rods .....	20	2,942,710	'171,237	'4,566,640	'1,742,321	'1,795,167
33122 20	Slabs .....	12	761,187	'2,701	'1,211,679	'343,714	'453,193
	Finished products:						
33124 13	Plates, cut lengths .....	16	(D)	(D)	'4,031,181	'1,971,925	3,853,996
33124 14	Plates, in coils .....	6	(D)	(D)	361,144	162,348	'319,431
	Sheet:						
33123 11	Hot rolled, including hot rolled bands .....	25	10,950,536	'687,284	20,434,303	8,371,297	'10,171,051
33167 11	Cold rolled .....	26	'1,336,915	'276,307	13,179,248	7,011,007	12,118,640
	Sheet and strip:						
	Galvanized:						
33123 13	Hot dipped .....	16	157,057	'2,156	8,136,327	5,450,612	7,981,426
33123 15	Electrolytic .....	13	10,083	-	2,343,625	1,859,263	2,333,542
33123 17	Electrical .....	3	(D)	(D)	(D)	(D)	(D)
33123 18	All other metallic coated, including long ternes. .	11	(D)	(D)	1,040,847	785,738	1,031,232
	Strip:						
33123 19	Hot rolled .....	18	(D)	(D)	'2,281,036	'962,214	'1,748,798
33167 15	Cold rolled .....	21	'268,156	'53,845	'1,223,829	'1,122,992	'1,009,518
	Tin mill products:						
33123 24	Blackplate .....	9	(D)	(D)	445,701	243,500	438,506
33123 26	Electrolytic and hot dipped tin plate .....	8	(D)	(D)	2,552,170	1,755,614	2,553,480
33123 28	Tin free steel .....	5	(D)	(D)	449,961	298,436	449,961
33123 29	All other tin mill products, including short ternes and foil .....	2	-	-	(D)	(D)	(D)
	Structural shapes (heavy):						
33124 15	Wide flange .....	5	-	-	2,904,656	1,182,913	2,904,656
33124 17	Standard heavy shapes .....	10	(D)	(D)	2,310,003	1,052,089	2,309,315
33124 18	Sheet piling and bearing piles .....	4	-	-	(D)	(D)	(D)
	Bars:						
33124 22	Hot-rolled bars (except concrete reinforcing). . .	35	1,068,397	11,045	6,136,761	2,972,845	5,079,409
33124 24	Light structurals (under 3 inches) .....	9	(D)	(D)	1,474,043	617,961	1,474,038
33124 26	Concrete reinforcing bars .....	19	(D)	(D)	4,240,207	1,453,667	4,265,768
33168 11	Cold-finished bars .....	36	(D)	(D)	'1,437,608	1,204,428	'1,376,943
3312C —	Rails, wheels, and track accessories <sup>5</sup> .....	10	(D)	(D)	685,008	448,538	'542,059
	Pipe and tubes:						
	Line pipe:						
33170 14	16 inches outside diameter and under .....	23	(D)	(D)	1,103,289	674,309	1,104,115
33170 15	Over 16 inches outside diameter .....	8	-	-	475,252	335,550	475,252
33170 19	Oil country goods .....	15	(D)	(D)	'823,661	'553,138	'832,103
	Pressure tubing:						
33170 21	Seamless .....	8	(D)	(D)	50,883	71,425	44,236
33170 22	Welded .....	15	(D)	(D)	'334,120	'401,503	'334,852
	Mechanical tubing:						
33170 23	Seamless .....	13	(D)	(D)	102,810	126,141	100,040
33170 24	Welded .....	57	64,156	'48,143	2,037,988	2,069,591	2,021,975
33170 27	Structurals .....	25	(D)	(D)	1,136,065	739,041	1,133,126
33170 29	Miscellaneous, including standard pipe .....	30	(D)	(D)	'1,324,380	'943,008	'1,321,674
	Wire:						
	Plain wire:						
33155 01	Flat wire .....	8	(D)	(D)	31,020	34,059	29,030
	Round wire:						
	Thermally treated:						
33155 02	Under 1.5 mm in diameter .....	17	(D)	(D)	55,519	65,083	'5,065
33155 03	1.5 mm or above in diameter .....	22	(D)	(D)	220,545	186,238	'163,605
	Other round wire:						
33155 04	Under 1.5 mm in diameter .....	12	(D)	(D)	223,537	268,236	'145,220
33155 05	1.5 mm or above in diameter .....	36	'201,449	'7,349	'1,251,882	'700,809	'1,057,782
33155 06	Other shape wire .....	10	(D)	(D)	276,270	142,071	276,105

See footnotes at end of table.



Table 8. Receipts, Consumption, Shipments, and Net Shipments of Steel Mill Products: 1995—Con.

[Quantity in metric tons. Value in thousands of dollars]

Product code <sup>1</sup>	Product description	Number of companies	Receipts <sup>2 3</sup> (quantity)	Steel consumed in producing plants (quantity)	Total shipments		Net shipments <sup>4</sup> (quantity)
					Quantity	Value f.o.b. plant	
	Steel—Con.						
	Carbon steel—Con.						
	Finished products—Con.						
	Plated or coated with zinc:						
	Round wire:						
33155 13	Under 1.5 mm in diameter . . . . .	12	(D)	(D)	46,246	38,142	'27,107
33155 14	1.5 mm or above in diameter . . . . .	23	(D)	(D)	300,276	207,134	'227,177
33155 15	Other shape wire, including flat . . . . .	9	(D)	(D)	82,284	60,800	63,547
	Other coated wire:						
33155 17	Flat wire . . . . .	2	(D)	(D)	(D)	(D)	(D)
33155 18	Round wire . . . . .	18	(D)	(D)	115,393	129,051	134,976
33155 21	Other shape wire . . . . .	6	(D)	(D)	51,340	'62,874	51,272
	Wire products <sup>6</sup> :						
33152 21	Nails and staples . . . . .	23	(D)	(D)	'575,895	673,209	'575,318
33159 51	Barbed and twisted wire . . . . .	8	(D)	(D)	151,006	'161,426	151,001
33156 21	Wire fence, woven and welded . . . . .	12	(D)	(D)	415,634	287,976	415,103
33159 55	Bale ties . . . . .	7	-	-	34,961	28,276	34,961
33151 13	Wire rope and cable . . . . .	14	(D)	(D)	173,467	352,002	173,349
	Wire strand:						
33151 33	For prestressed concrete . . . . .	8	-	-	'235,831	'157,273	'235,831
33151 35	Other . . . . .	15	-	-	227,145	270,740	227,145
33157 71	Woven wire netting . . . . .	10	(D)	(D)	97,721	90,652	96,464
	Alloy steel . . . . .	82	1,521,916	'160,835	9,366,621	7,087,363	'8,005,540
33122 31	Ingots . . . . .	12	19,778	'107,210	301,870	187,480	389,302
	Semifinished products:						
33122 37	Blooms, billets, sheet bars, rounds, and skelp . . . . .	18	(D)	(D)	1,360,132	773,090	'415,690
33122 39	Wire rods . . . . .	4	(D)	(D)	(D)	(D)	(D)
33122 41	Slabs . . . . .	5	(D)	(D)	(D)	(D)	(D)
	Finished products:						
33124 33	Plates, cut lengths . . . . .	7	(D)	(D)	639,189	445,660	639,218
33124 36	Plates, in coils . . . . .	3	(D)	(D)	(D)	(D)	(D)
33124 38	Structural shapes (3 inches and under) . . . . .	4	-	-	(D)	(D)	(D)
	Sheet:						
33123 31	Hot rolled . . . . .	10	'22,567	-	1,612,516	710,513	1,589,949
33167 31	Cold rolled . . . . .	8	(D)	(D)	317,959	'177,815	316,487
	Sheet and strip:						
	Galvanized:						
33123 35	Hot dipped . . . . .	3	-	-	123,382	92,036	123,382
33123 37	All other metallic coated, including electrolytic . . . . .	6	(D)	(D)	(D)	(D)	(D)
	Strip:						
33123 39	Hot rolled . . . . .	4	(D)	(D)	4,485	2,254	(D)
33167 35	Cold finished . . . . .	13	(D)	(D)	'268,824	'476,284	'261,008
	Bars:						
33124 41	Hot rolled, including structural shapes under 3 inches . . . . .	17	(D)	(D)	2,337,273	1,494,613	'2,115,757
33168 31	Cold finished . . . . .	24	73	-	469,719	'506,989	469,647
	Tool steel:						
33124 48	High speed . . . . .	7	(D)	(D)	13,609	125,277	10,493
33124 49	Other than high speed . . . . .	7	(D)	(D)	'48,881	'183,287	'48,100
	Pipe and tubes:						
33170 32	Oil country goods and line pipe . . . . .	8	(D)	(D)	988,293	729,498	940,476
33170 43	Pressure tubing . . . . .	7	(D)	(D)	10,369	33,943	10,156
33170 45	Mechanical tubing . . . . .	11	(D)	(D)	501,219	681,935	399,408
33170 48	Miscellaneous, including standard and structural . . . . .	5	(D)	(D)	(D)	(D)	(D)
33155 37	Wire (plain and coated) . . . . .	14	3,991	-	59,995	'124,402	56,005

See footnotes at end of table.

Table 8. Receipts, Consumption, Shipments, and Net Shipments of Steel Mill Products: 1995—Con.

[Quantity in metric tons. Value in thousands of dollars]

Product code <sup>1</sup>	Product description	Number of companies	Receipts <sup>2 3</sup> (quantity)	Steel consumed in producing plants (quantity)	Total shipments		Net shipments <sup>4</sup> (quantity)
					Quantity	Value f.o.b. plant	
	Steel—Con.						
33122 51	Stainless steel .....	83	'1,008,255	'19,141	2,598,675	6,907,174	'1,609,560
	Ingots .....	12	(D)	(D)	27,584	39,137	(D)
	Semifinished products:						
33122 56	Blooms, billets, slabs, sheet bars, tube rounds, and skelp .....	15	(D)	(D)	'268,171	'438,681	118,532
33122 59	Wire rods .....	4	(D)	(D)	'37,945	'116,046	'25,693
	Finished products:						
33124 53	Plates and structurals .....	7	9,371	-	201,707	668,895	192,337
	Sheet and strip:						
33123 57	Hot rolled .....	5	655,635	-	612,401	1,062,945	(D)
33167 57	Cold rolled .....	15	(D)	(D)	'1,044,319	'2,558,380	'954,392
	Bars:						
33124 61	Hot rolled .....	7	(D)	(D)	'65,095	'217,903	40,692
33168 51	Cold finished .....	14	(D)	(D)	129,583	'600,661	128,224
	Pipe and tubes:						
	Pressure tubing:						
33170 61	Seamless .....	8	-	-	'9,293	'91,379	'9,293
33170 62	Welded .....	12	-	-	66,191	361,501	66,191
	Mechanical tubing:						
33170 63	Seamless .....	5	(D)	(D)	(D)	(D)	(D)
33170 64	Welded .....	17	(D)	(D)	68,300	372,203	68,199
33170 65	Other pipe and tube .....	6	(D)	(D)	3,599	22,553	3,621
	Wire:						
	Round wire:						
33155 52	Under 0.75 mm in diameter .....	11	(D)	(D)	'11,054	'71,919	10,483
33155 53	0.75 mm to under 1.5 mm in diameter .....	11	121	-	4,617	'28,235	4,496
33155 54	1.5 mm and above in diameter .....	14	(D)	(D)	'34,133	'141,642	'33,345
33155 57	Other shape wire, including flat wire .....	11	(D)	(D)	(D)	(D)	(D)

- Represents zero. D Withheld to avoid disclosing data for individual companies. In some cases, data that are otherwise publishable are withheld to avoid disclosing by subtraction from higher-level totals or from related data. NA Not available. 'Revised by 5 percent or more from previously published data.

<sup>1</sup>Product codes in 33155 series also include products in 33125 series; same applies for 33167 and 33127; 33168 and 33128; and 33170 and 33126.

<sup>2</sup>Excludes receipts and shipments of steel processed on a conversion basis for nonsteel producing companies. Receipts data represent receipts at producing mills only and include receipts from domestic sources.

<sup>3</sup>Import receipts of steel mill products for 1995 are as follows: total, 4,790,265 metric tons; carbon, 4,464,565 metric tons; alloy, 174,284 metric tons; stainless 151,416 metric tons.

<sup>4</sup>Net shipments are derived from subtracting domestic receipts from total quantity shipments, plus steel consumed in producing plants.

<sup>5</sup>Product code 3312C — combines product codes 3312C 11, 3312C 13, 3312C 15, 3312C 17, 3312C 19, 3312C 21, and 3312C 23.

<sup>6</sup>Represents wire products produced within steel works and wire drawing establishments. See the 1992 Census of Manufactures, Tables 6A-1 and 6A-2 for detailed information.

Note: Quantity data converted to metric tons; therefore, detail may not add to total because of rounding.

Table 9. **Minimill Shipments of Selected Steel Mill Products: 1996 and 1995**

[Quantity in metric tons]

Product code <sup>1</sup>	Product description	1996				1995			
		Number of minimill companies	Industry	Minimills	Percent of minimills	Number of minimill companies	Industry	Minimills	Percent of minimills
33122 11	Carbon steel <sup>2</sup> .....	26	44,898,826	15,915,393	35.4	20	43,710,120	<sup>†</sup> 12,945,042	29.6
	Ingots .....	2	136,292	(D)	(D)	3	202,757	(D)	(D)
	Semifinished products:								
33122 13, 20	Blooms, billets, slabs, sheet bars, tin mill bars, tube rounds, and skelp .....	18	3,402,311	1,229,657	36.1	13	<sup>†</sup> 3,500,222	1,073,217	30.7
33122 19	Wire rods .....	4	4,918,313	1,841,003	37.4	2	<sup>†</sup> 4,566,640	(D)	(D)
	Finished products:								
33124 13, 14	Plates, all lengths .....	4	4,440,800	862,069	19.4	4	<sup>†</sup> 4,392,325	782,435	17.8
33123 19	Hot-rolled strip .....	4	2,438,527	(D)	(D)	4	<sup>†</sup> 2,281,036	(D)	(D)
	Structural shapes (heavy):								
33124 15	Wide flange .....	3	(D)	1,012,505	(D)	3	2,904,656	1,040,745	35.8
33124 17	Standard heavy shapes .....	6	2,256,898	1,902,771	84.3	5	2,310,003	<sup>†</sup> 1,785,635	77.3
33124 18	Sheet piling and bearing piles .....	1	(D)	(D)	(D)	1	(D)	(D)	(D)
	Bars:								
33124 22	Hot-rolled bars (except concrete reinforcing) .....	15	6,132,372	3,513,980	57.3	11	6,136,761	<sup>†</sup> 2,965,681	48.3
33124 24	Light structurals (under 3 inches) .....	7	1,355,087	979,213	72.3	5	1,474,043	<sup>†</sup> 798,746	54.2
33124 26	Concrete reinforcing bars .....	11	4,927,159	3,417,684	69.4	8	4,240,207	<sup>†</sup> 2,475,044	58.4
33168 11	Cold-finished bars .....	1	1,320,589	(D)	(D)	1	<sup>†</sup> 1,437,608	(D)	(D)
3312C —	Rails, wheels, and track accessories <sup>3</sup> .....	2	732,572	(D)	(D)	1	685,008	(D)	(D)
	Pipe and tubes:								
33170 14	Line pipe, 16 inches outside diameter and under .....	2	1,114,575	(D)	(D)	2	1,103,289	(D)	(D)
33170 19	Oil country goods .....	2	1,197,158	(D)	(D)	2	<sup>†</sup> 823,661	(D)	(D)
33170 23	Mechanical tubing, seamless .....	1	106,265	(D)	(D)	1	102,810	(D)	(D)
33170 27	Structurals .....	2	1,238,952	(D)	(D)	2	1,136,065	(D)	(D)
33170 29	Miscellaneous, including standard pipe .....	2	1,472,925	(D)	(D)	2	<sup>†</sup> 1,324,380	(D)	(D)
33155 00	Wire <sup>4</sup> .....	2	(D)	(D)	(D)	2	(D)	(D)	(D)
3315- 00	Wire products <sup>5</sup> .....	1	1,946,131	(D)	(D)	1	1,911,660	(D)	(D)

D Withheld to avoid disclosing data for individual companies. <sup>†</sup>Revised by 5 percent or more from previously published data.

<sup>1</sup>Product codes in 33155 series also include products in 33125 series, same applies for 33167 and 33127; 33168 and 33128; and 33170 and 33126.

<sup>2</sup>Total data are for selected product codes only.

<sup>3</sup>Product code 3312C — combines product codes 3312C 11, 3312C 13, 3312C 15, 3312C 17, 3312C 19, 3312C 21, and 3312C 23.

<sup>4</sup>Product code 33155 00 combines product codes 33155 01 through 33155 21.

<sup>5</sup>Product code 3315- 00 combines product codes 33152 21, 33159 51, 33156 21, 33159 55, 33151 13, 33151 33, 33151 35, and 33157 71.

Note: Quantity data converted to metric tons; therefore, detail may not add to total because of rounding.

Table 10. Net Shipments, Exports, Imports, and Apparent Consumption of Steel Mill Products: 1996

[Quantity in metric tons. Value in thousands of dollars]

Product code <sup>1</sup>	Product description	Manufacturers' shipments		Exports of domestic merchandise <sup>1 3</sup>		Imports for consumption <sup>1 4</sup>		Apparent consumption <sup>6</sup>	
		Net (quantity) <sup>2</sup>	Total value f.o.b. plant	Quantity	Value at port	Quantity	Value c.i.f. <sup>5</sup>	Quantity	Value
	Total . . . . .	87,473,349	65,990,081	3,122,982	3,103,926	14,448,640	232,110,566	98,799,007	294,996,721
	Carbon steel:								
33122 11	Ingots . . . . .	262,690	59,192	60,996	29,898	31,008	249,322	232,702	278,616
33122 13, 20	Semifinished blooms, billets, sheet bars, tin mill bars, tube rounds, skelp, and slabs . . . . .	(D)	1,068,757	166,099	69,060	6,591,295	55,102,445	(D)	56,102,142
33122 19	Semifinished wire rods . . . . .	2,126,154	1,823,737	-	-	-	-	2,126,154	1,823,737
33124 13, 14	Finished plates, both cut in lengths and in coils. . . . .	4,201,460	2,126,762	-	-	-	-	4,201,460	2,126,762
33123 11, 19	Finished sheet and strip, hot rolled including hot rolled bands . . . . .	10,679,487	8,797,034	49,985	41,382	77,779	977,338	10,707,281	9,732,990
33167 11	Finished sheet, cold rolled . . . . .	13,377,429	7,315,037	418,916	248,637	26,623	507,634	12,985,136	7,574,034
33123 13	Finished sheet and strip, galvanized, hot dipped . . . . .	8,482,159	5,554,131	91,328	69,947	1,032,293	23,215,067	9,423,124	28,699,251
33123 15	Finished sheet and strip, galvanized, electrolytic. . . . .	2,750,604	2,043,669	136,558	100,188	-	-	2,614,046	1,943,481
33123 17, 18	Finished sheet and strip, electrical and other metallic coating, including long ternes. . . . .	(D)	(D)	134,593	142,625	224,568	7,548,491	(D)	(D)
33167 15	Finished strip, cold rolled . . . . .	1,052,166	1,088,073	25,586	30,103	9,143	781,958	1,035,723	1,839,928
	Finished tin mill products:								
33123 24	Black plate . . . . .	499,607	278,280	5,343	2,364	-	-	494,263	275,916
33123 26	Electrolytic and hot dipped tinplate . . . . .	2,695,582	1,813,166	323,706	199,474	250,380	4,304,122	2,622,256	5,917,814
33123 28, 29	Tin free steel and other tin mill products, including short ternes and foil . . . . .	(D)	(D)	(NA)	(NA)	(NA)	(NA)	(D)	(D)
33124 15, 17	Finished structural shapes (heavy), both wide flange and standard heavy shapes. . . . .	(D)	(D)	211,579	103,576	815,317	2,032,813	(D)	(D)
33124 18	Finished sheet piling and bearing piles. . . . .	(D)	(D)	30,619	25,170	62,280	195,965	(D)	(D)
	Finished bars:								
33124 22	Hot rolled bars (except concrete reinforcing). . . . .	5,160,579	2,837,299	-	-	142,035	1,608,625	5,302,614	4,445,924
33124 24	Light structurals (under 3 inches) . . . . .	1,354,906	533,829	105,037	64,917	125,640	180,072	1,375,509	648,984
33124 26	Concrete reinforcing . . . . .	4,953,890	1,633,623	-	-	528,940	5,408,410	5,482,830	7,042,033
33168 11	Cold finished . . . . .	1,256,076	1,094,874	-	-	80,692	2,464,282	1,336,768	3,559,156
3312C —	Finished rails, wheels, and track accessories <sup>7</sup> . . . . .	642,679	478,705	60,975	37,228	180,013	305,023	761,716	746,500
33170 14, 15	Finished line pipe, all diameters . . . . .	1,594,087	974,800	162,506	155,330	539,662	9,632,386	1,971,243	10,451,856
33170 19	Finished pipe and tubes, oil country goods. . . . .	1,205,600	801,528	156,119	173,650	53,979	290,949	1,103,460	918,827
33170 27	Finished pipe and tubes, structurals . . . . .	1,235,324	760,877	51,065	56,791	461,792	2,811,081	1,646,050	3,515,167
33170 21-24, 29	Finished pipe and tubes, (except line pipe, oil country goods, and structurals) . . . . .	4,014,084	3,625,785	95,713	140,651	823,872	12,984,146	4,742,243	16,469,280
33155 01-06	Finished plain wire . . . . .	1,573,043	1,323,764	34,333	35,353	-	-	1,538,710	1,288,411
33155 13-15	Finished wire, plated or coated with zinc . . . . .	279,823	286,924	10,298	14,900	-	-	269,525	272,024
33155 17-18, 21	Finished wire, plated or coated, other than with zinc . . . . .	(D)	(D)	14,610	25,207	-	-	(D)	(D)
33152 21	Finished wire nails and staples. . . . .	601,746	724,978	16,164	41,249	351,439	1,432,703	937,022	2,116,432
33159 51	Finished barbed and twisted wire . . . . .	154,830	166,757	2,364	3,805	12,948	9,893	165,413	172,845
33156 21, 33157 71	Finished wire fence (woven and welded) and woven wire netting . . . . .	519,060	376,729	7,576	12,910	47,657	339,606	559,142	703,425
33159 55	Finished wire bale ties . . . . .	31,811	25,812	(NA)	(NA)	(NA)	(NA)	31,811	25,812
33151 13	Finished wire rope and cable . . . . .	170,104	345,662	11,212	32,606	83,505	4,384,471	242,397	4,697,527
33151 33	Finished wire strand for prestressed concrete . . . . .	242,722	160,818	4,455	4,358	47,637	934,706	285,904	1,091,166
33151 35	Finished wire strand (except for prestressed concrete) . . . . .	222,008	259,598	(NA)	(NA)	(NA)	(NA)	222,008	259,598
	Alloy steel:								
33122 31	Ingots . . . . .	398,254	205,045	27,482	28,801	10,376	293,893	381,148	470,137
33122 37, 41	Semifinished blooms, billets, sheet bars, tube rounds, skelp and slabs . . . . .	(D)	(D)	15,312	33,279	114,117	1,967,995	(D)	(D)
33123 31, 35, 37, 39	Finished plate, sheet or strip, both hot and cold rolled or cold finished . . . . .	(D)	(D)	93,659	90,142	487,218	11,990,915	(D)	(D)
33122 39, 33124 38, 41, 33168 31	Semifinished wire rods, finished structural shapes (3 inches and under) and bars, hot rolled including structural shapes under 3 inches and cold finished. . . . .	(D)	(D)	212,053	196,619	732,739	12,066,053	(D)	(D)
33124 48	Finished tool steel, high-speed . . . . .	11,404	112,385	1,286	11,813	1,871	1,172,943	11,989	1,273,515
33124 49	Finished tool steel (except high speed). . . . .	46,259	180,804	5,649	18,010	40,017	3,927,042	80,627	4,089,836
33170 32	Finished oil country goods and line pipe. . . . .	864,687	774,572	152,747	210,175	17,695	1,235,800	729,635	1,800,197
33155 37	Finished wire, plain or coated . . . . .	47,451	126,540	18,245	47,174	48,416	4,651,838	77,623	4,731,204

See footnotes at end of table.

Table 10. Net Shipments, Exports, Imports, and Apparent Consumption of Steel Mill Products: 1996—Con.

[Quantity in metric tons. Value in thousands of dollars]

Product code <sup>1</sup>	Product description	Manufacturers' shipments		Exports of domestic merchandise <sup>1 3</sup>		Imports for consumption <sup>1 4</sup>		Apparent consumption <sup>6</sup>	
		Net (quantity) <sup>2</sup>	Total value f.o.b. plant	Quantity	Value at port	Quantity	Value c.i.f. <sup>5</sup>	Quantity	Value
	Total—Con.								
	Stainless steel:								
33122 51	Ingots . . . . .	(D)	32,508	7,085	23,839	9,106	352,065	(D)	360,734
33122 56	Semifinished blooms, billets, slabs, sheet bars, tube rounds, and skelp. . . . .	97,758	399,760	-	-	-	-	97,758	399,760
33122 59, 33124 61	Semifinished wire rods and finished bars, hot rolled . . . . .	60,232	305,972	-	-	58,965	5,665,877	119,197	5,971,849
33124 53	Finished plates and structurals . . . . .	160,336	520,475	24,697	82,755	84,080	11,287,921	219,719	11,725,641
33123 57	Finished sheet and strip, hot rolled . . . . .	(D)	873,621	8,044	25,014	22,134	3,236,501	(D)	4,085,108
33167 57	Finished sheet and strip, cold rolled . . . . .	894,981	65,871	59,628	160,230	9,361	1,525,921	844,714	1,431,562
33168 51	Finished bars, cold finished. . . . .	122,795	611,872	-	-	50,656	11,857,401	173,450	12,469,273
33155 52-54, 57	Finished wire. . . . .	(D)	(D)	5,071	30,938	24,844	7,338,349	(D)	(D)
33170 43, 45, 48, 61-65	Alloy steel, including stainless, pipe and tubes, n.e.c. . . . .	756,009	1,713,063	104,286	283,758	136,545	15,838,544	788,268	17,267,849

- Represents zero. D Withheld to avoid disclosing data for individual companies. NA Not available.

<sup>1</sup>For comparison of SIC-based codes with Schedule B export numbers and HTSUSA import numbers, see "Contact for Data Users" at end of this subsection.

<sup>2</sup>Includes quantities of steel consumed in steel producing plants in manufacture of fabricated products and maintenance, repair, and operating supplies (MRO), while excluding receipts. Refer to Table 7 for net shipments detail.

<sup>3</sup>Source: Bureau of the Census report EM 545, *U.S. Exports*.

<sup>4</sup>Source: Bureau of the Census report IM 145, *U.S. Imports for Consumption*.

<sup>5</sup>Dollar value represents c.i.f. (cost, insurance, and freight) value at first port of entry in the United States plus U.S. import duties.

<sup>6</sup>Apparent consumption is derived by subtracting exports from total manufacturers' shipments plus imports.

<sup>7</sup>Data for manufacturers' shipments, product code 3312C— combines 3312C 11, 3312C 13, 3312C 15, 3312C 17, 3312C 19, 3312C 21, and 3312C 23; for exports and imports, product code 3312C — combines product codes 3312C 11, 3312C 13, 3312C 15, and 3312C 17 (product codes 3312C 19, 3312C 21, and 3312C 23 are not applicable).

Note: Quantity data converted to metric tons; therefore, detail may not add to total because of rounding.

## HISTORICAL NOTE

Data on steel mill products have been collected by the Bureau of the Census since 1921. Historical data may be obtained from Current Industrial Reports (called Facts for Industry before 1959) available at your local Federal

Depository Library. Historical data are also available on microfiche; contact Customer Services, 301-457-4100.

## CONTACT FOR DATA USERS

For additional information about these data, contact Renee Coley, 301-457-4742.

## ALUMINUM INGOT AND MILL PRODUCTS (M33D)

### INTRODUCTION

These data cover companies engaged in the production, in the continental United States, of aluminum ingot and/or mill products. Master alloys are included. Receipts of imported aluminum products are also included. Companies engaged in tolling operations are also surveyed.

The statistics were collected by mail on Bureau of the Census monthly Form M33D, Aluminum Producers and Importers Report (Receipt, Shipments, and Stocks). The panel for this survey consists of all known producers of aluminum ingot and mill products shipping 10,000 pounds or more of aluminum ingot and mill products per month, approximately 250 companies. Based on an earlier study, small producers shipping less than 10,000 pounds per month would not significantly affect the survey results.

### SUMMARY OF FINDINGS

Net shipments of aluminum ingot and mill products totaled 18,623 million pounds in 1996, a 1-percent increase from the 18,398 million pounds in 1995. The aluminum ingot net shipments for 1996 totaled 4,342 million pounds, a 9-percent increase from the corresponding 1995 net shipments of 3,991 million pounds. Net shipments of aluminum mill products in 1996 amounted to 14,281 million pounds, a 1-percent decrease from the 14,407 million pounds reported in 1995.

### EXPLANATION OF TERMS

**Gross shipments.** Represents the quantity of physical shipments from domestic establishments of all products sold, transferred to other establishments of the same company, or shipped on consignment, whether for domestic or export sale or use. Shipments of products purchased for resale are omitted. Shipments of products made under toll arrangements are included.

**Receipts.** Represents metal physically received, both from imports and from domestic sources. Metal received under toll arrangements, even though title or ownership of the metal may remain with the shipper, is also included. Scrap receipts are not included.

**Inventories.** Includes all forms of scrap, ingot, metal in process, and finished products listed in this report. All metal physically in plant inventories at the end of the month, whether or not title or ownership of the metal may have been transferred, including toll arrangements.

**Ingot inventory.** All metal that is in the form of extrusion billets or other ingot and molten metal, primary and secondary.

**Scrap inventory.** Purchased and toll-treated aluminum-base scrap and sweated pig in all forms, as well as home or runaround scrap. Also includes remelt scrap ingot (RSI).

**All other inventory.** Includes all mill products that are in a finished state or are in the process of being finished.

**Integrated producers.** Companies in the United States that produce primary aluminum ingot (from alumina) and may also produce mill products.

**Nonintegrated producers.** Companies that produce mill products in the United States and that are not affiliated with a domestic primary ingot producer.

**Smelters.** Companies whose aluminum facilities are exclusively devoted to producing specification ingot from scrap.

**Ingot (billet), extrusion.** A solid or hollow cast form, usually cylindrical, suitable for extruding.

**Other ingot and molten metal, primary and secondary.** Molten aluminum or a solid form (other than extrusion ingot) suitable for remelting or fabricating, produced either from alumina or from scrap; excludes RSI, which is considered scrap until remelted and cast into specification ingot.

**Foil.** A flat rolled product, rectangular in cross-section, and less than 0.006 inch.

**Sheet.** A rolled product, flat or coiled, rectangular in cross-section, and 0.006 inch in thickness but under 0.250 inches in thickness.

**Plate.** A flat rolled product, rectangular in cross-section, and 0.250 inch or greater in thickness.

**Wire.** A solid wrought product that is long in relation to cross-section, which is square, round, rectangular, hexagonal, or octagonal in shape and whose diameter or greatest perpendicular distance between parallel faces (except for flattened wire) is less than 0.375 inch.

**Drawing stock (redraw rod) (continuous cast or rolled).** A solid round product that is long in relation to cross-section, 0.375 inch or greater in diameter, produced by continuous casting followed by size-rolling or by rolling from D.C. cast ingot, suitable for drawing into wire.

**Rod and bar (rolled and/or extruded).** A solid round, square, rectangular, hexagon, or octagonal-shaped product that is long in relation to cross-section, 0.375 inch or greater in diameter or in at least one perpendicular distance between parallel faces, produced by continuous casting or rolling or by extruding; other than drawing stock and D.C. cast ingot.

**Pipe and tube (extruded and drawn).** A hollow wrought product with a uniform wall thickness (except as affected by corner radii) that is long in relation to its cross-section, round, square, rectangular, hexagonal, octagonal, or elliptical in shape, produced either by hot extruding and/or brought to final dimensions by cold drawing through a die.

**Extruded shapes.** A product produced by extruding, that is long in relation to its cross-sectional dimension and has a cross-section other than that of rod and bar or pipe and tube.

**Cable, ACSR, and aluminum (bare).** Aluminum stranded conductor reinforced by a core of steel (ACSR); or any other bare stranded aluminum conductor.

**Powder, atomized.** Powder produced by blowing or aspirating molten metal through an orifice.

**Other flake, powder, and paste.** Includes the following products:

*Powder.* An aggregate of discrete particles of aluminum, substantially all of which are finer than 1,000 microns (minus 18 mesh).

*Paste.* A blend of powder or flake with a thinner or plasticizer.

*Powder, flaked.* Powder consisting of flat or scale-like particles of a thickness that is small compared with other dimensions, and is produced by milling in the presence of a lubricant.

**Forgings (excluding impact extrusions).** A product worked to a predetermined shape by one or more processes such as hammering, upsetting, pressing, and rolling.

**Impacts (excluding collapsible tubes and cans).** A product formed in a confining die from a metal slug, usually cold, by a rapid simple stroke application of force through a punch, causing the metal to flow around the punch, and/or through an opening in the punch or die.

Table 11. Net Shipments and Inventories of Aluminum Ingot and Mill Products: 1996 and 1995

[Thousands of pounds]

Month and year	Net shipments of aluminum			Month-end aluminum inventories <sup>1</sup>
	Ingot and mill products	Mill products	Ingot	
<b>1996</b>				
<b>Total</b> .....	<b>18,622,982</b>	<b>14,280,954</b>	<b>4,342,028</b>	<b>(X)</b>
January .....	1,419,586	1,078,074	341,512	4,407,205
February .....	1,456,665	1,095,787	360,878	4,500,904
March .....	1,554,607	1,254,844	299,763	4,458,880
April .....	1,642,463	1,222,708	419,755	4,479,322
May .....	1,735,178	1,312,405	422,773	4,366,330
June .....	1,564,400	1,156,248	408,152	4,395,034
July .....	1,515,829	1,167,128	348,701	4,356,657
August .....	1,661,420	1,266,367	395,053	4,256,482
September .....	1,509,768	1,186,193	323,575	4,222,933
October .....	1,639,398	1,254,973	384,425	4,120,789
November .....	1,472,956	1,159,668	313,288	4,085,255
December .....	1,450,712	1,126,559	324,153	4,105,147
<b>1995</b>				
<b>Total</b> .....	<b>18,398,013</b>	<b>14,407,244</b>	<b>3,990,769</b>	<b>(X)</b>
January .....	1,631,932	1,267,603	364,329	4,710,004
February .....	1,472,470	1,208,446	264,024	4,845,214
March .....	1,692,266	1,359,261	333,005	4,691,420
April .....	1,593,642	1,255,322	338,320	4,742,901
May .....	1,605,274	1,299,540	305,734	4,745,141
June .....	1,576,473	1,282,922	293,551	4,639,413
July .....	1,368,199	1,124,163	244,036	4,690,568
August .....	1,493,208	1,202,246	290,962	4,593,765
September .....	1,533,405	1,183,046	350,359	4,494,440
October .....	1,570,902	1,166,429	404,473	4,366,321
November .....	1,469,094	1,055,049	414,045	4,346,017
December .....	1,391,148	1,003,217	387,931	4,403,357

X Not applicable.

<sup>1</sup>Use December inventory data for annual total inventory.





Table 12. Shipments and Receipts of Aluminum Ingot and Mill Products by Type of Producer: 1996 —Con.

[Thousands of pounds]

Product description	Gross shipments	Domestic receipts <sup>1</sup>	Net shipments <sup>2</sup>	Gross shipments	Domestic receipts <sup>1</sup>	Net shipments <sup>2</sup>	Gross shipments	Domestic receipts <sup>1</sup>	Net shipments <sup>2</sup>
	June			July			August		
Aluminum ingot and mill products	2,343,494	779,094	1,564,400	2,245,286	729,457	1,515,829	2,429,199	767,779	1,661,420
Integrated	1,215,382	325,423	889,959	1,230,980	308,641	922,339	1,316,665	328,640	988,025
Smelters	193,149	12,709	180,440	175,439	10,194	165,245	197,277	12,626	184,651
All other	934,963	440,962	494,001	838,867	410,622	428,245	915,257	426,513	488,744
Imports (ingot only)	377,197	-	377,197	308,046	-	308,046	332,563	-	332,563
Nonintegrated	557,766	440,962	116,804	530,821	410,622	120,199	582,694	426,513	156,181
Mill products	1,268,362	112,114	1,156,248	1,273,306	106,178	1,167,128	1,382,190	115,823	1,266,367
By type of producer:									
Integrated	837,175	54,343	782,832	854,289	53,079	801,210	918,381	57,919	860,462
Nonintegrated	431,187	57,771	373,416	419,017	53,099	365,918	463,809	57,904	405,905
Ingot	1,075,132	666,980	408,152	971,980	623,279	348,701	1,047,009	651,956	395,053
By type of producer:									
Integrated	378,207	271,080	107,127	376,691	255,562	121,129	398,284	270,721	127,563
Smelters <sup>3</sup>	193,149	12,709	180,440	175,439	10,194	165,245	197,277	12,626	184,651
All other	503,776	383,191	120,585	419,850	357,523	62,327	451,448	368,609	82,839
Imports <sup>4</sup>	377,197	-	377,197	308,046	-	308,046	332,563	-	332,563
Nonintegrated	126,579	383,191	(256,612)	111,804	357,523	(245,719)	118,885	368,609	(249,724)
By type of ingot:									
Extrusion ingot	234,004	213,765	20,239	235,237	188,824	46,413	239,525	206,719	32,806
Integrated	(D)	(D)	76,554	(D)	(D)	84,354	(D)	(D)	84,433
Smelters <sup>3</sup>	(D)	(D)	24,653	(D)	(D)	27,107	(D)	(D)	26,093
All other	(D)	(D)	(80,968)	(D)	(D)	(65,048)	(D)	(D)	(77,720)
Imports <sup>4</sup>	42,025	-	42,025	45,753	-	45,753	47,417	-	47,417
Nonintegrated	(D)	(D)	(122,993)	(D)	(D)	(110,801)	(D)	(D)	(125,137)
Other ingot (primary and secondary)	841,128	453,215	387,913	736,743	434,455	302,288	807,484	445,237	362,247
Integrated	(D)	(D)	30,573	(D)	(D)	36,775	(D)	(D)	43,130
Smelters <sup>3</sup>	(D)	(D)	155,787	(D)	(D)	138,138	(D)	(D)	158,558
All other	(D)	(D)	201,553	(D)	(D)	127,375	(D)	(D)	160,559
Imports <sup>4</sup>	335,172	-	335,172	262,293	-	262,293	285,146	-	285,146
Nonintegrated	(D)	(D)	(133,619)	(D)	(D)	(134,918)	(D)	(D)	(124,587)
	Gross shipments	Domestic receipts <sup>1</sup>	Net shipments <sup>2</sup>	Gross shipments	Domestic receipts <sup>1</sup>	Net shipments <sup>2</sup>	Gross shipments	Domestic receipts <sup>1</sup>	Net shipments <sup>2</sup>
	September			October					
Aluminum ingot and mill products	2,331,320	821,552	1,509,768	2,468,141	828,743	1,639,398			
Integrated	1,262,780	355,270	907,510	1,310,962	362,048	948,914			
Smelters	196,724	14,602	182,122	210,844	13,612	197,232			
All other	871,816	451,680	420,136	946,335	453,083	493,252			
Imports (ingot only)	303,558	-	303,558	377,509	-	377,509			
Nonintegrated	568,258	451,680	116,578	568,826	453,083	115,743			
Mill products	1,300,595	114,402	1,186,193	1,375,834	120,861	1,254,973			
By type of producer:									
Integrated	859,035	58,188	800,847	924,715	58,718	865,997			
Nonintegrated	441,560	56,214	385,346	451,119	62,143	388,976			
Ingot	1,030,725	707,150	323,575	1,092,307	707,882	384,425			
By type of producer:									
Integrated	403,745	297,082	106,663	386,247	303,330	82,917			
Smelters <sup>3</sup>	196,724	14,602	182,122	210,844	13,612	197,232			
All other	430,256	395,466	34,790	495,216	390,940	104,276			
Imports <sup>4</sup>	303,558	-	303,558	377,509	-	377,509			
Nonintegrated	126,698	395,466	(268,768)	117,707	390,940	(273,233)			
By type of ingot:									
Extrusion ingot	253,201	212,067	41,134	274,819	212,641	62,178			
Integrated	(D)	(D)	92,851	(D)	(D)	87,253			
Smelters <sup>3</sup>	(D)	(D)	24,895	(D)	(D)	30,602			
All other	(D)	(D)	(76,612)	(D)	(D)	(55,677)			
Imports <sup>4</sup>	48,091	-	48,091	70,757	-	70,757			
Nonintegrated	(D)	(D)	(124,703)	(D)	(D)	(126,434)			
Other ingot (primary and secondary)	777,524	495,083	282,441	817,488	495,241	322,247			
Integrated	(D)	(D)	13,812	(D)	(D)	(4,336)			
Smelters <sup>3</sup>	(D)	(D)	157,227	(D)	(D)	166,630			
All other	(D)	(D)	111,402	(D)	(D)	159,953			
Imports <sup>4</sup>	255,467	-	255,467	306,752	-	306,752			
Nonintegrated	(D)	(D)	(144,065)	(D)	(D)	(146,799)			

See footnotes at end of table.

Table 12. Shipments and Receipts of Aluminum Ingot and Mill Products by Type of Producer: 1996—Con.

[Thousands of pounds]

Product description	Gross shipments	Domestic receipts <sup>1</sup>	Net shipments <sup>2</sup>	Gross shipments	Domestic receipts <sup>1</sup>	Net shipments <sup>2</sup>
	November			December		
Aluminum ingot and mill products.....	2,257,826	784,870	1,472,956	2,241,343	790,631	1,450,712
Integrated.....	1,241,147	359,030	882,117	1,221,393	350,358	871,035
Smelters.....	183,623	12,087	171,536	157,324	14,008	143,316
All other.....	833,056	413,753	419,303	862,626	426,265	436,361
Imports (ingot only) ..	327,512	-	327,512	397,043	-	397,043
Nonintegrated.....	505,544	413,753	91,791	465,583	426,265	39,318
Mill products.....	1,267,066	107,398	1,159,668	1,229,032	102,473	1,126,559
By type of producer:						
Integrated.....	865,735	55,286	810,449	868,403	48,898	819,505
Nonintegrated.....	401,331	52,112	349,219	360,629	53,575	307,054
Ingot.....	990,760	677,472	313,288	1,012,311	688,158	324,153
By type of producer:						
Integrated.....	375,412	303,744	71,668	352,990	301,460	51,530
Smelters <sup>3</sup> .....	183,623	12,087	171,536	157,324	14,008	143,316
All other.....	431,725	361,641	70,084	501,997	372,690	129,307
Imports <sup>4</sup> .....	327,512	-	327,512	397,043	-	397,043
Nonintegrated.....	104,213	361,641	(257,428)	104,954	372,690	(267,736)
By type of ingot:						
Extrusion ingot.....	236,594	194,886	41,708	226,632	201,693	24,939
Integrated.....	(D)	(D)	81,400	(D)	(D)	72,294
Smelters <sup>3</sup> .....	(D)	(D)	24,629	(D)	(D)	20,188
All other.....	(D)	(D)	(64,321)	(D)	(D)	(67,543)
Imports <sup>4</sup> .....	56,236	-	56,236	53,031	-	53,031
Nonintegrated.....	(D)	(D)	(120,557)	(D)	(D)	(120,574)
Other ingot (primary and secondary).....	754,166	482,586	271,580	785,679	486,465	299,214
Integrated.....	(D)	(D)	(9,732)	(D)	(D)	(20,764)
Smelters <sup>3</sup> .....	(D)	(D)	146,907	(D)	(D)	123,128
All other.....	(D)	(D)	134,405	(D)	(D)	196,850
Imports <sup>4</sup> .....	271,276	-	271,276	344,012	-	344,012
Nonintegrated.....	(D)	(D)	(136,871)	(D)	(D)	(147,162)

- Represents zero. D Withheld to avoid disclosing data for individual companies.

<sup>1</sup>Domestic receipts excludes scrap. Monthly scrap receipts data collected in thousands of pounds are as follows: January, 545,261; February, 510,779; March, 591,468; April, 646,786; May, 654,465; June, 543,964; July, 611,986; August, 639,235; September, 618,579; October, 656,559; November, 576,848; and December, 578,613.

<sup>2</sup>Net shipments are derived by subtracting domestic receipts from gross shipments.

<sup>3</sup>Number of secondary smelter operators shipping ingot is 21.

<sup>4</sup>Source: Bureau of the Census report IM 145, *U.S. Imports for Consumption*. For 1995, import numbers for ingot are: extrusion—7601.20.9045 and 7604.21.0000; other primary—7601.10.3000, 7601.20.3000, 7601.10.6000, 7601.20.9030, 7601.20.9060, 7601.20.6000, and 7601.20.9090. Imports are reported in kilograms and have been converted to pounds.



Table 13. Shipments and Receipts of Aluminum Ingot and Mill Products by Type of Producer: 1995 —Con.

[Thousands of pounds]

Product description	Gross shipments	Domestic receipts <sup>1</sup>	Net shipments <sup>2</sup>	Gross shipments	Domestic receipts <sup>1</sup>	Net shipments <sup>2</sup>	Gross shipments	Domestic receipts <sup>1</sup>	Net shipments <sup>2</sup>
	June			July			August		
Aluminum ingot and mill products.....	2,442,449	865,976	1,576,473	2,125,738	757,539	1,368,199	2,284,126	790,918	1,493,208
Integrated.....	1,305,291	389,418	915,873	1,183,183	352,985	830,198	1,255,307	343,751	911,556
Smelters.....	180,132	15,228	164,904	151,281	11,891	139,390	191,926	15,432	176,494
All other.....	957,026	461,330	495,696	791,274	392,663	398,611	836,893	431,735	405,158
Imports (ingot only) ..	384,883	-	384,883	301,932	-	301,932	297,440	-	297,440
Nonintegrated.....	572,143	461,330	110,813	489,342	392,663	96,679	539,453	431,735	107,718
Mill products.....	1,397,403	114,481	1,282,922	1,230,690	106,527	1,124,163	1,309,798	107,552	1,202,246
By type producer:									
Integrated.....	950,389	53,925	896,464	849,821	53,936	795,885	892,525	45,869	846,656
Nonintegrated.....	447,014	60,556	386,458	380,869	52,591	328,278	417,273	61,683	355,590
Ingot.....	1,045,046	751,495	293,551	895,048	651,012	244,036	974,328	683,366	290,962
By type producer:									
Integrated.....	354,902	335,493	19,409	333,362	299,049	34,313	362,782	297,882	64,900
Smelters <sup>3</sup> .....	180,132	15,228	164,904	151,281	11,891	139,390	191,926	15,432	176,494
All other.....	510,012	400,774	109,238	410,405	340,072	70,333	419,620	370,052	49,568
Imports <sup>4</sup> .....	384,883	-	384,883	301,932	-	301,932	297,440	-	297,440
Nonintegrated.....	125,129	400,774	(275,645)	108,473	340,072	(231,599)	122,180	370,052	(247,872)
By type of ingot:									
Extrusion ingot.....	229,435	202,617	26,818	200,475	166,743	33,732	217,318	177,574	39,744
Integrated.....	(D)	(D)	96,873	(D)	(D)	84,175	(D)	(D)	91,362
Smelters <sup>3</sup> .....	(D)	(D)	17,326	(D)	(D)	14,282	(D)	(D)	18,813
All other.....	(D)	(D)	(87,381)	(D)	(D)	(64,725)	(D)	(D)	(70,431)
Imports <sup>4</sup> .....	32,032	-	32,032	33,653	-	33,653	30,631	-	30,631
Nonintegrated.....	(D)	(D)	(119,413)	(D)	(D)	(98,378)	(D)	(D)	(101,062)
Other ingot (primary and secondary).....	815,611	548,878	266,733	694,573	484,269	210,304	757,010	505,792	251,218
Integrated.....	(D)	(D)	(77,464)	(D)	(D)	(49,862)	(D)	(D)	(26,462)
Smelters <sup>3</sup> .....	(D)	(D)	147,578	(D)	(D)	125,108	(D)	(D)	157,681
All other.....	(D)	(D)	196,619	(D)	(D)	135,058	(D)	(D)	119,999
Imports <sup>4</sup> .....	352,851	-	352,851	268,279	-	268,279	266,809	-	266,809
Nonintegrated.....	(D)	(D)	(156,232)	(D)	(D)	(133,221)	(D)	(D)	(146,810)
	Gross shipments	Domestic receipts <sup>1</sup>	Net shipments <sup>2</sup>	Gross shipments	Domestic receipts <sup>1</sup>	Net shipments <sup>2</sup>	Gross shipments	Domestic receipts <sup>1</sup>	Net shipments <sup>2</sup>
	September			October					
Aluminum ingot and mill products.....	2,265,998	732,593	1,533,405	2,289,106	718,204	1,570,900			
Integrated.....	1,263,440	287,878	975,562	1,260,012	286,358	973,654			
Smelters.....	190,475	13,206	177,269	188,794	13,006	175,788			
All other.....	812,083	431,509	380,574	840,300	418,840	421,460			
Imports (ingot only) ..	259,865	-	259,865	307,308	-	307,308			
Nonintegrated.....	552,218	431,509	120,709	532,992	418,840	114,152			
Mill products.....	1,283,911	100,865	1,183,046	1,264,324	97,895	1,166,429			
By type producer:									
Integrated.....	854,405	39,666	814,739	853,006	39,666	813,340			
Nonintegrated.....	429,506	61,199	368,307	411,318	58,229	353,089			
Ingot.....	982,087	631,728	350,359	1,024,782	620,309	404,473			
By type producer:									
Integrated.....	409,035	248,212	160,823	407,006	246,692	160,314			
Smelters <sup>3</sup> .....	190,475	13,206	177,269	188,794	13,006	175,788			
All other.....	382,577	370,310	12,267	428,982	360,611	68,371			
Imports <sup>4</sup> .....	259,865	-	259,865	307,308	-	307,308			
Nonintegrated.....	122,712	370,310	(247,598)	121,674	360,611	(238,937)			
By type of ingot:									
Extrusion ingot.....	224,023	185,643	38,380	233,288	174,368	58,920			
Integrated.....	(D)	(D)	92,126	(D)	(D)	91,870			
Smelters <sup>3</sup> .....	(D)	(D)	17,366	(D)	(D)	16,851			
All other.....	(D)	(D)	(71,112)	(D)	(D)	(49,801)			
Imports <sup>4</sup> .....	33,599	-	33,599	45,682	-	45,682			
Nonintegrated.....	(D)	(D)	(104,711)	(D)	(D)	(95,483)			
Other ingot (primary and secondary).....	758,064	446,085	311,979	791,494	445,941	345,553			
Integrated.....	(D)	(D)	68,697	(D)	(D)	68,444			
Smelters <sup>3</sup> .....	(D)	(D)	159,903	(D)	(D)	158,937			
All other.....	(D)	(D)	83,379	(D)	(D)	118,172			
Imports <sup>4</sup> .....	226,266	-	226,266	261,626	-	261,626			
Nonintegrated.....	(D)	(D)	(142,887)	(D)	(D)	(143,454)			

See footnotes at end of table.

Table 13. Shipments and Receipts of Aluminum Ingot and Mill Products by Type of Producer: 1995—Con.

[Thousands of pounds]

Product description	Gross shipments	Domestic receipts <sup>1</sup>	Net shipments <sup>2</sup>	November		December	
				Gross shipments	Domestic receipts <sup>1</sup>	Gross shipments	Domestic receipts <sup>1</sup>
Aluminum ingot and mill products.....	2,175,665	706,571	1,469,094	2,093,570	702,422	1,391,148	
Integrated.....	1,172,922	280,239	892,683	1,134,233	269,059	865,174	
Smelters.....	183,914	13,936	169,978	162,464	14,012	148,452	
All other.....	818,829	412,396	406,433	796,873	419,351	377,522	
Imports (ingot only) ..	310,245	-	310,245	299,488	-	299,488	
Nonintegrated.....	508,584	412,396	96,188	497,385	419,351	78,034	
Mill products.....	1,156,045	100,996	1,055,049	1,106,922	103,705	1,003,217	
By type of producer:							
Integrated.....	772,970	37,925	735,045	744,041	51,490	692,551	
Nonintegrated.....	383,075	63,071	320,004	362,881	52,215	310,666	
Ingot.....	1,019,620	605,575	414,045	986,648	598,717	387,931	
By type of producer:							
Integrated.....	399,952	242,314	157,638	390,192	217,569	172,623	
Smelters <sup>3</sup> .....	183,914	13,936	169,978	162,464	14,012	148,452	
All other.....	435,754	349,325	86,429	433,992	367,136	66,856	
Imports <sup>4</sup> .....	310,245	-	310,245	299,488	-	299,488	
Nonintegrated.....	125,509	349,325	(223,816)	134,504	367,136	(232,632)	
By type of ingot:							
Extrusion ingot.....	232,967	159,330	73,637	248,655	161,366	87,289	
Integrated.....	(D)	(D)	95,886	(D)	(D)	93,086	
Smelters <sup>3</sup> .....	(D)	(D)	17,321	(D)	(D)	14,470	
All other.....	(D)	(D)	(39,570)	(D)	(D)	(20,267)	
Imports <sup>4</sup> .....	47,229	-	47,229	64,189	-	64,189	
Nonintegrated.....	(D)	(D)	(86,799)	(D)	(D)	(84,456)	
Other ingot (primary and secondary).....	786,653	446,245	340,408	737,993	437,351	300,642	
Integrated.....	(D)	(D)	61,752	(D)	(D)	79,537	
Smelters <sup>3</sup> .....	(D)	(D)	152,657	(D)	(D)	133,982	
All other.....	(D)	(D)	125,999	(D)	(D)	87,123	
Imports <sup>4</sup> .....	263,016	-	263,016	235,299	-	235,299	
Nonintegrated.....	(D)	(D)	(137,017)	(D)	(D)	(148,176)	

- Represents zero. D Withheld to avoid disclosing data for individual companies.

<sup>1</sup>Domestic receipts excludes scrap. Monthly scrap receipts data collected in thousands of pounds are as follows: January, 496,410; February, 470,218; March, 529,998; April, 493,009; May, 501,195; June, 511,483; July, 503,569; August, 560,477; September, 528,199; October, 538,171; November, 487,684; and December, 440,515.

<sup>2</sup>Net shipments are derived by subtracting domestic receipts from gross shipments.

<sup>3</sup>Number of secondary smelter operators shipping ingot is 21.

<sup>4</sup>Source: Bureau of the Census report IM 145, *U.S. Imports for Consumption*. For 1994, import numbers for ingot are: extrusion—7601.20.9045 and 7604.21.0000; other primary—7601.20.3000, 7601.20.3000, 7601.10.6000, 7601.20.9030, 7601.20.9060, 7601.20.6000, and 7601.20.9090. Imports are reported in kilograms and have been converted to pounds.

Table 14. Inventories of Aluminum Ingot, Mill Products, and Scrap by Type of Producer: 1996 and 1995

[Thousands of pounds]

Type of inventory	Jan.	Feb.	March	April	May	June	July	August	Sept.	Oct.	Nov.	Dec.
<b>1996</b>												
<b>Total . . . . .</b>	<b>4,407,205</b>	<b>4,500,904</b>	<b>4,458,880</b>	<b>4,479,322</b>	<b>4,366,330</b>	<b>4,395,034</b>	<b>4,356,657</b>	<b>4,256,482</b>	<b>4,222,933</b>	<b>4,120,789</b>	<b>4,085,255</b>	<b>4,105,147</b>
Integrated . . . . .	3,177,525	3,266,253	3,232,986	3,237,032	3,131,162	3,158,035	3,104,781	3,022,443	2,995,042	2,879,395	2,822,332	2,801,080
Nonintegrated . . . . .	1,030,076	1,025,129	1,017,931	1,022,241	1,019,100	1,008,213	1,011,193	1,004,680	1,007,784	1,031,580	1,052,727	1,069,984
Smelters . . . . .	199,604	209,522	207,963	220,049	216,068	228,786	240,683	229,359	220,107	209,814	210,196	234,083
Ingot . . . . .	1,745,345	1,739,208	1,705,924	1,685,618	1,617,898	1,607,584	1,596,003	1,521,280	1,505,381	1,446,118	1,448,304	1,466,766
Integrated <sup>1</sup> . . . . .	1,314,750	1,311,353	1,295,280	1,280,471	1,204,631	1,195,537	1,193,547	1,131,383	1,122,161	1,050,485	1,050,157	1,051,293
Nonintegrated <sup>1</sup> . . . . .	330,367	327,281	309,461	299,832	306,587	308,812	293,320	282,556	278,275	294,067	291,927	306,749
Smelters <sup>1</sup> . . . . .	100,228	100,574	101,183	105,315	106,680	103,235	109,136	107,341	104,945	101,566	106,220	108,724
Scrap . . . . .	634,405	678,378	640,682	662,035	670,539	698,403	757,494	751,966	715,237	701,314	702,717	704,174
Integrated <sup>1</sup> . . . . .	339,050	368,700	333,566	341,391	356,071	375,827	399,765	403,549	370,835	360,919	361,490	345,899
Nonintegrated <sup>1</sup> . . . . .	195,979	200,730	200,336	205,910	205,080	197,025	226,182	226,399	229,240	232,147	237,251	232,916
Smelters <sup>1</sup> . . . . .	99,376	108,948	106,780	114,734	109,388	125,551	131,547	122,018	115,162	108,248	103,976	125,359
All other . . . . .	2,027,455	2,083,318	2,112,274	2,131,669	2,077,893	2,089,047	2,003,160	1,983,236	2,002,315	1,973,357	1,934,234	1,934,207
Integrated <sup>1</sup> . . . . .	1,523,725	1,586,200	1,604,140	1,615,170	1,570,460	1,586,671	1,511,469	1,487,511	1,502,046	1,467,991	1,410,685	1,403,888
Nonintegrated <sup>1 2</sup> . . . . .	503,730	497,118	508,134	516,499	507,433	502,376	491,691	495,725	500,269	505,366	523,549	530,319
Smelters <sup>1</sup> . . . . .	-	-	-	-	-	-	-	-	-	-	-	-
<b>1995</b>												
<b>Total . . . . .</b>	<b>4,710,004</b>	<b>4,845,214</b>	<b>4,691,420</b>	<b>4,742,901</b>	<b>4,745,141</b>	<b>4,639,413</b>	<b>4,690,568</b>	<b>4,593,765</b>	<b>4,494,440</b>	<b>4,366,321</b>	<b>4,346,017</b>	<b>4,403,357</b>
Integrated . . . . .	3,316,507	3,486,713	3,341,628	3,405,943	3,427,034	3,333,089	3,427,039	3,332,638	3,234,888	3,106,043	3,057,449	3,048,302
Nonintegrated . . . . .	1,166,314	1,134,821	1,130,086	1,117,926	1,113,664	1,106,325	1,059,695	1,071,406	1,061,588	1,061,171	1,086,258	1,132,007
Smelters . . . . .	227,183	223,680	219,706	219,032	204,443	199,999	203,834	189,721	197,964	199,107	202,310	223,048
Ingot . . . . .	1,851,780	1,962,728	1,825,146	1,840,113	1,873,735	1,864,879	1,881,133	1,819,615	1,761,734	1,593,998	1,637,121	1,699,014
Integrated <sup>3</sup> . . . . .	1,388,761	1,505,371	1,361,718	1,381,030	1,425,392	1,412,031	1,441,366	1,374,874	1,308,681	1,154,692	1,180,607	1,224,355
Nonintegrated <sup>3</sup> . . . . .	362,360	354,553	361,372	349,739	350,450	354,727	343,955	355,688	356,562	344,779	355,196	363,825
Smelters <sup>3</sup> . . . . .	100,659	102,804	102,056	109,344	97,893	98,121	95,812	89,053	96,491	94,527	101,318	110,834
Scrap . . . . .	822,300	815,687	791,007	767,185	736,013	705,995	694,278	712,791	713,842	704,223	669,911	677,004
Integrated <sup>3</sup> . . . . .	408,241	422,251	417,412	406,998	387,117	359,483	371,704	388,585	413,281	393,692	373,331	352,777
Nonintegrated <sup>3</sup> . . . . .	287,535	272,560	255,945	250,499	242,346	244,634	214,552	223,538	199,088	205,951	195,588	212,013
Smelters <sup>3</sup> . . . . .	126,524	120,876	117,650	109,688	106,550	101,878	108,022	100,668	101,473	104,580	100,992	112,214
Other . . . . .	2,035,924	2,066,799	2,075,267	2,135,603	2,135,393	2,068,539	2,115,157	2,061,359	2,018,864	2,068,100	2,038,985	2,027,339
Integrated <sup>3</sup> . . . . .	1,519,505	1,559,091	1,562,498	1,617,915	1,614,525	1,561,575	1,613,969	1,569,179	1,512,926	1,557,659	1,503,511	1,471,170
Nonintegrated <sup>2 3</sup> . . . . .	516,419	507,708	512,769	517,688	520,868	506,964	501,188	492,180	505,938	510,441	535,474	556,169
Smelters <sup>3</sup> . . . . .	-	-	-	-	-	-	-	-	-	-	-	-

- Represents zero.

<sup>1</sup>Number of companies reporting aluminum inventory data for December 1996 only are: Ingot integrated 13; Ingot nonintegrated 125; Ingot smelters 25; Scrap integrated 13; Scrap nonintegrated 124; Scrap smelters 22; Other integrated 11; Other nonintegrated 142; Other smelters 7.

<sup>2</sup>"All other smelters" are combined with "All other nonintegrated smelters" to avoid disclosing data for individual companies.

<sup>3</sup>Number of companies reporting aluminum inventory data for December 1995 only are: Ingot integrated 13; Ingot nonintegrated 118; Ingot smelters 22; Scrap integrated 13; Scrap nonintegrated 118; Scrap smelters 19; Other integrated 11; Other nonintegrated 142; and Other smelters 7.

Table 15. **Gross Shipments of Aluminum Mill Products by Type of Producer and Month: 1996**

[Thousands of pounds]

Product description	Total	Integrated	Noninte- grated	Total	Integrated	Noninte- grated	Total	Integrated	Noninte- grated
	Total			January			February		
<b>Total .....</b>	<b>15,602,233</b>	<b>10,541,126</b>	<b>5,061,107</b>	<b>1,178,302</b>	<b>781,310</b>	<b>396,992</b>	<b>1,198,615</b>	<b>809,738</b>	<b>388,877</b>
Sheet and plate and foil.....	10,565,874	8,284,693	2,281,181	803,422	613,840	189,582	820,403	632,653	187,750
Drawing stock, wire, and cable .....	1,210,469	757,639	452,830	94,333	58,720	35,613	96,073	62,499	33,574
Rod and bare wire .....	586,058	398,484	187,574	44,568	32,355	12,213	46,300	32,831	13,469
Cable and insulated wire.....	624,411	359,155	265,256	49,765	26,365	23,400	49,773	29,668	20,105
Rod, bar, pipe, tube, and shapes ...	3,492,033	1,320,671	2,171,362	251,330	92,916	158,414	254,724	99,225	155,499
All other <sup>1</sup> .....	333,857	178,123	155,734	29,217	15,834	13,383	27,415	15,361	12,054
	March			April			May		
<b>Total .....</b>	<b>1,366,866</b>	<b>938,492</b>	<b>428,374</b>	<b>1,338,088</b>	<b>908,833</b>	<b>429,255</b>	<b>1,423,977</b>	<b>975,020</b>	<b>448,957</b>
Sheet and plate and foil.....	905,656	719,285	186,371	914,265	721,449	192,816	974,947	772,423	202,524
Drawing stock, wire, and cable .....	106,806	69,166	37,640	108,359	68,728	39,631	105,071	66,904	38,167
Rod and bare wire .....	50,511	34,654	15,857	51,678	36,919	14,759	51,062	34,936	16,126
Cable and insulated wire.....	56,295	34,512	21,783	56,681	31,809	24,872	54,009	31,968	22,041
Rod, bar, pipe, tube, and shapes ...	326,155	134,433	191,722	286,691	102,648	184,043	315,122	120,110	195,012
All other <sup>1</sup> .....	28,249	15,608	12,641	28,773	16,008	12,765	28,837	15,583	13,254
	June			July			August		
<b>Total .....</b>	<b>1,268,362</b>	<b>837,175</b>	<b>431,187</b>	<b>1,273,306</b>	<b>854,289</b>	<b>419,017</b>	<b>1,382,190</b>	<b>918,381</b>	<b>463,809</b>
Sheet and plate and foil.....	834,031	644,975	189,056	872,797	681,405	191,392	926,513	726,739	199,774
Drawing stock, wire, and cable .....	98,520	59,782	38,738	102,268	59,780	42,488	106,026	65,848	40,178
Rod and bare wire .....	46,526	30,017	16,509	48,924	30,665	18,259	50,879	33,990	16,889
Cable and insulated wire.....	51,994	29,765	22,229	53,344	29,115	24,229	55,147	31,858	23,289
Rod, bar, pipe, tube, and shapes ...	309,899	118,362	191,537	270,672	98,678	171,994	322,498	111,166	211,332
All other <sup>1</sup> .....	25,912	14,056	11,856	27,569	14,426	13,143	27,153	14,628	12,525
	Total	Integrated	Noninte- grated	Total	Integrated	Noninte- grated	Total	Integrated	Noninte- grated
	September			October					
<b>Total .....</b>	<b>1,300,595</b>	<b>859,035</b>	<b>441,560</b>	<b>1,375,834</b>	<b>924,715</b>	<b>451,119</b>			
Sheet and plate and foil.....	857,356	660,188	197,168	929,841	730,168	199,673			
Drawing stock, wire, and cable .....	105,048	66,118	38,930	110,772	67,480	43,292			
Rod and bare wire .....	51,252	34,432	16,820	55,461	36,782	18,679			
Cable and insulated wire.....	53,796	31,686	22,110	55,311	30,698	24,613			
Rod, bar, pipe, tube, and shapes ...	313,109	120,255	192,854	306,862	112,053	194,809			
All other <sup>1</sup> .....	25,082	12,474	12,608	28,359	15,014	13,345			
	November			December					
<b>Total .....</b>	<b>1,267,066</b>	<b>865,735</b>	<b>401,331</b>	<b>1,229,032</b>	<b>868,403</b>	<b>360,629</b>			
Sheet and plate and foil.....	855,924	679,802	176,122	870,719	701,766	168,953			
Drawing stock, wire, and cable .....	93,669	60,163	33,506	83,524	52,451	31,073			
Rod and bare wire .....	48,284	33,163	15,121	40,613	27,740	12,873			
Cable and insulated wire.....	45,385	27,000	18,385	42,911	24,711	18,200			
Rod, bar, pipe, tube, and shapes ...	287,084	109,954	177,130	247,887	100,871	147,016			
All other <sup>1</sup> .....	30,389	15,816	14,573	26,902	13,315	13,587			

<sup>1</sup>Data for shipments of "All other" include "Powder and paste" and "Forgings and impacts."

Table 16. Gross Shipments of Aluminum Mill Products by Type of Producer and Month: 1995

[Thousands of pounds]

Product description	Total	Integrated	Noninte- grated	Total	Integrated	Noninte- grated	Total	Integrated	Noninte- grated
	Total			January			February		
<b>Total .....</b>	<b>15,723,667</b>	<b>10,638,491</b>	<b>5,085,176</b>	<b>1,391,094</b>	<b>940,700</b>	<b>450,394</b>	<b>1,322,209</b>	<b>880,847</b>	<b>441,362</b>
Sheet and plate and foil .....	10,807,903	8,759,246	2,048,657	951,369	770,024	181,345	892,137	720,568	171,569
Drawing stock, wire, and cable .....	1,159,235	724,264	434,971	108,636	68,305	40,331	103,709	63,926	39,783
Rod and bare wire .....	552,322	377,583	174,739	48,942	34,815	14,127	47,881	32,014	15,867
Cable and insulated wire .....	606,913	346,681	260,232	59,694	33,490	26,204	55,828	31,912	23,916
Rod, bar, pipe, tube, and shapes ...	3,396,583	953,824	2,442,759	299,179	86,230	212,949	294,503	79,740	214,763
All other <sup>1</sup> .....	359,946	201,157	158,789	31,910	16,141	15,769	31,860	16,613	15,247
	March			April			May		
<b>Total .....</b>	<b>1,471,570</b>	<b>994,120</b>	<b>477,450</b>	<b>1,364,508</b>	<b>925,101</b>	<b>439,407</b>	<b>1,425,193</b>	<b>980,566</b>	<b>444,627</b>
Sheet and plate and foil .....	994,381	812,610	181,771	947,869	768,596	179,273	999,382	814,198	185,184
Drawing stock, wire, and cable .....	113,314	71,726	41,588	101,886	62,107	39,779	101,451	65,238	36,213
Rod and bare wire .....	56,134	39,006	17,128	48,151	34,254	13,897	51,226	35,543	15,683
Cable and insulated wire .....	57,180	32,720	24,460	53,735	27,853	25,882	50,225	29,695	20,530
Rod, bar, pipe, tube, and shapes ...	329,668	91,544	238,124	285,540	78,601	206,939	293,554	83,115	210,439
All other <sup>1</sup> .....	34,207	18,240	15,967	29,213	15,797	13,416	30,806	18,015	12,791
	June			July			August		
<b>Total .....</b>	<b>1,397,403</b>	<b>950,389</b>	<b>447,014</b>	<b>1,230,690</b>	<b>849,821</b>	<b>380,869</b>	<b>1,309,798</b>	<b>892,525</b>	<b>417,273</b>
Sheet and plate and foil .....	971,485	791,660	179,825	866,745	711,850	154,895	901,503	735,649	165,854
Drawing stock, wire, and cable .....	93,956	57,854	36,102	84,110	51,428	32,682	94,180	58,432	35,748
Rod and bare wire .....	45,897	28,558	17,339	39,042	25,475	13,567	45,449	28,239	17,210
Cable and insulated wire .....	48,059	29,296	18,763	45,068	25,953	19,115	48,731	30,193	18,538
Rod, bar, pipe, tube, and shapes ...	300,714	83,591	217,123	253,879	71,794	182,085	283,070	79,818	203,252
All other <sup>1</sup> .....	31,248	17,284	13,964	25,956	14,749	11,207	31,045	18,626	12,419
	Total	Integrated	Noninte- grated	Total	Integrated	Noninte- grated	Total	Integrated	Noninte- grated
	September			October					
<b>Total .....</b>	<b>1,283,911</b>	<b>854,405</b>	<b>429,506</b>	<b>1,264,324</b>	<b>853,006</b>	<b>411,318</b>			
Sheet and plate and foil .....	862,695	696,046	166,649	861,746	696,046	165,700			
Drawing stock, wire, and cable .....	98,269	61,561	36,708	97,694	61,561	36,133			
Rod and bare wire .....	45,687	31,952	13,735	44,946	31,952	12,994			
Cable and insulated wire .....	52,582	29,609	22,973	52,748	29,609	23,139			
Rod, bar, pipe, tube, and shapes ...	293,430	79,830	213,600	275,713	78,431	197,282			
All other <sup>1</sup> .....	29,517	16,968	12,549	29,171	16,968	12,203			
	November			December					
<b>Total .....</b>	<b>1,156,045</b>	<b>772,970</b>	<b>383,075</b>	<b>1,106,922</b>	<b>744,041</b>	<b>362,881</b>			
Sheet and plate and foil .....	791,091	629,249	161,842	767,500	612,750	154,750			
Drawing stock, wire, and cable .....	87,107	55,141	31,966	74,923	46,985	27,938			
Rod and bare wire .....	42,011	30,297	11,714	36,956	25,478	11,478			
Cable and insulated wire .....	45,096	24,844	20,252	37,967	21,507	16,460			
Rod, bar, pipe, tube, and shapes ...	249,770	72,271	177,499	237,563	68,859	168,704			
All other <sup>1</sup> .....	28,077	16,309	11,768	26,936	15,447	11,489			

<sup>1</sup>Data for shipments of "All other" include "Powder and paste" and "Forgings and impacts."



Table 17. Shipments and Receipts of Aluminum Mill Products: 1996 and 1995

[Thousands of pounds]

Product code	Product description	Number of companies	Gross shipments	Domestic receipts	Net shipments <sup>1</sup>
<b>1996</b>					
	Aluminum mill products.....	(NA)	15,602,233	1,321,279	14,280,954
	Sheet, plate, and foil.....	(NA)	10,565,874	788,995	9,776,879
	Sheet and plate.....	(NA)	9,432,563	788,995	8,643,568
	Sheet.....	(NA)	9,130,558	788,995	8,341,563
33532 22	Nonheat-treatable <sup>2</sup> .....	20	(S)	(S)	(S)
33532 24	Heat-treatable.....	10	(S)	-	(S)
	Plate.....	(NA)	302,005	-	302,005
33531 15	Nonheat-treatable.....	6	82,379	-	82,379
33531 13	Heat-treatable.....	4	219,626	-	219,626
33533 00	Foil.....	12	1,133,311	-	1,133,311
	Rod, wire, and cable.....	(NA)	1,210,469	438,015	772,454
	Rod and bare wire.....	(NA)	586,058	438,015	148,043
33552 20	Drawing stock (redraw rod) <sup>3</sup> .....	7	471,774	438,015	33,759
33501 31	Bare wire.....	12	114,284	-	114,284
	Cable and insulated wire.....	(NA)	624,411	-	624,411
33501 63	ACSR and aluminum cable, bare.....	5	230,842	-	230,842
33570 99	Wire and cable, insulated or covered.....	12	393,569	-	393,569
	Rod, bar, pipe, tube, and shapes.....	(NA)	3,492,033	94,269	3,397,764
	Rod and bar (rolled and extruded).....	(NA)	432,676	94,269	338,407
33500 20	Alloys other than 2,000 and 7,000 series.....	16	(D)	(D)	(D)
33541 18	Alloys in 2,000 and 7,000 series.....	7	(D)	(D)	(D)
	Pipe and tube (extruded and drawn).....	(NA)	328,540	(D)	328,540
33542 63	Alloys other than 2,000 and 7,000 series.....	23	(D)	(D)	(D)
33542 61	Alloys in 2,000 and 7,000 series.....	6	(D)	(D)	(D)
	Extruded shapes.....	(NA)	2,730,817	-	2,730,817
33541 25	Alloys other than 2,000 and 7,000 series.....	88	2,639,769	-	2,639,769
33541 28	Alloys in 2,000 and 7,000 series.....	11	91,048	-	91,048
	All other.....	(NA)	333,857	-	333,857
	Powder and paste.....	(NA)	115,657	-	115,657
33991 13	Atomized.....	5	79,161	-	79,161
33991 16	Other flake, powder and paste.....	8	36,496	-	36,496
	Forgings and impacts.....	(NA)	218,200	-	218,200
34635 21	Forgings.....	20	160,480	-	160,480
34635 41	Impacts.....	9	57,720	-	57,720
19002 00	Scrap receipts <sup>4</sup> .....	(NA)	(NA)	7,139,481	(NA)
<b>1995</b>					
	Aluminum mill products.....	(NA)	15,723,667	1,316,423	14,407,244
	Sheet, plate, and foil.....	(NA)	10,807,903	801,942	10,005,961
	Sheet and plate.....	(NA)	9,745,709	801,942	8,943,767
	Sheet.....	(NA)	9,407,190	801,942	8,605,248
33532 22	Nonheat-treatable <sup>2</sup> .....	22	9,183,537	801,942	8,381,595
33532 24	Heat-treatable.....	11	223,653	(D)	223,653
	Plate.....	(NA)	338,519	-	338,519
33531 15	Nonheat-treatable.....	6	107,374	-	107,374
33531 13	Heat-treatable.....	4	231,145	-	231,145
33533 00	Foil.....	13	1,062,194	-	1,062,194
	Rod, wire, and cable.....	(NA)	1,159,235	382,325	776,910
	Rod and bare wire.....	(NA)	552,322	382,325	169,997
33552 20	Drawing stock (redraw rod) <sup>3</sup> .....	7	440,557	382,325	58,232
33501 31	Bare wire.....	12	111,765	(D)	111,765
	Cable and insulated wire.....	(NA)	606,913	(D)	606,913
33501 63	ACSR and aluminum cable, bare.....	5	218,158	(D)	218,158
33570 99	Wire and cable, insulated or covered.....	12	388,755	(D)	388,755
	Rod, bar, pipe, tube, and shapes.....	(NA)	3,396,583	132,156	3,264,427
	Rod and bar (rolled and extruded).....	(NA)	431,121	132,156	3,264,427
33500 20	Alloys other than 2,000 and 7,000 series.....	17	(D)	(D)	(D)
33541 18	Alloys in 2,000 and 7,000 series.....	4	(D)	(D)	(D)
	Pipe and tube (extruded and drawn).....	(NA)	317,648	(D)	317,648
33542 63	Alloys other than 2,000 and 7,000 series.....	24	(D)	(D)	(D)
33542 61	Alloys in 2,000 and 7,000 series.....	7	(D)	(D)	(D)
	Extruded shapes.....	(NA)	2,647,814	-	2,647,814
33541 25	Alloys other than 2,000 and 7,000 series.....	92	2,584,307	-	2,584,307
33541 28	Alloys in 2,000 and 7,000 series.....	11	63,507	-	63,507
	All other.....	(NA)	359,946	-	359,946
	Powder and paste.....	(NA)	132,498	-	132,498
33991 13	Atomized.....	7	74,653	-	74,653
33991 16	Other flake, powder and paste.....	9	57,845	-	57,845
	Forgings and impacts.....	(NA)	227,448	-	227,448
34635 21	Forgings.....	23	171,146	-	171,146
34635 41	Impacts.....	8	56,302	-	56,302
19002 00	Scrap receipts <sup>4</sup> .....	(NA)	(NA)	6,060,928	(NA)

- Represents zero. D Withheld to avoid disclosing data for individual companies. NA Not available. S Does not meet publication standards.

<sup>1</sup>Net shipments are derived by subtracting total receipts from gross shipments.

<sup>2</sup>Receipts for "Heat-treatable sheet" are combined with "Nonheat-treatable sheet" to avoid disclosing data for individual companies.

<sup>3</sup>Receipts for "Bare wire" and "Cable and insulated wire" are included with "Drawing stocks" to avoid disclosing data for individual companies.

<sup>4</sup>Data for "Scrap" are not included in total "Aluminum Mill Products Receipts or Net shipments."

Note: Total receipts includes domestic and import receipts data.

Table 18. Net Shipments of Aluminum Mill Products by Month: 1996 and 1995

[Thousands of pounds]

Product description	Total	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
<b>1996</b>													
Aluminum mill products . . . . .	14,280,954	1,078,074	1,095,787	1,254,844	1,222,708	1,312,405	1,156,248	1,167,128	1,266,367	1,186,193	1,254,973	1,159,668	1,126,559
Total receipts . . . . .	1,321,279	100,228	102,828	112,022	115,380	111,572	112,114	106,178	115,823	114,402	120,861	107,398	102,473
Sheet, plate, and foil . . . . .	9,776,879	746,279	760,059	837,029	849,559	908,053	765,150	807,745	856,299	790,071	859,166	788,489	808,980
Sheet, plate, and foil, total receipts . . . . .	788,995	57,143	60,344	68,627	64,706	66,894	68,881	65,052	70,214	67,285	70,675	67,435	61,739
Sheet and plate . . . . .	8,643,568	656,709	667,343	743,962	748,993	806,483	673,188	715,659	757,664	695,743	753,655	695,593	728,576
Sheet . . . . .	8,341,563	629,251	642,664	719,157	724,237	779,956	652,120	693,091	732,584	670,216	727,552	668,401	702,334
Nonheat-treatable . . . . .	8,029,384	599,888	615,160	692,518	699,213	750,129	628,595	670,098	708,169	644,734	700,088	642,731	678,061
Heat-treatable . . . . .	312,179	29,363	27,504	26,639	25,024	29,827	23,525	22,993	24,415	25,482	27,464	25,670	24,273
Plate . . . . .	302,005	27,458	24,679	24,805	24,756	26,527	21,068	22,568	25,080	25,527	26,103	27,192	26,242
Nonheat-treatable . . . . .	82,379	7,737	7,567	6,451	6,014	7,363	5,679	6,402	6,371	6,887	7,497	7,848	6,563
Heat-treatable . . . . .	219,626	19,721	17,112	18,354	18,742	19,164	15,389	16,166	18,709	18,640	18,606	19,344	19,679
Foil . . . . .	1,133,311	89,570	92,716	93,067	100,566	101,570	91,962	92,086	98,635	94,328	105,511	92,896	80,404
Rod, wire, and cable . . . . .	772,454	58,867	60,596	71,098	64,401	66,671	62,309	67,187	67,915	67,302	69,140	62,190	54,778
Rod and bare wire . . . . .	148,043	9,102	10,823	14,803	7,720	12,662	10,315	13,843	12,768	13,506	13,829	16,805	11,867
Drawing stock (redraw rod) . . . . .	33,759	(575)	953	4,667	(1,799)	3,427	1,468	4,931	3,016	4,190	3,044	7,648	2,789
Drawing stock (redraw rod), total receipts . . . . .	438,015	35,466	35,477	35,708	43,958	38,400	36,211	35,081	38,111	37,746	41,632	31,479	28,746
Bare wire . . . . .	114,284	9,677	9,870	10,136	9,519	9,235	8,847	8,912	9,752	9,316	10,785	9,157	9,078
Cable and insulated wire . . . . .	624,411	49,765	49,773	56,295	56,681	54,009	51,994	53,344	55,147	53,796	55,311	45,385	42,911
ACSR and aluminum cable, bare . . . . .	230,842	18,717	20,874	24,441	22,949	21,849	18,760	17,650	19,831	18,730	18,360	13,629	15,052
Wire and cable, insulated or covered . . . . .	393,569	31,048	28,899	31,854	33,732	32,160	33,234	35,694	35,316	35,066	36,951	31,756	27,859
Rod, bar, pipe, tube, and shapes . . . . .	3,397,764	243,711	247,717	318,468	279,975	308,844	302,877	264,627	315,000	303,738	298,308	278,600	235,899
Rod, bar, pipe, tube, and shapes, total receipts . . . . .	94,269	7,619	7,007	7,687	6,716	6,278	7,022	6,045	7,498	9,371	8,554	8,484	11,988
Rod and bar (rolled and extruded) . . . . .	338,407	30,073	27,637	31,829	29,487	30,735	29,780	25,481	28,475	28,300	28,248	27,555	20,807
Pipe and tube (extruded and drawn) . . . . .	328,540	26,505	25,823	29,974	28,565	29,156	28,106	24,060	27,416	28,634	30,103	26,470	23,728
Extruded shapes . . . . .	2,730,817	187,133	194,257	256,665	221,923	248,953	244,991	215,086	259,109	246,804	239,957	224,575	191,364
Alloys other than 2,000 and 7,000 series . . . . .	2,639,769	179,711	186,610	248,719	214,504	241,240	237,219	208,576	251,899	238,803	231,919	216,305	184,264
Alloys in 2,000 and 7,000 series . . . . .	91,048	7,422	7,647	7,946	7,419	7,713	7,772	6,510	7,210	8,001	8,038	8,270	7,100
All other . . . . .	333,857	29,217	27,415	28,249	28,773	28,837	25,912	27,569	27,153	25,082	28,359	30,389	26,902
Powder and paste . . . . .	115,657	9,313	8,772	9,489	9,284	10,205	9,197	11,218	9,209	9,739	9,951	10,162	9,118
Atomized . . . . .	79,161	7,131	6,543	7,093	6,875	7,304	6,453	7,325	5,751	5,956	5,814	7,055	5,861
Other flake, powder, and paste . . . . .	36,496	2,182	2,229	2,396	2,409	2,901	2,744	3,893	3,458	3,783	4,137	3,107	3,257
Forgings and impacts . . . . .	218,200	19,904	18,643	18,760	19,489	18,632	16,715	16,351	17,944	15,343	18,408	20,227	17,784
Forgings . . . . .	160,480	15,206	14,361	13,685	14,534	13,517	11,849	12,002	13,340	10,296	13,445	14,321	13,924
Impacts . . . . .	57,720	4,698	4,282	5,075	4,955	5,115	4,866	4,349	4,604	5,047	4,963	5,906	3,860
Scrap receipts <sup>1</sup> . . . . .	7,139,481	542,587	508,470	588,751	643,699	651,327	541,371	609,048	636,142	615,585	653,090	573,803	575,608
<b>1995</b>													
Aluminum mill products . . . . .	14,407,244	1,267,603	1,208,446	1,359,261	1,255,322	1,299,540	1,282,922	1,124,163	1,202,246	1,183,046	1,166,429	1,055,049	1,003,217
Total receipts . . . . .	1,316,423	123,491	113,763	112,309	109,186	125,653	114,481	106,527	107,552	100,865	97,895	100,996	103,705
Sheet, plate, and foil . . . . .	10,005,961	884,418	831,864	927,629	878,677	914,169	896,280	794,357	832,057	807,322	808,071	735,574	695,543
Sheet, plate, and foil, total receipts . . . . .	801,942	66,951	60,273	66,752	69,192	85,213	75,205	72,388	69,446	55,373	53,675	55,517	71,957

See footnotes at end of table.

Table 18. Net Shipments of Aluminum Mill Products by Month: 1996 and 1995—Con.

[Thousands of pounds]

Product description	Total	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
<b>1995—Con.</b>													
Sheet, plate, and foil—Con.													
Sheet and plate . . . . .	8,943,767	792,725	744,445	829,999	788,901	820,487	801,995	713,837	743,251	720,822	723,079	649,348	614,878
Sheet . . . . .	8,605,248	764,832	714,826	800,735	760,770	788,136	771,504	688,847	715,581	692,463	694,720	623,562	589,272
Nonheat-treatable . . . . .	8,381,595	747,457	699,133	782,470	742,738	768,681	752,520	672,858	694,175	671,942	674,364	604,124	571,133
Heat-treatable . . . . .	223,653	17,375	15,693	18,265	18,032	19,455	18,984	15,989	21,406	20,521	20,356	19,438	18,139
Plate . . . . .	338,519	27,893	29,619	29,264	28,131	32,351	30,491	24,990	27,670	28,359	28,359	25,786	25,606
Nonheat-treatable . . . . .	107,374	9,354	10,978	9,112	9,007	11,256	10,974	7,675	8,811	7,831	7,831	7,843	6,702
Heat-treatable . . . . .	231,145	18,539	18,641	20,152	19,124	21,095	19,517	17,315	18,859	20,528	20,528	17,943	18,904
Foil . . . . .	1,062,194	91,693	87,419	97,630	89,776	93,682	94,285	80,520	88,806	86,500	84,992	86,226	80,665
Rod, wire, and cable . . . . .	776,910	68,866	70,916	78,327	69,925	70,883	63,647	57,441	66,060	63,866	62,832	51,289	52,858
Rod and bare wire . . . . .	169,997	9,172	15,088	21,147	16,190	20,658	15,588	12,373	17,329	11,284	10,084	6,193	14,891
Drawing stock (redraw rod) . . . . .	58,232	(459)	6,137	11,365	7,141	10,850	6,021	4,642	7,927	891	245	(3,387)	6,859
Drawing stock (redraw rod), domestic receipts . . . . .	382,325	39,770	32,793	34,987	31,961	30,568	30,309	26,669	28,120	34,403	34,862	35,818	22,065
Bare wire . . . . .	111,765	9,631	8,951	9,782	9,049	9,808	9,567	7,731	9,402	10,393	9,839	9,580	8,032
Cable and insulated wire . . . . .	606,913	59,694	55,828	57,180	53,735	50,225	48,059	45,068	48,731	52,582	52,748	45,096	37,967
ACSR and aluminum cable, bare . . . . .	218,158	24,859	24,071	21,932	19,224	18,674	18,028	15,396	15,634	16,465	16,465	14,967	12,443
Wire and cable, insulated or covered . . . . .	388,755	34,835	31,757	35,248	34,511	31,551	30,031	29,672	33,097	36,117	36,283	30,129	25,524
Rod, bar, pipe, tube, and shapes . . . . .	3,264,427	282,409	273,806	319,098	277,507	283,682	291,747	246,409	273,084	282,341	266,355	240,109	227,880
Rod, bar, pipe, tube and shapes, total receipts . . . . .	132,156	16,770	20,697	10,570	8,033	9,872	8,967	7,470	9,986	11,089	9,358	9,661	9,683
Rod and bar (rolled and extruded) . . . . .	298,965	17,815	12,448	30,658	27,243	28,793	26,733	24,070	27,659	27,802	29,248	24,661	21,835
Pipe and tube (extruded and drawn) . . . . .	317,648	27,825	26,718	28,857	26,100	27,091	27,840	23,415	27,196	29,327	27,694	23,837	21,748
Extruded shapes . . . . .	2,647,814	236,769	234,640	259,583	224,164	227,798	237,174	198,924	218,229	225,212	209,413	191,611	184,297
Alloys other than 2,000 and 7,000 series . . . . .	2,584,307	231,804	230,042	253,888	219,329	222,193	231,618	194,064	212,731	219,707	203,752	185,890	179,289
Alloys in 2,000 and 7,000 series . . . . .	63,507	4,965	4,598	5,695	4,835	5,605	5,556	4,860	5,498	5,505	5,661	5,721	5,008
All other . . . . .	359,946	31,910	31,860	34,207	29,213	30,806	31,248	25,956	31,045	29,517	29,171	28,077	26,936
Powder and paste . . . . .	132,498	12,616	12,382	13,138	11,598	10,176	10,839	9,857	10,630	9,938	9,938	10,250	11,136
Atomized . . . . .	74,653	6,405	6,466	6,259	5,427	6,174	6,466	5,925	6,650	5,890	5,890	5,979	7,122
Other flake, powder and paste . . . . .	57,845	6,211	5,916	6,879	6,171	4,002	4,373	3,932	3,980	4,048	4,048	4,271	4,014
Forgings and impacts . . . . .	227,448	19,294	19,478	21,069	17,615	20,630	20,409	16,099	20,415	19,579	19,233	17,827	15,800
Forgings . . . . .	171,146	14,122	14,463	15,574	13,285	15,557	15,388	11,769	15,331	15,021	14,868	13,646	12,122
Impacts . . . . .	56,302	5,172	5,015	5,495	4,330	5,073	5,021	4,330	5,084	4,558	4,365	4,181	3,678
Scrap receipts <sup>1</sup> . . . . .	6,060,928	496,410	470,218	529,998	493,009	501,195	511,483	503,569	560,477	528,199	538,171	487,684	440,515

<sup>1</sup>Data not included in net shipments information.

**HISTORICAL NOTE**

Data on aluminum ingot and mill products have been collected by the Bureau of the Census since 1942. Historical data may be obtained from Current Industrial Reports (called Facts for Industry before 1959) available at your local Federal Depository Library. Historical data are also available on microfiche; contact Customer Services, 301-457-4100.

**FUNDING**

The M33D survey is conducted under the sponsorship of the Aluminum Association.

**CONTACT FOR DATA USERS**

For additional information about these data, contact Mary W. Ellickson, 301-457-4736.

## NONFERROUS CASTINGS (MA33E)

### INTRODUCTION

These data cover producers of nonferrous castings, whether for commercial sale or for use by the producing company.

The statistics were collected by mail on Bureau of the Census annual Form MA33E, Nonferrous Castings. The survey panel was first mailed for survey year 1994. It now consists of about 795 producers of nonferrous castings selected from approximately 2,500 establishments identified in the 1992 Census of Manufactures.

### SUMMARY OF FINDINGS

During 1996, the total shipments of nonferrous castings were 4,424 million pounds. This represented a 4-percent increase from the 1995 total shipments of 4,512 million pounds. Shipments of aluminum castings in 1996 totaled 3,057 million pounds, showing a 3-percent decrease from the 1995 total of 3,130 million pounds. Shipments of copper castings totaled 567 million pounds in 1996, a 14-percent decrease from the 1995 total of 573 million pounds. The shipments of magnesium castings in 1996 totaled 51 million pounds, representing a 6-percent increase from the 1995 total of 48 million pounds. Shipments of zinc castings decreased 3 percent during 1996 to 407 million pounds, compared with the 1995 total of 417 million pounds. Shipments of lead castings during 1996 totaled 341 million pounds, representing a 1-percent decrease, compared with the 1995 total of 344 million pounds.

### EXPLANATION OF TERMS

**Shipments for sale.** Represents commercial sales only (castings shipped to the trade). Intracompany sales are not

included in this category. Value figures represent only these shipments.

**Shipments for own use.** Represents castings shipped for use by the reporting company or by a subsidiary, parent, or other affiliated company. Castings produced and consumed at the same location in the production of finished products are also included.

**Sand casting.** Castings produced by pouring molten metal into a sand mold and allowing it to solidify.

**Permanent mold casting.** Castings produced by introducing molten metal by gravity, or low pressure, into a mold constructed of durable material, usually iron or steel, and allowing it to solidify.

**Semipermanent casting.** Mold castings are made using an expendable core such as sand.

**Die casting.** Castings produced by introducing molten metal under high pressure into a metal mold or die and allowing it to solidify.

**Centrifugal casting.** Castings produced by pouring molten metal into a spinning mold. Centrifugal force acts to distribute the metal uniformly around the interior of the mold.

**Continuous casting.** Castings produced by introducing molten metal by gravity into a watercooled graphite die from which the solidified form is continuously drawn.

Table 19. Producers' Shipments of Nonferrous Castings: 1996 and 1995

[Thousands of pounds]

Year	By type of customer			By metal				
	Total	For sale	For own use	Aluminum and aluminum-base alloy	Copper and copper-base alloy	Magnesium and magnesium-base alloy	Zinc and zinc-base alloy	Lead and lead-base alloy die
1996.....	4,423,712	2,814,009	1,609,703	3,057,315	566,774	51,433	406,821	341,369
1995.....	'4,512,157	'2,862,495	'1,649,662	3,130,141	'572,769	48,323	417,397	'343,527

'Revised by 5 percent or more from previously published data.

Table 20. Value of Shipments of Nonferrous Castings: 1996 and 1995

[Value in thousands of dollars]

Product description	Value		Standard error of estimate (percent) for column —	
	1996	1995	A	B
	A	B	A	B
<b>Nonferrous castings.....</b>	<b>6,675,390</b>	<b>'6,759,614</b>	<b>(NA)</b>	<b>(NA)</b>
Aluminum and aluminum-based alloy.....	4,666,768	4,760,858	4.9	5.0
Copper and copper-based alloy.....	975,047	'922,557	2.0	2.1
Magnesium and magnesium-based alloy.....	272,842	'224,318	1.1	1.2
Zinc and zinc-based alloy.....	750,792	770,201	2.2	1.8
Lead and lead-based alloy.....	9,941	'81,680	20.4	15.5

NA Not available. 'Revised by 5 percent or more from previously published data.

Table 21. **Quantity of Shipments of Nonferrous Castings by Type and Method of Castings: 1996 and 1995**

[Quantity in thousands of pounds. Value in thousands of dollars]

Product code	Product description	1996		1995		Standard error of estimate (percent) for column —	
		Number of companies	Quantity	Number of companies	Quantity	B	D
		A	B	C	D		
	Nonferrous castings .....	(NA)	4,423,712	(NA)	<sup>1</sup> 4,512,157	(NA)	(NA)
	For sale .....	(NA)	2,814,009	(NA)	<sup>2</sup> 2,862,495	(NA)	(NA)
	For own use .....	(NA)	1,609,703	(NA)	<sup>1</sup> 1,649,662	(NA)	(NA)
	Aluminum and aluminum-base alloy .....	381	3,057,315	376	3,130,141	(NA)	(NA)
	For sale .....	328	2,060,282	333	2,123,624	6.6	7.1
	For own use .....	83	997,033	82	1,006,517	0.8	0.8
33650 11	Sand .....	218	397,890	219	419,727	(NA)	(NA)
	For sale .....	198	363,804	199	<sup>1</sup> 367,263	1.9	2.0
	For own use .....	39	34,086	40	<sup>1</sup> 52,464	1.4	1.2
33650 31	Permanent and semipermanent mold <sup>1</sup> .....	102	1,043,044	99	<sup>1</sup> 1,024,165	(NA)	(NA)
33630 11	Die .....	153	1,348,844	153	1,331,942	(NA)	(NA)
	For sale .....	132	840,372	133	824,674	16.2	16.8
	For own use .....	32	508,472	30	<sup>1</sup> 507,268	1.4	1.4
33650 61	All other <sup>1</sup> .....	47	267,537	47	<sup>1</sup> 354,307	(NA)	(NA)
	Copper and copper-base alloy .....	223	566,774	221	<sup>1</sup> 572,769	(NA)	(NA)
	For sale .....	190	361,343	190	<sup>1</sup> 341,231	2.9	2.8
	For own use .....	61	205,431	68	<sup>1</sup> 231,538	0.7	0.6
33660 26	Sand .....	176	270,317	174	<sup>1</sup> 296,257	(NA)	(NA)
	For sale .....	146	156,173	147	<sup>1</sup> 150,836	6.4	6.0
	For own use .....	49	114,144	52	145,421	1.2	0.9
33660 31	Permanent and semipermanent mold <sup>1</sup> .....	26	40,869	26	42,145	(NA)	(NA)
33640 11	Die <sup>1</sup> .....	19	7,941	19	7,358	(NA)	(NA)
33660 41	Centrifugal <sup>1</sup> .....	20	51,373	20	<sup>1</sup> 51,524	(NA)	(NA)
33660 61	All other <sup>1</sup> .....	39	196,274	39	<sup>1</sup> 175,485	(NA)	(NA)
	Magnesium and magnesium-base alloy .....	42	51,433	40	<sup>1</sup> 48,323	(NA)	(NA)
	For sale .....	37	(D)	37	(D)	(NA)	(NA)
	For own use .....	3	(D)	4	(D)	(NA)	(NA)
33690 15	Sand <sup>1</sup> .....	21	(D)	21	(D)	(NA)	(NA)
33640 31	Die <sup>1</sup> .....	14	41,108	13	37,436	(NA)	(NA)
33690 25	All other .....	8	(D)	7	(D)	(NA)	(NA)
	Zinc and zinc-base alloy .....	185	406,821	180	<sup>1</sup> 417,397	(NA)	(NA)
	For sale .....	154	327,730	157	335,718	1.7	1.4
	For own use .....	35	79,091	35	<sup>1</sup> 81,679	2.7	2.3
33640 21	Die <sup>1</sup> .....	153	383,021	152	<sup>1</sup> 393,284	(NA)	(NA)
33690 11	All other <sup>1</sup> .....	40	23,800	35	24,113	(NA)	(NA)
33640 41	Lead and lead-base alloy die <sup>1</sup> .....	13	341,369	18	343,527	(NA)	(NA)

D Withheld to avoid disclosing data for individual companies. NA Not available. <sup>1</sup>Revised by 5 percent or more from previously published data.

<sup>1</sup>Castings "For sale" and "For own use" are combined to avoid disclosing data for individual companies.

Note: Comparable data for Schedule B export numbers and HTSUSA import numbers are not available.

**HISTORICAL NOTE**

Data on nonferrous castings have been collected by the Bureau of the Census since 1942. Historical data may be obtained from Current Industrial Reports (called Facts for Industry before 1959) available at your local Federal

Depository Library. Historical data are also available on microfiche; contact Customer Services, 301-457-4100.

**CONTACT FOR DATA USERS**

For additional information about these data, contact Mary W. Ellickson, 301-457-4736.

## INVENTORIES OF STEEL PRODUCING MILLS (M33J)

### INTRODUCTION

These data cover producers and steel service centers. Important nonmanufacturing activities such as construction and mining are not included.

The statistics are based on a survey of manufacturers and represent total U.S. inventories of steel mill shapes and forms. Estimates are included for companies whose reports were not received in time for tabulation.

Data for producers are based on information collected by mail on Bureau of the Census monthly Form M33J, Net Shipments and Inventories of Steel Mill Shapes and Forms (Producers Report), from companies that produce over 90 percent of total steel output. Estimates have been derived to represent 100-percent coverage of steel producers. These estimates are benchmarked annually to Current Industrial Reports Series MA33B, *Steel Mill Products*, the last being 1995.

### SUMMARY OF FINDINGS

Total inventories of steel mill shapes and forms held by steel producers, and steel service centers (warehouses) increased from 19.5 million short tons at the end of December 31, 1995, to 19.9 million short tons in 1996.

Inventories held by steel service centers increased from 6.5 million short tons to 7.0 million short tons in 1996, and inventories held by steel producers decreased from 13.0 to 12.9 million short tons for 1996.

### EXPLANATION OF TERMS

**Steel mill shapes and forms.** Steel mill shapes and forms include ingot, semifinished shapes such as billets and wire rods, bar and bar shapes, sheet, strip plate, tinplate, terneplate, blackplate, wire, structural shapes, and piling.

Rough and machined castings and forgings, powder, and all fabricated steel products or components such as purchased stampings are excluded.

Table 22. **Inventories of Steel Mill Shapes and Forms Held by Steel Service Centers, Steel Producers, and Related Statistics: 1996 and 1995**

[Million short tons]

Product description	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
<b>1996</b>												
<b>Total inventories . . . .</b>	<b>19.4</b>	<b>19.0</b>	<b>19.1</b>	<b>19.2</b>	<b>18.9</b>	<b>19.2</b>	<b>19.5</b>	<b>19.6</b>	<b>19.6</b>	<b>19.6</b>	<b>19.7</b>	<b>19.9</b>
Steel service centers: <sup>1</sup>												
Inventories, end of month <sup>1</sup> . . . . .	6.3	6.3	6.2	6.5	6.5	6.6	6.7	6.8	6.8	6.8	6.8	7.0
Producing mills:												
Inventories, end of month . . . . .	<sup>1</sup> 13.1	<sup>1</sup> 12.7	<sup>1</sup> 12.9	<sup>1</sup> 12.7	<sup>1</sup> 12.4	<sup>1</sup> 12.6	<sup>1</sup> 12.8	<sup>1</sup> 12.8	<sup>1</sup> 12.8	<sup>1</sup> 12.8	<sup>1</sup> 12.9	<sup>1</sup> 12.9
Steel in process . . . . .	<sup>1</sup> 7.4	<sup>1</sup> 7.2	<sup>1</sup> 7.2	<sup>1</sup> 7.3	<sup>1</sup> 7.2	<sup>1</sup> 7.2	<sup>1</sup> 7.3	<sup>1</sup> 7.2	<sup>1</sup> 7.3	<sup>1</sup> 7.2	<sup>1</sup> 7.3	<sup>1</sup> 7.3
Finished steel . . . . .	5.7	5.5	5.7	5.4	5.2	5.4	5.5	5.6	5.5	5.6	5.6	5.6
<b>1995</b>												
<b>Total inventories . . . .</b>	<b>21.1</b>	<b>21.3</b>	<b>21.3</b>	<b>21.8</b>	<b>21.7</b>	<b>21.4</b>	<b>21.6</b>	<b>20.4</b>	<b>20.8</b>	<b>19.8</b>	<b>19.6</b>	<b>19.5</b>
Steel service centers: <sup>1</sup>												
Inventories, end of month <sup>1</sup> . . . . .	7.4	7.4	7.7	7.8	7.9	7.9	7.9	7.3	7.5	7.2	6.9	6.5
Producing mills:												
Inventories, end of month . . . . .	13.7	13.9	13.6	14.0	13.8	13.5	13.7	13.1	13.3	12.6	12.7	13.0
Steel in process . . . . .	7.8	7.8	7.6	7.7	7.6	7.4	7.6	7.1	7.2	6.8	6.9	7.1
Finished steel . . . . .	5.9	6.1	6.0	6.3	6.2	6.1	6.1	6.0	6.1	5.8	5.8	5.9

<sup>1</sup>Revised by 5 percent or more from previously published data.

<sup>1</sup>Source: Steel Service Center Institute.



Table 23. Net Shipments and Imports of Steel Mill Shapes: 1996 and 1995

[Thousands of short tons]

Month and year	Manufacturers' net shipments <sup>1</sup>	Imports for consumption <sup>2</sup>
<b>1996</b>		
<b>Total</b> .....	<b>100,130</b>	<b>25,566</b>
December.....	8,043	2,255
November.....	7,906	2,778
October.....	8,812	2,495
September.....	8,307	2,332
August.....	8,407	2,599
July.....	8,097	2,288
June.....	8,335	1,985
May.....	8,817	2,021
April.....	8,538	1,880
March.....	8,428	1,614
February.....	8,260	1,632
January.....	8,180	1,687
<b>1995</b>		
<b>Total</b> .....	<b>97,658</b>	<b>21,354</b>
December.....	7,494	1,413
November.....	8,103	1,467
October.....	8,636	1,364
September.....	8,177	1,377
August.....	8,519	1,557
July.....	7,294	1,696
June.....	8,321	1,804
May.....	8,439	1,876
April.....	7,794	2,180
March.....	8,953	2,083
February.....	7,799	1,919
January.....	8,129	2,618

<sup>1</sup>Source: American Iron and Steel Institute (AISI).<sup>2</sup>Source: Bureau of the Census report IM 145, *U.S. Imports for Consumption*. Import tonnage is derived from following HTSUSA import numbers: 7206.10.0000 - 7306.90.5000.

Table 24. **Comparison of Manufacturers' Net Shipments With Apparent Consumption of Steel Mill Shapes by Selected Years: 1991 to 1995**

[Thousands of short tons]

Product description	1995	1994	1993	1992	1991
Manufacturers' net shipments .....	98,023	99,144	91,372	82,895	78,255
Exports <sup>1</sup> .....	6,355	3,527	3,653	3,863	4,121
Imports <sup>2</sup> .....	21,163	26,675	17,898	16,045	15,001
Apparent consumption <sup>3</sup> .....	112,831	122,292	105,617	95,077	89,135

<sup>1</sup>Source: Current Industrial Report MA33B, *Steel Mill Products*. Net shipments figures are somewhat understated because of method used to calculate these data. These figures are derived by subtracting total domestic receipts of all mill shapes at producing mills from total quantity of shipments, plus steel consumed in producing plants. Prior to 1980, import receipts were also used in net shipments calculation. Beginning in 1980, import receipts of steel mill products for further processing were collected separately and were no longer used in net shipments calculation.

<sup>2</sup>Source: Bureau of the Census report IM 145, *U.S. Imports for Consumption*. Import tonnage is derived from following 1994 HTSUSA numbers: 7206.10.0000 - 7306.90.5000.

<sup>3</sup>Apparent consumption is derived by subtracting exports from total of net shipments plus imports.

## HISTORICAL NOTE

Data on inventories of steel mills shapes have been collected by the Bureau of the Census since 1962. Historical data may be obtained from Current Industrial Reports available at your local Federal Depository Library.

Historical data are also available on microfiche; contact Customer Services, 301-457-4100.

## CONTACT FOR DATA USERS

For additional information about these data, contact Ann Truffa, 301-457-4846.

## INSULATED WIRE AND CABLE (MA33L)

### INTRODUCTION

These data cover companies engaged in manufacturing insulated wire and cable and/or fabricating appliance wire, cord, or flexible cordage from purchased insulated wire.

The statistics were collected by mail on Bureau of the Census annual Form MA33L, Insulated Wire and Cable. The survey panel includes all known insulators of wire and cable, as well as the largest producers of appliance wire, cord, and flexible cord sets from purchased insulated wire as measured by the dollar value of shipments from the 1992 Census of Manufactures. No estimate is included for the smaller fabricators. The total number of companies is approximately 223.

### SUMMARY OF FINDINGS

In 1996, the total value of manufacturers' shipments of insulated wire and cable increased by 3 percent to \$17,575 million from the 1995 level of \$17,133. Copper insulated wire and cable increased by 4 percent to \$10,479 from the 1995 level of \$10,118 million. In 1996, aluminum insulated wire and cable decreased by 3 percent to \$4,041 million from the 1995 level of \$4,163 million. Copper magnet wire decreased by 12 percent from the 1995 level of \$1,316 million to \$1,163 in 1996. Aluminum magnet wire also decreased by 4 percent in 1996 to \$118 million from the 1995 level of \$123 million. In 1996 insulated optical fiber cable increased by 25 percent to \$1,774 million from the \$1,413 million in 1995.

### EXPLANATION OF TERMS

**Gross weight.** Includes insulating materials but excludes packaging materials.

**AWG.** American wire gauge.

**Dual rated products.** All dual rated products are classified according to their highest ratings.

**Multi-insulated cables.** All multi-insulated cables are classified according to their primary insulation, i.e., the layer of material designed to do the electrical insulating, usually the first layer of material applied over the conductor.

**Insulated wire and cable.** All insulated wire and cable for transmitting electrical energy, signals, or communications. Excludes bare and tinned wire and cable and Aluminum Cable Steel Reinforced (ACSR).

**Magnet wire (including insulating magnet strip conductor).** All insulated wire of the type generally used in the winding of coils, including Litz wire and including insulating magnet sheet, strip, and foil. The thermal classification for bondable wires are determined by the underlying insulation. Also, the combination (film fabrics) product is classified based on the insulation on the top side.

**Electronic wire and cable.** All single and multiconductor wire and cable used for transmission, reception, or reproduction of electrical frequencies (16 gauge and smaller). Excludes telephone cable. See "Apparatus Wire and Cable" for larger gauges.

**Telephone wire and cable.** All wire and cables used in the telephone industry to transmit, receive, and monitor communications signals. Excludes coaxial and other electronic wire and cable.

**Power wire and cable.** All insulated wire and cable used for the transmission and distribution of electrical energy. Excludes communications, aircraft, and marine types.

**Control wire and signal wire and cable.** All insulated wire and cable used to transmit signals to control and actuate relays, valves, servo-mechanisms, and related devices, including traffic control cable and fire alarm cable. Excludes elevator hatch and traveling cable.

**Building wire and cable.** All wire and cable (600 volts or less) having UL labels, used within structures for light and power.

**Apparatus wire and cable.** Insulated wire and cable used in connecting electrical apparatus to a power source, and appliance wiring material (14 AWG and larger) used for internal wiring. See "Electronic Wire and Cable" for appliance wiring material smaller than 14 AWG.

**Other insulated wire and cable.** Includes bulk automotive battery and ignition wire, elevator hatch and traveling cable, airframe, shipboard, and ground support cable.

Table 25. Summary of Shipments of Insulated Wire and Cable: 1996 and 1995

[Value in thousands of dollars]

Product code	Product description	1996	1995
	Insulated wire and cable .....	14,515,583	13,663,919
3357A —	Electronic wire and cable .....	2,655,863	2,468,330
3357B —	Telephone and telegraph wire and cable .....	2,075,275	1,848,899
33578 —	Power wire and cable .....	1,410,910	1,436,449
33578 6—	Portable power cable .....	94,976	97,384
3357C —	Control wire and signal wire and cable .....	250,407	250,364
3357D —	Building wire and cable .....	2,747,174	2,777,335
33576 —	Apparatus wire and cable .....	820,927	743,205
3357E —	Other insulated wire and cable .....	489,741	496,191
33577 —	Magnet wire .....	1,163,297	1,316,465
33579 —	Insulated optical fiber cable .....	1,774,476	1,413,046
32318 —	Optical fiber cable .....	1,032,537	816,251

<sup>1</sup>Data for "Optical fiber cable" are not included in total for "Insulated wire and cable."

Table 26. Shipments of Insulated Wire and Cable: 1996 and 1995

[Copper content in thousands of pounds. Value in thousands of dollars]

Product code	Product description	Shipments, including interplant transfers <sup>1</sup>					
		1996			1995		
		Number of companies	Copper content <sup>2</sup>	Value	Number of companies	Copper content <sup>2</sup>	Value
3357— pt.	Insulated wire (except magnet wire and optical wire) .	(NA)	2,530,287	10,479,259	(NA)	2,446,155	10,118,157
3357A —	Electronic wire and cable .....	89	209,895	2,589,849	93	206,913	2,468,330
	Coaxial cable, armored or unarmored:						
3357A 10	Rigid .....	3	(D)	(D)	4	(D)	(D)
3357A 12	Semirigid .....	14	26,748	460,868	15	<sup>r</sup> 21,900	<sup>r</sup> 448,847
	Flexible:						
3357A 13	135 C and over .....	14	<sup>b</sup> 3,796	59,516	15	<sup>b</sup> 3,530	55,300
3357A 14	Under 135 C .....	29	29,020	415,991	31	27,859	384,567
3357A 16	CATV/broadcast coaxial cable .....	7	(D)	(D)	7	(D)	(D)
3357A 22	Antenna lead-in wire .....	6	(D)	(D)	6	<sup>r</sup> (D)	(D)
	Hookup wire (single conductor, shielded, and nonshielded):						
3357A 23	135 C and over temperature rating .....	27	12,328	205,173	27	<sup>r</sup> 13,054	<sup>r</sup> 197,832
3357A 25	Under 135 C temperature rating .....	41	17,031	83,435	41	<sup>r</sup> 17,949	<sup>r</sup> 82,726
	Multiconductor electronic wire and cable (shielded and nonshielded):						
3357A 30	Flat and ribbon cable .....	23	8,313	<sup>b</sup> 91,945	24	<sup>r</sup> 9,334	98,300
	Other multiconductor electronic wire and cable:						
	Shielded:						
3357A 31	135 C and over temperature rating .....	20	27,195	<sup>a</sup> 240,947	20	<sup>r</sup> 28,273	241,809
3357A 33	Under 135 C temperature rating .....	35	<sup>a</sup> 31,126	<sup>a</sup> 244,378	35	<sup>a</sup> <sup>r</sup> 35,042	<sup>r</sup> 255,500
	Nonshielded:						
3357A 35	135 C and over temperature rating .....	12	<sup>b</sup> 10,504	<sup>b</sup> 115,749	12	<sup>a</sup> 8,502	<sup>a</sup> 89,299
3357A 37	Under 135 C temperature rating .....	31	33,314	198,783	30	31,196	<sup>r</sup> 190,805
3357B —	Telephone and telegraph wire and cable .....	29	496,957	2,075,275	29	441,634	1,848,899
3357B 41	Jumper and distributing frame wire .....	7	(D)	(D)	7	(D)	(D)
3357B 43	Station wire and cable .....	17	<sup>b</sup> 17,299	<sup>c</sup> 129,317	17	<sup>r</sup> 15,274	<sup>r</sup> 112,812
3357B 73	Telephone cord sets and cordage .....	5	(D)	(D)	5	(D)	(D)
3357B 52	Inside wiring cable .....	19	74,256	440,381	19	<sup>r</sup> 70,273	<sup>r</sup> 356,803
3357B 55	Drop and bridle and duct wire .....	4	49,028	195,854	5	32,658	158,012
3357B 68	Rural and urban distribution wire and cable .....	3	(D)	(D)	3	(D)	(D)
3357B 73	Polyethylene covered exchange area and toll cable (PIC and PULP insulated) .....	8	296,961	983,719	8	272,690	931,994
3357B 90	Other telephone and telegraph wire and cable .....	7	(D)	(D)	7	<sup>r</sup> (D)	(D)

See footnotes at end of table.

Table 26. Shipments of Insulated Wire and Cable: 1996 and 1995—Con.

[Copper content in thousands of pounds. Value in thousands of dollars]

Product code	Product description	Shipments, including interplant transfers <sup>1</sup>					
		1996			1995		
		Number of companies	Copper content <sup>2</sup>	Value	Number of companies	Copper content <sup>2</sup>	Value
33578 —	Power wire and cable.....	25	248,269	1,410,910	26	<sup>r</sup> 246,312	<sup>r</sup> 1,436,449
33578 07	Paper insulated cable (all voltages, all types).....	2	(D)	(D)	2	(D)	(D)
	Plastics and rubber insulated:						
	600 volts or less:						
33578 08	Portable welding cable.....	8	(D)	(D)	8	(D)	(D)
33578 17	Underground distribution cable (UD, URD).....	7	<sup>a</sup> 7,361	273,762	8	<sup>b</sup> 9,341	<sup>r</sup> 274,558
33578 19	Thermoplastics insulated power cable.....	12	<sup>a</sup> 17,835	<sup>a</sup> 45,985	14	25,714	57,843
	Thermoset insulated:						
33578 20	Armored, rubber and cross-linked.....	6	9,476	27,303	8	6,908	24,316
33578 21	Unarmored, rubber.....	7	35,614	130,815	7	29,284	121,746
33578 22	Unarmored, cross-linked.....	10	<sup>a</sup> 15,097	<sup>a</sup> 40,598	10	12,325	38,643
33578 23	Rubber (R, RH, RHH, RHW, USE, etc.).....	1	(D)	(D)	1	(D)	(D)
33578 25	Weatherproof cable.....	3	(D)	(D)	3	(D)	(D)
	Service drop cable:						
33578 27	Thermoset insulated.....	3	(D)	(D)	2	(D)	(D)
33578 28	Thermoplastics insulated.....	1	(D)	(D)	2	(D)	(D)
	Over 600 volts:						
33578 37	Underground distribution cable (UD, URD), all insulations (jacketed and unjacketed).....	6	<sup>a</sup> 50,738	<sup>a</sup> 333,325	6	50,193	364,402
33578 39	Thermoplastics insulated power cable, excluding underground.....	4	(D)	(D)	5	(D)	(D)
	Thermoset insulated power cable, excluding underground:						
	Over 600 volts to 15 kV:						
33578 41	Armored, rubber and cross-linked.....	7	15,247	59,439	8	<sup>r</sup> 12,569	<sup>r</sup> 54,117
33578 42	Unarmored, rubber.....	7	48,176	187,249	8	<sup>r</sup> 39,635	<sup>r</sup> 171,730
33578 43	Unarmored, cross-linked.....	8	15,664	49,855	10	16,909	55,752
33578 44	Over 15 kV (rubber and cross-linked).....	4	<sup>b</sup> 4,453	<sup>b</sup> 32,716	4	2,810	25,848
33578 50	Other power wire and cable.....	6	8,374	49,562	5	<sup>r</sup> 6,341	<sup>r</sup> 44,135
33578 6—	Portable power cable.....	7	24,011	94,976	6	<sup>r</sup> 27,377	<sup>r</sup> 97,384
33578 61	2 kV or less.....	7	15,973	66,751	6	<sup>r</sup> 18,011	<sup>r</sup> 71,849
	Over 2 kV:						
33578 62	Portable cross-linked jacketed cable (mine shovel cable).....	4	(D)	(D)	3	(D)	(D)
33578 63	Portable noncross-linked jacketed cable.....	2	(D)	(D)	2	(D)	(D)
3357C —	Control wire and signal wire.....	27	40,639	250,407	26	38,908	<sup>r</sup> 250,364
3357C 11	Signal wire and cable.....	15	14,813	<sup>a</sup> 132,092	15	<sup>r</sup> 15,149	<sup>a</sup> <sup>r</sup> 140,295
	Control wire and cable, excluding elevator cable:						
3357C 14	Thermoset insulated.....	10	10,159	54,624	9	<sup>a</sup> 7,270	<sup>a</sup> 45,100
3357C 17	Thermoplastics insulated.....	17	15,667	63,691	17	<sup>a</sup> 16,489	<sup>a</sup> 64,969
3357D —	Building wire and cable.....	24	1,156,968	2,747,174	23	1,168,097	2,777,335
	Building wire and cable having underwriters' labels:						
	Thermoset insulated:						
3357D 37	Cross-linked polyethylene (XHHW).....	13	51,982	123,724	13	46,770	<sup>r</sup> 111,915
3357D 38	Cross-linked polyethylene (USE).....	8	16,509	46,467	6	14,800	<sup>r</sup> 49,152
	Thermoplastics insulated:						
3357D 40	Flame-retardant nylon (THHN, THWN).....	17	609,401	1,511,103	18	671,339	1,581,672
3357D 49	Moisture and heat resistant (TW, THW).....	13	4,442	8,940	10	2,656	6,117
3357D 51	Service entrance cable (SER, SEU, ASE).....	7	8,435	96,800	7	8,270	<sup>r</sup> 93,489
	Nonmetallic branch-circuit and underground feeder:						
3357D 54	Type NM-B.....	9	360,152	673,687	8	327,053	671,412
3357D 55	Type UF and NMC (corrosion resistant).....	11	38,746	81,391	10	<sup>r</sup> 36,345	82,853
3357D 57	Metallic armored cable (all AC types).....	8	48,981	161,756	6	<sup>c</sup> 42,626	140,319
3357D 58	Other building wire and cable.....	9	18,320	43,306	7	<sup>a</sup> 18,238	<sup>a</sup> 40,406
33576 —	Apparatus wire and cordage <sup>3</sup> .....	47	215,410	820,927	48	184,011	<sup>r</sup> 743,205
	Flexible cordage:						
33576 13	Thermoset insulated.....	10	9,353	43,530	8	<sup>r</sup> 5,682	27,310
33576 15	Thermoplastics, including thermoplastics elastomers.....	16	<sup>b</sup> 32,955	<sup>b</sup> 61,644	15	24,802	46,998
33576 42	Extension cord sets.....	9	<sup>b</sup> 30,007	<sup>b</sup> 125,638	10	28,335	<sup>r</sup> 111,800
33576 43	Fixed power supply cords.....	20	22,739	167,637	19	21,139	150,717
33576 44	Detachable power supply cords.....	6	8,964	54,084	7	9,289	54,414
33576 47	Retractile power cords and other.....	8	645	12,818	9	665	13,909

See footnotes at end of table.

Table 26. Shipments of Insulated Wire and Cable: 1996 and 1995—Con.

[Copper content in thousands of pounds. Value in thousands of dollars]

Product code	Product description	Shipments, including interplant transfers <sup>1</sup>					
		1996			1995		
		Number of companies	Copper content <sup>2</sup>	Value	Number of companies	Copper content <sup>2</sup>	Value
33576 —	Apparatus wire and cordage <sup>3</sup> —Con.						
33576 21	Apparatus wire: Appliance fixture wire . . . . .	20	37,317	114,094	22	<sup>r</sup> 32,306	<sup>r</sup> 117,203
	Appliance wiring material 14 gauge and larger, including motor lead and transformer lead wire:						
33576 23	Thermoset insulated . . . . .	4	9,306	48,735	4	<sup>c</sup> 7,990	<sup>b</sup> 45,171
33576 24	Thermoplastics insulated . . . . .	9	34,192	75,910	15	<sup>a</sup> 30,571	<sup>a</sup> 83,106
33576 28	Submersible pump cable . . . . .	7	(D)	(D)	6	(D)	(D)
33576 29	Other apparatus wire and cable, including tool wire . . . . .	16	<sup>a</sup> 19,459	<sup>b</sup> 73,902	18	<sup>a</sup> 16,847	<sup>a</sup> 75,333
3357E —	Other insulated wire and cable . . . . .	43	138,138	489,741	45	132,903	496,191
	Automotive:						
3357E 72	Bulk automotive primary wire . . . . .	12	93,209	213,054	13	88,915	215,177
3357E 74	Bulk battery cable . . . . .	7	7,280	22,790	7	<sup>r</sup> 9,191	23,898
3357E 76	Bulk ignition wire . . . . .	7	(D)	(D)	6	<sup>r</sup> (D)	<sup>r</sup> (D)
3357E 78	Other automotive wire and cable . . . . .	7	<sup>b</sup> 10,026	<sup>a</sup> 60,077	9	<sup>r</sup> 11,451	<sup>r</sup> 66,259
	Airframe, shipboard and ground support cable, excluding coaxial cable and ignition cable:						
3357E 79	Airframe and missile, including ground support cable . . . . .	9	4,286	31,935	11	4,222	30,590
3357E 81	Shipboard cable . . . . .	6	<sup>b</sup> 3,808	<sup>c</sup> 31,013	5	<sup>r</sup> 2,937	<sup>r</sup> 29,950
3357E 98	Other insulated or covered wire and cable, n.e.c. . .	23	<sup>b</sup> 18,833	<sup>b</sup> 92,858	23	15,671	93,038

D Withheld to avoid disclosing data for individual companies. NA Not available. n.e.c. Not elsewhere classified. pt. Part. <sup>r</sup>Revised by 5 percent or more from previously published data.

<sup>1</sup>Interplant transfers for 1996 totaled \$32,901 and for 1995 totaled \$37,701.

<sup>2</sup>Aluminum content for 1996 totaled 388,141 thousand pounds and for 1995 totaled 358,499 thousand pounds. See Table 26 for additional details.

<sup>3</sup>Data include following: (a) all known establishments which insulate wire and cable and then fabricate it into finished products, (SIC product class 33576), and (b) establishments from product class 36996, that manufacture wire, cord, and flexible cord sets from purchased insulated wire.

Note: Data presented in this table are for copper insulated wire and cable. See Table 26 for aluminum content information. Percent of estimation of each item is indicated as follows: <sup>a</sup>10 to 25 percent of this item is estimated. <sup>b</sup>26 to 50 percent of this item is estimated. <sup>c</sup>51 percent or more of this item is estimated.

**Table 27. Aluminum Content of Selected Insulated Wire and Cable: 1996 and 1995**

[Thousands of pounds. Value in thousands of dollars]

Product code	Product description	1996			1995		
		Number of companies	Gross weight	Value	Number of companies	Gross weight	Value
3357— pt.	Insulated wire (except magnet wire) .....	(X)	636,485	4,041,325	(X)	593,200	'4,163,413
3357A —	Electronic wire and cable .....	5	(D)	(D)	5	(D)	(D)
33578 —	Power wire and cable .....	9	313,941	1,530,093	14	'292,903	'1,566,421
33578 17	Underground distribution cable, all insulations—600 less volts or .....	5	142,803	273,762	5	128,893	'274,558
33578 27	Service drop cable, thermoset insulated .....	7	34,584	62,546	3	33,596	71,625
33578 28	Service drop cable, thermoplastics insulated .....	2	(D)	(D)	2	(D)	(D)
33578 37	Underground distribution cable, all insulations—over 600 volts .....	6	52,047	362,175	6	'55,890	'405,804
33578 42	Thermoset insulated power cable, unarmored, rubber—over 600 volts to 15 kV .....	4	(D)	(D)	4	(D)	(D)
33578 43	Thermoset insulated power cable, unarmored, cross-linked—over 600 volts to 15 kV .....	3	(D)	(D)	3	'(D)	'(D)
3357D —	Building wire and cable .....	5	58,903	786,181	8	'52,283	'861,114
3357D 38	Thermoset insulated, cross-linked polyethylene (USE) ..	3	(D)	(D)	3	'(D)	'(D)
3357E —	Other insulated wire and cable .....	2	(D)	(D)	3	(D)	(D)

D Withheld to avoid disclosing data for individual companies. pt. Part. 'Revised by 5 percent or more from previously published data.  
X Not applicable.

**Table 28. Copper Shipments of Magnet Wire, Including Interplant Transfers: 1996 and 1995**

[Copper gross weight in thousands of pounds. Value in thousands of dollars]

Product code	Product description	Shipments, including interplant transfers <sup>1</sup>					
		1996			1995		
		Number of companies	Gross weight <sup>1</sup>	Value	Number of companies	Gross weight <sup>1</sup>	Value
33577 —	Magnet wire .....	(NA)	697,979	1,163,297	(NA)	685,991	1,316,465
33577 1—	Class 105 .....	(NA)	53,034	80,270	(NA)	'52,229	'85,448
33577 11	7 AWG and larger round (also all square and rectangle) .....	5	7,842	13,332	6	9,605	16,277
33577 13	8 to 21 AWG inclusive .....	5	32,242	42,883	7	'29,871	'40,084
33577 15	22 to 32 AWG inclusive .....	6	11,824	20,109	7	'11,310	'24,237
33577 18	33 to 44 AWG inclusive .....	5	1,126	3,946	7	'1,443	'4,850
33577 2—	Classes 130 and 155 .....	(NA)	132,265	281,727	(NA)	'134,831	'311,852
33577 20	7 AWG and larger round (also all square and rectangle) .....	1	(D)	(D)	3	(D)	(D)
33577 22	8 to 21 AWG inclusive .....	12	26,384	45,498	11	'29,062	'55,166
33577 24	22 to 32 AWG inclusive .....	15	84,126	165,356	14	'82,618	'177,624
33577 28	33 to 44 AWG inclusive .....	11	21,755	70,873	11	23,151	79,062
33577 4—	Class 180 and higher .....	(NA)	455,116	688,746	(NA)	426,477	751,844
33577 40	7 AWG and larger round (also all square and rectangle) .....	7	37,061	68,941	8	39,331	89,905
33577 42	8 to 21 AWG inclusive .....	12	290,073	379,535	13	268,098	416,519
33577 44	22 to 32 AWG inclusive .....	11	121,422	211,833	14	112,280	217,547
33577 48	33 to 44 AWG inclusive .....	9	6,560	28,437	9	'6,768	'27,873
33577 80	Miscellaneous film coated, n.e.c. ....	1	(D)	(D)	4	'(D)	'(D)
33577 pt.	Nonfilm coated (fibrous and tape) .....	(NA)	17,211	41,154	(NA)	17,130	'41,418
33577 81, 83	Class 130 and below .....	5	17,211	41,154	5	'17,130	'41,418
33577 85, 87	Class 155 and above .....	5	(D)	(D)	7	(D)	(D)
33577 88	Miscellaneous nonfilm coated, n.e.c. ....	1	(D)	(D)	2	(D)	'(D)

D Withheld to avoid disclosing data for individual companies. NA Not available. n.e.c. Not elsewhere classified. pt. Part. 'Revised by 5 percent or more from previously published data.

<sup>1</sup>Interplant transfers for 1996 totaled 55,634 thousand pounds and 1995 totaled 45,101 thousand pounds of copper.

Table 29. Aluminum Shipments of Magnet Wire, Including Interplant Transfers: 1996 and 1995

[Aluminum gross weight in thousands of pounds. Value in thousands of dollars]

Product code	Product description	Shipments, including interplant transfers					
		1996			1995		
		Number of companies	Gross weight	Value	Number of companies	Gross weight	Value
33577 —	Magnet wire .....	12	54,146	117,591	13	50,837	122,993
3577 pt.	Film coated .....	9	51,373	71,679	9	49,728	120,941
3577 1—	Class 105 .....	5	(D)	(D)	6	(D)	(D)
3577 2—	Classes 130 and 155 .....	6	(D)	(D)	7	(D)	(D)
3577 4—	Class 180 and higher .....	6	30,150	71,679	7	28,724	75,476
3577 pt.	Other types of magnet wire (nonfilm coated; insulated magnet sheet, strip, and foil; and film coated, 45 AWG and finer) .....	4	7,931	12,561	4	5,269	<sup>r</sup> 14,570

D Withheld to avoid disclosing individual companies. pt. Part. <sup>r</sup>Revised by 5 percent or more from previously published data.

Table 30. Value of Shipments of Fiber Optic Cable and Optical Fiber: 1996 and 1995

[Thousands of dollars]

Product code	Product description	1996		1995	
		Number of companies	Value	Number of companies	Value
33579 —	Insulated optical fiber cable .....	34	1,774,476	38	1,413,046
33579 pt.	Communication applications .....	25	1,728,650	26	1,371,792
	Single-mode stepped-index:				
33579 12	Dispersion shifted .....	11	(D)	9	(D)
33579 13	Dispersion unshifted .....	13	1,193,580	15	947,509
33579 14	Multimode stepped index .....	3	(D)	6	(D)
33579 15	Multimode graded index .....	17	188,642	19	164,917
33579 21	Other applications .....	13	45,826	16	41,254
	Optical fiber for data and nondata transmission .....	25	1,032,537	26	816,251
32318 95	Optical fiber used for data transmission .....	16	946,092	17	736,943
32318 97	Optical fiber used for nondata transmission .....	14	86,445	14	79,308

D Withheld to avoid disclosing data for individual companies. pt. Part.

**HISTORICAL NOTE**

Data on insulated wire have been collected by the Bureau of the Census since 1965. Historical data may be obtained from Current Industrial Reports available at your local Federal Depository Library. Historical data are

also available on microfiche; contact Customer Services, 301-457-4100.

**CONTACT FOR DATA USERS**

For additional information about these data, contact Mary W. Ellickson, 301-457-4736.



## Chapter 7. Electronics

### COMPUTERS AND OFFICE AND ACCOUNTING MACHINES (MA35R)

#### INTRODUCTION

These data cover manufacturers of computers and office and accounting machines, except very small firms (generally less than 10 employees) for which 1987 Census of Manufactures data were derived from administrative records of other government agencies. The statistics were collected by mail on Bureau of the Census annual Form MA35R, Computers and Office and Accounting Machines. The survey panel includes all known producers of these products, except the very small firms excluded from the scope of the survey. Approximately 818 companies are included. No estimate is derived for the small firms excluded from the scope of the survey.

#### SUMMARY OF FINDINGS

In 1996, manufacturer's shipments of computers were valued at \$50.7 billion, an increase of from the 1995 total of \$49.0 billion. Loaded computer processor boards and board subassemblies were valued at \$24.1 billion in 1996, compared to \$24.4 billion in 1995. Computer storage devices and equipment were valued at \$8.2 billion in 1996, an increase of 3.2 percent from the 1995 total of \$7.9 billion. Magnetic and optical recording media were valued at \$5.2 billion in 1996 compared to \$5.1 billion in 1995.

#### EXPLANATION OF TERMS

**Computers.** These automatic data processing units are capable of: (1) performing arithmetic computations, (2) processing data in accordance with a processing program, (3) immediately storing the processing program and the data necessary for execution of the processing program, and (4) executing a processing program without human intervention, on the basis of instructions contained in the program, to automatically modify execution by logical decision during the performance of processing tasks.

**General-purpose computers.** A computer designed to solve a large variety of problems; e.g., a stored program computer that may be adapted to any of a very large class of applications.

**Digital computers.** A computer that processes information represented by combinations of discrete or discontinuous data, compared with an analog computer for continuous data. More specifically, it is a device for performing sequences or arithmetic and logical operations. Still more specifically, it is a stored program digital computer capable of performing sequences of internally stored instructions, as opposed to calculators, on which a sequence is impressed manually.

**Analog computers.** A computer that represents variables by physical analogies. Thus, any computer that solves problems by translating physical conditions such as flow, temperature, pressure, angular position, or voltage into related mechanical or electrical equivalent circuits as an analog for the physical phenomenon being investigated. In general, it is a computer that uses an analog for each variable and produces analogs as output. Thus, an analog computer measures continuously; whereas, a digital computer counts discretely.

**Hybrid computers.** A computer designed with both digital and analog characteristics, combining the advantages of analog as well as digital computers, when working as a system. Hybrid computers are used extensively in simulation process control systems where it is necessary to have a close representation with the physical world. The hybrid system provides better precision than can be attained with analog computers and greater speed than is possible with digital computers, plus the ability to accept input data in either form.

**Special-purpose computers.** A special-purpose computer is a general-purpose computer programmed and/or configured to operate upon a restricted class of problems.

**Peripheral equipment for computers.** In a data processing system, any equipment, distinct from the processing unit, that may provide the system with outside communication or additional facilities. Includes input/output typewriters and displays sold as part of a large office system. Included are:

*Input/output equipment.* Terminals include those units that, in addition to their capabilities of displaying data or accepting data input, are capable of performing other functions

such as stamping approvals for bank account withdrawals, time stamping, and issuing receipts. A unit is included if it meets all of the following conditions:

1. It is connectable to the processing unit either directly or through one or more other units;
2. It is specifically designed as part of such a system. (It must in particular, unless it is a power supply unit, be able to accept or deliver data in a form (code or signals) that can be used by the system.)

*Computer storage devices.* Storage in addition to the main storage of a computer; e.g., magnetic tapes, disks, or magnetic drums. Auxiliary storage usually holds much larger amounts of information than the main storage, and the information is accessible less rapidly. Computer terminals. A point at which information can enter or leave a computer communication network. An input/output device to send or receive data in an environment associated with the job to be performed, capable of transmitting entries to and obtaining output from the computer system of which it is a part.

*Cash registers.* Stand-alone electronic devices, including adding device with cash drawer and excluding terminals that have interactive communication capabilities. Firmware based, fixed or parameterized function devices developed primarily for cash control, with limited transaction or merchandise information as a byproduct.

*Fund transfer devices.* Devices facilitating the handling of various financial transactions involving the consumer and financial institutions. Typically, these devices provide services such as account status inquiries, transfers of funds to and from various accounts, withdrawals, deposits, and payments.

*Point-of-sale devices.* Devices facilitating the handling of various retail transactions involving the sale, exchange, or return of merchandise or service.

**Accounting machines.** A keyboard actuated machine that prepares accounting records. A machine that may read data from external storage media such as cards or tapes, and automatically produces accounting records or tabulations, usually on continuous forms.

**Calculating machines.** Devices requiring manual means for entering numerical data for performance of arithmetic operations. These machines, by nature, require frequent operator intervention. A calculator uses separate, fixed storage areas for its programs and for the storage of data. These machines cannot execute programs that modify themselves during their execution. There are two major classifications of these machines: printing calculating machines print one or more of the significant elements of computation; nonprinting calculating machines display one

or more of the significant elements of computations. Includes both three- and four-operation printing calculators. Three-operation printing calculators are those incorporating short-cut multiplication and/or fully "automatic multiplication" and division.

**Duplicating machines.** A machine in which an ink image on a master is transferred onto a copy paper.

**Postage franking machines.** Machines that print a design in place of the postage stamp. The machine has a non-reversible totalling device that adds up the total value of the postage printed. In addition, the machine can often be used for other printing on the envelope; e.g., advertising slogans.

**Dictating, transcribing, and recording machines and systems.** Machines that are designed as office machines for conference recording, combination dictating, and telephone recording used to produce a written record, but excluding home-type wire and tape recorders. A single recording unit with a number of dictating stations should be counted as one unit or system. A system consists of a recorder and a transcribing unit with more than one dictating station.

**Standard typewriters.** Machines, electric or nonelectric, designed solely for preparation of documents with letter printlike characters and symbols that are operated manually by consecutive depressing of keyboard keys. A typewriter contains a four-row keyboard, including alpha and numeric as well as special symbols. It may or may not include special attachments to be used in the preparation of addresses or other stencils, braille typing for the blind, and similar materials. In addition, it may or may not include special carriages, pin-feed platens, and other devices used to increase the speed of the typing on continuous forms. Machines that include accounting registers are excluded.

**Bar code.** An array of rectangular bars and spaces arranged in a predetermined pattern, following unambiguous rules in a specific way, to represent elements of data that are referred to as characters.

**Code reader or scanner.** A device that examines a spatial pattern, one part after another, and generates analog or digital signals corresponding to the pattern. The major components of a bar code scanner are an illumination source, a photodetector device, and a microcomputer. A focused light beam is moved across the symbol (bar code), the reflected light is received by the photodetector, which in turn generates a voltage (analog signal) that is proportional to the amount of light reflected by the signal. The signal from the photodetector is conditioned by preprocessor circuitry before being presented to the microcomputer for analysis.

**Decoder.** An electronic package that receives the signals from the scanner, and then performs the algorithm to interpret the signals into meaningful data and provides the interface to other devices.

**Optical character recognition (OCR).** Relies on a sensor to differentiate between light-reflecting background and printed data that do not reflect light. Output from the sensor is fed to a set of recognition logics, and then forwarded to the computer.

**Magnetic strip.** Records, or encodes, information onto a material, using low or high energy electromagnetic charges. These charges or signals can then be read by a decoder that translates them into numbers and characters for identification by a computer.

**Radio frequency.** A system based on the ability of an identification tag (transponder) to receive radio frequency signals and output a code to a reader.

**Voice recognition.** A computer recognizes words in a preprogrammed vocabulary. The operator speaks the words into a microphone, and the word or phrase is recognized by the machine and converted into electronic impulses for the micro or host computer.

**Machine vision.** Devices used for optical noncontact sensing to receive and interpret automatically an image of a real scene, to obtain information, and/or to control machines or processes.

**Image processor.** Selects and interprets data to determine an object's position, location, shape, and size.

Table 1. Value of Shipments of Computers and Office and Accounting Machines: 1989 to 1996

[Millions of dollars]

Product code	Product description	1996	1995	1994	1993	1992	1991	1990	1989
3571—	Electronic computers <sup>1</sup> . . . . .	50,681.5	49,038.1	38,260.7	29,659.1	28,571.2	26,274.1	25,630.1	25,076.9
35713	Large-scale processing equipment <sup>1</sup> . . . . .	5,962.3	5,288.8	4,458.5	4,104.4	5,267.1	(NA)	(NA)	(NA)
35714	Medium-scale and small-scale processing equipment <sup>1</sup> . . . . .	2,401.6	2,278.6	2,815.5	2,442.3	3,347.3	(NA)	(NA)	(NA)
35715	Personal computers and workstations <sup>1</sup> . . . . .	35,767.9	34,349.3	24,298.0	18,888.8	17,059.6	(NA)	(NA)	(NA)
35716	Portable computers <sup>1</sup> . . . . .	5,290.8	5,774.3	5,028.3	2,575.6	1,644.2	(NA)	(NA)	(NA)
35717	Other general-purpose digital processing units <sup>1</sup> . . . . .	432.0	457.9	958.8	946.2	493.5	(NA)	(NA)	(NA)
35718	Other computers, typically specialized for an application, including array, database, and image processors, computer chassis, and other analog, hybrid, or special-purpose computers <sup>1</sup> . . . . .	826.8	889.3	701.6	701.8	759.4	(NA)	(NA)	(NA)
36798	Loaded computer processor boards and board subassemblies <sup>2</sup> . . . . .	24,133.8	24,447.7	17,514.8	15,087.1	13,745.8	12,590.4	2,247.2	2,854.3
35721	Computer storage devices and equipment . . . . .	8,160.7	7,903.0	5,555.6	5,730.7	6,282.4	5,609.7	7,488.2	7,215.3
35722	Parts for computer storage devices and subassemblies . . . . .	1,775.8	2,235.6	1,951.9	1,496.4	1,357.1	780.4	955.2	686.5
35751	Computer terminals . . . . .	1,062.3	1,086.0	1,243.5	1,531.3	1,707.9	1,729.5	2,066.7	2,759.2
35752	Parts for computer terminals . . . . .	165.0	(D)	(D)	275.9	192.1	417.0	362.9	208.3
35771	Computer peripheral equipment, n.e.c. . . . .	12,783.9	12,331.0	11,943.6	9,810.2	8,505.6	7,763.6	7,696.6	8,271.1
35772	Parts for input/output equipment. . . . .	5,441.6	2,391.0	2,498.7	2,554.3	3,053.2	4,186.9	3,705.5	3,647.1
35784	Calculating and accounting machines <sup>3</sup> . . . . .	1,456.2	1,278.9	1,261.5	1,454.2	967.5	973.5	(D)	(D)
35789	Parts for calculating, coin, or currency handling, and accounting machines <sup>4</sup> . . . . .	96.9	106.1	86.7	77.7	73.4	97.4	133.3	155.9
35792	Automatic typing and word processing machines. . . . .	(D)	(D)	(D)	342.9	465.2	417.1	342.5	533.1
35793	Duplicating machines . . . . .	(D)	(D)	68.4	(D)	(D)	(D)	(D)	159.9
35795	Mailing, letter-handling, and addressing machines . . . . .	1,234.6	1,280.1	967.5	1,267.8	1,152.4	1,124.8	976.9	767.3
35799	Check handling, electric stapling and dictating machines, typewriters, and all other office machines, n.e.c. . . . .	576.4	577.7	664.0	(D)	(D)	517.6	545.9	712.5
3579A	Parts for office machines, n.e.c. . . . .	431.8	440.3	359.6	344.7	263.3	199.2	451.6	414.2
36950	Magnetic and optical recording media . . . . .	5,155.8	5,106.2	4,777.1	4,483.3	4,336.8	3,894.4	3,695.4	3,672.8

D Withheld to avoid disclosing data for individual companies. NA Not available. n.e.c. Not elsewhere classified. <sup>†</sup>Revised by 5 percent or more from previously published data.

<sup>1</sup>Prior to 1992, product code separation for computers is not available.

<sup>2</sup>These data are collected on two Current Industrial Report forms, MA35R, *Computer and Office and Accounting Machines*, and MA36Q, *Semiconductors, Printed Circuit Boards, and Other Electronic Components*.

<sup>3</sup>Product codes 35781 and 35782 were combined into product code 35784 in 1991.

<sup>4</sup>Product code 35783 was changed to product code 35789 in 1991.

Table 2. Quantity and Value of Shipments of Computers and Office and Accounting Machines: 1996 and 1995

[Quantity in number of units. Value in thousands of dollars]

Product code	Product description	Number of companies	1996		1995	
			Quantity	Value	Quantity	Value
3571—	Electronic computers (automatic data processors) .....	201	19,938,816	50,681,536	20,385,843	49,038,078
	General-purpose digital units by type .....	145	19,711,862	49,854,688	20,219,902	48,148,820
35713 00	Large-scale processing equipment (64 megabytes in MINIMUM main memory configuration) .....	29	101,083	5,962,313	59,642	'5,288,833
35714 00	Medium-scale and small-scale processing equipment (up to 64 megabytes in MINIMUM main memory configuration), excluding personal computers or workstations .....	39	267,502	2,401,566	'224,680	'2,278,586
35715 00	Personal computers and workstations, excluding portables .....	86	14,422,799	35,767,946	15,308,244	'34,349,272
35716 00	Portable computers (typically with attached display; e.g., laptops, notebooks, and palmtops) .....	39	4,373,641	5,290,819	3,964,030	5,774,261
35717 00	Other general-purpose digital processing units .....	21	546,837	432,044	'663,306	'457,868
35718 00	Other computers, typically specialized for an application, including array, database, and image processors, computer chassis, and other analog, hybrid or special-purpose computers, excluding supercomputers, LAN servers, and engineering workstations .....	66	<sup>a</sup> 226,954	<sup>a</sup> 826,848	'165,941	'889,258
36798 —	Printed circuit assemblies (loaded boards, subassemblies, and modules) <sup>1</sup> .....	674	(X)	24,133,750	(X)	'24,447,711
	Loaded computer processor boards and board subassemblies:					
36798 51	Computer and peripheral printed board assemblies <sup>2</sup> .....	269	(X)	12,050,038	(X)	'11,932,503
36798 53	Communications printed board assemblies <sup>2</sup> .....	224	(X)	3,062,636	(X)	'2,838,211
36798 55	Industrial process control board assemblies <sup>2</sup> .....	171	(X)	361,613	(X)	'736,242
36798 57	Instrumentation printed board assemblies (except industrial) <sup>2</sup> .....	169	(X)	3,352,802	(X)	2,692,657
36798 59	Search and detection printed board assemblies <sup>2</sup> .....	41	(X)	47,101	(X)	'24,502
36798 61	Consumer electronics printed board assemblies <sup>2</sup> .....	113	(X)	513,477	(X)	'379,340
36798 90	Other electronics, printed board assemblies including equipment and point of sales <sup>2</sup> .....	264	(X)	4,746,083	(X)	'5,884,256
35721 —	Computer storage devices and equipment .....	91	(X)	8,160,671	(X)	7,902,954
	Rigid magnetic disk drives:					
35721 35	Less than 2-1/2 inches .....	3	(D)	(D)	(D)	(D)
35721 37	2-1/2 inches up to but not including 3-1/2 inches .....	7	(D)	(D)	(D)	(D)
35721 39	3-1/2 inches up to but not including 5-1/4 inches .....	26	2,532,801	2,116,490	'3,003,076	2,753,812
35721 41	5-1/4 inches and greater .....	17	<sup>a</sup> 56,368	183,407	91,618	247,792
35721 45	Disk subsystems and disk arrays for multiuser computer systems .....	28	<sup>a</sup> 129,338	1,284,777	225,892	'1,710,252
35721 47	Flexible magnetic disk drives .....	11	(D)	(D)	(D)	(D)
	Optical disk drives, including CD-ROM and magneto-optical equipment:					
	CD-ROM:					
35721 51	"Juke-box" capable of handling multiple disks .....	13	1,177,965	144,922	'1,554,351	'151,513
35721 53	Single-disk equipment .....	7	(D)	(D)	285,991	46,215
35721 55	WORM (write once, read many times) .....	6	12,959	48,237	(D)	(D)
35721 57	Rewritable .....	10	65,012	71,118	64,411	105,670
35721 59	Optical subsystems for multiuser computer systems .....	7	<sup>b</sup> 24,341	176,775	26,837	207,156
	Auxiliary storage, not disk or tape-based, for multiuser computer systems:					
35721 61	Encased or enclosed in a housing, enclosure, or cabinet .....	11	(D)	(D)	(D)	(D)
35721 63	Other .....	5	(D)	(D)	(D)	(D)
35721 65	Other direct-access storage equipment .....	14	288,813	268,352	275,373	65,484
	Serial-access storage equipment (e.g., tape drives):					
35721 71	1/2-inch tape drives .....	13	316,353	1,234,614	207,559	886,748
35721 73	1/4-inch tape drives .....	13	2,378,367	392,568	(D)	(D)
35721 75	Helical scan tape drives .....	13	(D)	(D)	(D)	(D)
35721 77	Cassette tape drives .....	7	(D)	(D)	(D)	(D)
35721 79	Other serial-access storage equipment .....	10	1,207,426	472,578	1,175,797	'464,113
35722 11	Computer storage parts and subassemblies .....	21	(X)	1,775,836	(X)	2,235,629

See footnotes at end of table.

Table 2. Quantity and Value of Shipments of Computers and Office and Accounting Machines: 1996 and 1995—Con.

[Quantity in number of units. Value in thousands of dollars]

Product code	Product description	Number of companies	1996		1995	
			Quantity	Value	Quantity	Value
35751 —	Computer terminals .....	54	(X)	1,062,295	(X)	1,086,039
35751 80	Remote batch terminals .....	8	<sup>a</sup> 19,032	<sup>b</sup> 32,151	<sup>a</sup> 21,908	<sup>a</sup> 37,300
35751 61	Teleprinters .....	7	28,639	23,328	87,788	71,093
	Display terminals, including graphics type, whether or not incorporating a printing mechanism:					
35751 63	X-terminals .....	13	143,372	176,813	158,280	209,995
	Other than X-terminals:					
35751 65	13-inch or less display .....	8	57,075	<sup>a</sup> 38,808	717,718	207,566
35751 67	More than 13-inch but less than 19-inch display .....	22	1,761,025	751,713	1,085,638	538,659
35751 69	19-inch or more display .....	9	<sup>b</sup> 22,941	<sup>b</sup> 39,482	<sup>b</sup> 9,485	21,396
35752 41	Computer terminal parts and subassemblies .....	13	(X)	<sup>b</sup> 165,019	(X)	(D)
35771 —	Computer peripheral equipment, n.e.c. ....	260	(X)	12,783,904	(X)	12,330,978
	Keying equipment:					
35771 33	Keyboards .....	26	20,810,194	560,142	80,092,843	767,820
35771 35	Other keying equipment .....	5	(D)	(D)	(D)	(D)
35771 02	Mouse devices .....	12	(D)	(D)	(D)	(D)
35771 04	Digitizers and light pen tablets .....	9	<sup>b</sup> 211,072	<sup>b</sup> 62,374	227,603	<sup>a</sup> 64,753
35771 06	Other manual input devices (joysticks, trackballs, touchscreens, etc.) .....	10	<sup>a</sup> 561,579	<sup>a</sup> 33,374	763,563	58,508
35771 08	Computer output to microfilm (COM) equipment .....	4	(D)	(D)	(D)	(D)
35771 12	Media copying and/or conversion equipment .....	7	<sup>b</sup> 17,391	<sup>b</sup> 60,621	<sup>b</sup> 21,118	<sup>b</sup> 53,417
	Optical scanning devices:					
35771 14	Bar code devices .....	31	2,074,041	843,452	1,347,311	751,026
35771 16	OCR equipment .....	15	<sup>b</sup> 635,428	<sup>a</sup> 237,433	<sup>b</sup> 712,840	<sup>a</sup> 218,607
	Other than bar code or OCR devices:					
35771 18	Flat bed scanners .....	10	(D)	(D)	538,443	351,693
35771 22	Hand-held scanners .....	3	(D)	(D)	(D)	(D)
35771 24	Other .....	17	343,996	<sup>a</sup> 73,136	336,686	<sup>a</sup> 101,672
35771 26	Voice recognition equipment .....	8	(D)	(D)	12,655	19,492
35771 28	Magnetic strip and ink recognition equipment .....	12	311,513	205,810	<sup>r</sup> 115,981	127,228
35771 29	Other document entry equipment .....	3	(D)	(D)	(D)	(D)
	Computer printers:					
	Impact printers:					
35771 74	Line type (typically with a Centronics interface with output measured in lines per minute) .....	15	342,486	372,118	362,905	311,734
35771 72	Serial type (typically with a serial and/or parallel interface with output measured in characters per second) .....	27	569,705	254,343	713,527	314,369
	Nonimpact printers:					
35771 40	Laser .....	31	5,951,124	3,807,081	3,500,136	3,468,988
35771 42	Inkjet .....	10	14,829,101	1,160,370	4,369,896	961,336
35771 45	Other (thermal, ion deposition, etc.) .....	25	1,266,675	774,744	1,108,423	778,768
35771 47	Peripheral sharing devices .....	13	<sup>b</sup> 265,623	<sup>a</sup> 62,147	<sup>a</sup> 501,142	134,723
35771 49	Font cartridges .....	1	(D)	(D)	(D)	(D)
35771 50	Plotters, including electrostatic .....	14	<sup>a</sup> 46,932	<sup>a</sup> 234,520	<sup>a</sup> 48,448	<sup>a</sup> 308,802
	Monitors, excluding terminals:					
35771 55	Flat panel displays .....	6	(D)	(D)	(D)	(D)
	Other than flat panel displays (e.g., CRT):					
35771 56	Less than 19-inch display .....	26	3,656,804	<sup>b</sup> 1,813,417	<sup>r</sup> 2,790,541	<sup>r</sup> 1,305,491
35771 58	19-inch or more display .....	13	228,851	225,072	371,590	385,527
35771 62	Monitor screen projection devices (e.g., LCD panels) .....	7	(D)	(D)	141,746	379,535
35771 63	All other input/output devices .....	61	(X)	<sup>b</sup> 569,306	(X)	<sup>b</sup> 665,912
35771 68	Accessories for computer peripherals (e.g., device supports and ergonomic aids) .....	41	(X)	604,872	(X)	<sup>r</sup> 600,656
35772 —	Parts and subassemblies for computer peripherals and input/output equipment .....	68	(X)	5,441,635	(X)	<sup>r</sup> 2,391,037
35784 —	Calculating and accounting machines .....	43	(X)	1,465,209	(X)	1,278,855
35784 54	Funds transfer devices <sup>3</sup> .....	(NA)	(D)	(D)	(D)	(D)
35784 55	Point-of-sale terminals <sup>3</sup> .....	(NA)	312,131	1,156,076	269,180	998,856
35784 16	Machines for sorting, wrapping, counting, changing, or dispensing coins and/or currency .....	11	<sup>a</sup> 444,957	<sup>b</sup> 223,339	<sup>r</sup> 371,512	<sup>r</sup> 208,130
35784 59	Other coin or currency handling machines, including cash registers, calculators, accounting, bookkeeping and billing machines, and credit card im printers .....	16	(X)	<sup>b</sup> 85,794	(X)	<sup>b</sup> 71,869
35789 —	Parts for calculating, coin or currency handling, and accounting machines .....	14	(X)	<sup>a</sup> 96,948	(X)	<sup>r</sup> 106,089

See footnotes at end of table.

Table 2. **Quantity and Value of Shipments of Computers and Office and Accounting Machines: 1996 and 1995—Con.**

[Quantity in number of units. Value in thousands of dollars]

Product code	Product description	Number of companies	1996		1995	
			Quantity	Value	Quantity	Value
35792 —	Automatic typing and word processing machines (all types) . . .	3	(D)	(D)	(D)	(D)
35793 —	Duplicating machines . . . . .	6	(D)	(D)	(D)	(D)
35795 —	Mailing, letter handling, and addressing machines . . . . .	32	(X)	1,234,616	(X)	1,280,063
35795 34	Forms handling equipment, including bursters, decollators, and im printers . . . . .	9	<sup>b</sup> 493,912	<sup>b</sup> 51,120	471,258	48,369
35795 37	Mailing machines, including postage franking machines <sup>4</sup> . . .	(NA)	(D)	(D)	(D)	(D)
35795 43	Letter and envelope handling machines . . . . .	14	25,365	315,761	22,546	316,301
35795 48	Other mailing, letter handling, and addressing machines <sup>4</sup> . . .	(NA)	440,741	867,735	379,393	915,393
35799 —	All other office machines, n.e.c. . . . .	45	(X)	576,446	(X)	<sup>†</sup> 577,705
35799 31	Check handling machines . . . . .	11	<sup>b</sup> 62,410	<sup>b</sup> 76,617	<sup>†</sup> 48,032	<sup>†</sup> 93,920
35799 32	Electric stapling machines, office type . . . . .	4	262,572	9,912	326,189	10,656
35799 33	Time recording and time stamp machines . . . . .	11	233,575	95,243	204,249	<sup>†</sup> 86,376
35799 41	Paper cutting machines and apparatus, office type . . . . .	3	795,462	23,737	715,545	21,868
35799 44	Paper shredders . . . . .	2	(D)	(D)	(D)	(D)
35799 45	Perforating or stapling machines, nonelectric . . . . .	5	(D)	(D)	(D)	(D)
35799 95	All other office machines, n.e.c., including pencil sharpeners, typewriters, dictating machines, binding machines, ticket counting machines, and voting machines . . . . .	25	(X)	318,200	(X)	<sup>†</sup> 326,580
3579A —	Parts for office machines, n.e.c. . . . .	35	(X)	431,832	(X)	<sup>†</sup> 440,310
36950 —	Magnetic and optical recording media . . . . .	57	(X)	5,155,788	(X)	<sup>†</sup> 5,106,231
	Rigid disks:					
36950 12	Less than 2-1/2 inches . . . . .	1	(D)	(D)	-	-
36950 14	2-1/2 inches up to but not including 3-1/2 inches . . . . .	7	81,089	236,727	(D)	(D)
36950 16	3-1/2 inches up to but not including 5-1/4 inches . . . . .	14	<sup>b</sup> 22,565,450	<sup>b</sup> 1,036,134	20,454,681	995,492
36950 18	5-1/4 inches and greater . . . . .	9	<sup>a</sup> 14,724,431	226,714	7,573,880	169,777
	Flexible disks:					
36950 22	3-1/2 inches up to but not including 5-1/4 inches . . . . .	11	2,359,779	564,942	<sup>†</sup> 1,591,217	<sup>†</sup> 573,769
36950 24	5-1/4 inches and greater . . . . .	10	1,536,169	117,079	<sup>†</sup> 683,799	<sup>†</sup> 73,728
36950 09	Optical disks . . . . .	11	209,941	288,373	(D)	(D)
36950 26	Bulk magnetic tape . . . . .	2	(D)	(D)	(D)	(D)
	Packaged magnetic tape:					
36950 11	In reels for computer use . . . . .	5	(D)	(D)	(D)	(D)
36950 13	In cassette and cartridge for computer use . . . . .	15	996,504	576,028	<sup>†</sup> 503,460	<sup>†</sup> 545,860
36950 28	In forms suitable for audio use . . . . .	9	281,741	181,931	347,695	236,208
36950 21	In video cassette, 8-mm and 1/2-inch . . . . .	13	689,870	845,978	<sup>†</sup> 696,571	978,284
36950 23	In video cassette, 3/4 (19-mm) and 2-inch (51-mm) . . . . .	4	32,118	50,208	7,846	61,133
36950 34	Other package magnetic tape . . . . .	3	181,279	302,780	(D)	(D)
36950 39	Other magnetic recording media, including parts . . . . .	15	(X)	<sup>b</sup> 661,842	(X)	<sup>b</sup> 766,471
	Nonmanufacturing revenue of manufacturing establishments:					
50650 00	Supplies and accessories for use with computers or business machines (resales) . . . . .	55	(X)	1,368,729	(X)	989,724
99980 49	Research and development, testing, and evaluation of systems and components . . . . .	18	(X)	25,672	(X)	22,055
73721 00	Software sold with computer systems shipped by manufacturers:					
	Operating system software . . . . .	21	(X)	65,773	(X)	<sup>†</sup> 89,310
73722 00	Utilities and device managers . . . . .	16	(X)	5,476	(X)	12,288
73723 00	Application software . . . . .	42	(X)	455,134	(X)	330,659
73724 00	Other software . . . . .	16	(X)	126,546	(X)	221,799
73730 00	Systems integration revenues, including configuration, installation and site preparation, and custom programming . . . . .	31	(X)	303,726	(X)	251,079
73700 00	Other nonmanufacturing revenues associated with computer systems . . . . .	80	(X)	1,543,437	(X)	<sup>†</sup> 1,580,871

- Represents zero. D Withheld to avoid disclosing data for individual companies. NA Not available. n.e.c. Not elsewhere classified. <sup>†</sup>Revised by 5 percent or more from previously published data. X Not applicable.

<sup>1</sup>These data are collected on two Current Industrial Report forms, MA35R, *Computer and Office and Accounting Machines*, and MA36Q, *Semiconductors, Printed Circuit Boards, and Other Electronic Components*.

<sup>2</sup>Detail was revised in 1995. Previous year's data not applicable.

<sup>3</sup>Product codes 35784 54 and 35784 55 are combined to avoid disclosing data for individual companies.

<sup>4</sup>Product codes 35795 37 and 35795 48 are combined to avoid disclosing data for individual companies.

Note: Percent of estimation of each item is indicated as follows: <sup>a</sup>10 to 25 percent of this item is estimated. <sup>b</sup>Over 26 percent of this item is estimated.

Table 3. Shipments, Exports, Imports, and Apparent Consumption of Computing and Accounting Machines: 1996

[Quantity in thousands of units. Value in millions of dollars]

Product code <sup>1</sup>	Product description	Manufacturers' shipments (f.o.b. plant)		Exports of domestic merchandise <sup>1 2</sup>		Imports for consumption <sup>1 3</sup>	
		Quantity	Value	Quantity	Value at port	Quantity	Value
35713 00-35718 00	Computers, digital, analog, hybrid, and other. . . . .	19,938.8	50,681.5	3,891.4	9,386.8	4,433.0	6,440.9
35721 47	Flexible magnetic disk drives. . . . .	(D)	(D)	584.8	111.8	19,776.0	735.5
35721 35, 37, 39, 41, 45	Rigid magnetic disk drives, including disk subsystems and disk arrays. . . . .	2,871.8	3,815.3	2,648.2	1,876.1	54,108.9	12,516.9
35721 51, 53, 55, 57, 59, 61, 63, 65, 71, 73, 75, 77, 79	Computer storage devices and equipment, n.e.c. . . . .	6,298.9	3,655.7	1,803.2	1,335.7	28,856.5	3,417.8
35771 40	Laser computer printers . . . . .	5,951.1	3,807.1	525.3	389.3	2,082.0	1,316.0
35771 42, 45, 72, 74	Computer printers, n.e.c. . . . .	17,008.0	2,561.6	2,294.0	1,066.0	12,252.7	2,454.9
35771 33	Computer keyboards. . . . .	20,810.2	560.1	2,283.6	144.5	35,228.9	519.6
35751 00	Computer terminals . . . . .	(X)	1,062.3	1,240.2	674.8	26,109.9	8,598.6
35771 56, 58	Monitors, CRT-type . . . . .	3,911.7	2,060.5	71.6	65.7	189.1	10.1
35771 55, 62	Monitors, n.e.c. . . . .	154.0	430.2	1,344.9	258.2	43,656.0	309.9
35771 14, 16, 18, 22, 24, 28	Optical scanning devices and magnetic strip and ink recognition equipment. . . . .	3,534.0	1,513.7	584.3	358.8	2,773.7	611.3
35771 02, 04, 06, 08, 12, 26, 29, 35, 47, 49, 51, 53, 63	Computer peripheral equipment, n.e.c. . . . .	16,593.7	1,245.8	3,451.4	821.3	1,560.1	173.0
35771 68, 35772 —, 35798 —	Parts, subassemblies, and accessories for computer peripheral equipment. . . . .	(X)	30,180.3	-	16,132.8	-	20,681.2
35793 00	Duplicating machines . . . . .	(D)	(D)	68.2	31.8	53.4	69.7
35784 55	Point-of-sales terminals . . . . .	(D)	(D)	39.9	54.8	1,404.0	260.5
35784 16, 54, 59	Coin or currency handling machines, n.e.c., including cash registers, accounting, bookkeeping, and billing machines, and credit card imprinters. . . . .	484.3	764.2	1,256.9	92.9	88,194.5	629.4
35792 00	Automatic typing and word processing machines (all types). . . . .	(D)	(D)	163.2	48.8	19,343.5	135.9
35795 00	Mailing, letter handling, and addressing machines . . . . .	(X)	1,234.6	95.9	95.8	340.2	45.7
35799 33	Time recording and time stamping machines. . . . .	233.6	95.2	145.1	15.6	161.1	4.2
35789 —	Office machines, n.e.c. . . . .	8,804.7	481.2	2,604.1	291.7	37,148.8	957.8
35789 00	Parts for calculating, coin, or currency handling, and accounting machines. . . . .	(X)	96.9	-	245.3	-	209.3
3579A —	Parts for office machines, n.e.c. . . . .	(X)	431.8	-	168.3	-	205.5
36950 09, 12, 14, 16, 18, 22, 24	Rigid, flexible, and optical disks . . . . .	41,476.9	2,470.0	334,932.1	1,948.7	1,518,130.6	379.2
36950 11, 13, 21, 23, 25, 26, 34	Bulk and packaged magnetic tape. . . . .	2,187.3	2,023.9	75,019	601.9	646,834.0	1,502.3
36950 39	Other magnetic recording media, including parts . . . . .	(X)	661.8	-	-	-	-

- Represents zero. D Withheld to avoid disclosing data for individual companies. n.e.c. Not elsewhere classified. X Not applicable.

<sup>1</sup>For comparison of SIC-based codes with Schedule B export numbers and HTSUSA import numbers, see "Contact for Data Users" at end of this subsection.<sup>2</sup>Source: Bureau of the Census report EM 545, *U.S. Exports*.<sup>3</sup>Source: Bureau of the Census report IM 145, *U.S. Imports for Consumption*.



**HISTORICAL NOTE**

Data on computers and office and accounting machines have been collected by the Bureau of the Census since 1953. Historical data may be obtained from Current Industrial Reports (called Facts for Industry before 1959) available at your local Federal Depository Library. Historical data are

also available on microfiche; contact Customer Services, 301-457-4100.

**CONTACT FOR DATA USERS**

For additional information about these data, contact Keith McKenzie, 301-457-4777.

## SWITCHGEAR, SWITCHBOARD APPARATUS, RELAYS, AND INDUSTRIAL CONTROLS (MA36A)

### INTRODUCTION

These data cover manufacturers of switchgear, switchboard apparatus, relays, and industrial controls, except very small firms (generally less than 20 employees) for which 1992 Census of Manufactures data were derived from administrative records of other government agencies.

The statistics were collected by mail on Bureau of the Census annual Form MA36A, Switchgear, Switchboard Apparatus, Relays, and Industrial Controls. The survey panel includes all known producers of these products, except the very small firms excluded from the scope of the survey. Approximately 720 companies are included. No estimate is derived for the small firms excluded from the survey.

### SUMMARY OF FINDINGS

During 1996, the total value of shipments of switchgear and switchboard apparatus was \$6.4 billion, up 5 percent from the 1995 value of \$6.1 billion. The 1996 shipments include power circuit breakers, valued at \$420.7 million, a decrease of 5 percent from 1995; low voltage panelboards,

valued at \$2.1 billion, an increase of 6 percent from 1995; fuses and fuse equipment, valued at \$522.2 million, an increase of 4 percent from 1995; molded case circuit breakers, valued at \$1.2 billion, an increase of 4 percent from 1995; duct, valued at \$254.5 million, an increase of 6 percent from 1995; and switchgear valued at \$1.9 billion, an increase of 6 percent from 1995. During 1996, the total value of shipments of relays and industrial controls was \$9.2 billion, up 4 percent from the 1995 value of \$8.8 billion. The 1996 shipments include general-purpose relays valued at \$806.7 million, a decrease of 0.2 percent from 1995; specific-purpose industrial controls, valued at \$3.5 billion, an increase of 4 percent from 1995; general-purpose industrial controls, valued at \$4.4 billion, an increase of 5 percent from 1995; and motor controller accessories valued at \$497.2 million, a decrease of 1 percent from 1995.

### EXPLANATION OF TERMS

For explanation of terms, see "Contact for Data Users" at the end of this subsection.

Table 4. **Value of Shipments of Switchgear, Switchboard Apparatus, Relays, and Industrial Controls: 1991 to 1996**

[Millions of unadjusted dollars]

Product code	Product description	1996	1995	1994	1993	1992	1991
36132	Power circuit breakers . . . . .	420.7	442.9	550.9	520.8	480.8	368.5
36133	Low-voltage panelboards . . . . .	2,152.8	2,025.4	1,750.8	1,687.1	1,531.1	1,642.6
36134	Fuses and fuse equipment . . . . .	522.2	500.1	382.1	319.9	412.8	409.4
36135	Molded case circuit breakers . . . . .	1,218.3	1,173.4	1,132.9	1,009.8	954.7	916.6
36136	Duct, 1,000 volts and under . . . . .	254.5	238.5	227.9	200.1	189.1	184.2
36139	Switchgear (except ducts) . . . . .	1,864.0	1,758.3	1,663.7	1,581.3	1,615.0	1,398.1
36251	Relays, general-purpose . . . . .	806.7	808.1	804.0	750.6	781.5	772.0
36252	Specific-purpose industrial control . . . . .	3,467.1	3,312.4	2,747.9	2,321.6	1,915.7	1,992.7
36253	General-purpose industrial controls . . . . .	4,426.9	4,189.2	3,840.3	3,326.3	2,778.2	2,878.6
36254	Motor controller accessories and parts for industrial controls . . . . .	497.2	503.3	511.6	476.4	447.9	434.1

<sup>1</sup>Revised by 5 percent or more from previously published data.

Table 5. Shipments of Switchgear, Switchboard Apparatus, Relays, and Industrial Controls: 1996 and 1995

[Quantity in number of units. Value in thousands of dollars]

Product code	Product description	Number of companies	1996		1995	
			Quantity	Value	Quantity	Value
3613—	Switchgear and switchboard apparatus.....	(NA)	(X)	6,432,344	(X)	6,138,496
36132 —	Power circuit breakers and parts, all voltages.....	34	(X)	420,680	(X)	442,889
36132 16	Power circuit breakers (sold separately) for use in metal-clad switchgear oil and oilless, over 1,000 volts, (number of breakers).....	11		3,304 42,908	'3,762	39,120
36132 17	Parts for power circuit breakers for use in metal-clad switchgear <sup>1</sup> .....	6	(X)	(D)	(X)	(D)
36132 21	Power circuit breakers, free standing, oil and oilless, from 15.5 kV through 800 kV and above (number of breakers).....	8		3,238 147,652	3,459	166,373
36132 22	Parts for power circuit breakers, free standing, oil and oilless, from 15.5 kV through 800 kV and above <sup>1</sup> .....	3	(X)	12,602	(X)	12,320
36132 26	Power circuit breakers (sold separately) in individual enclosure and/or for use in low-voltage switchgear, 1,000 volts and below, excluding molded case circuit breakers (number of breakers) <sup>2</sup> .....	9	(D)	(D)	(D)	(D)
36132 27	Parts for power circuit breakers in individual enclosures and/or for use in low-voltage switchgear, 1,000 volts and below, excluding molded case circuit breakers.....	6	(X)	1,290	(X)	2,023
36132 31	All other power circuit breakers (sold separately), oil and oilless, network protectors, and automatic circuit reclosers <sup>2</sup> .....	8		1,806,112 174,534	1,813,739	174,914
36132 32	Parts for all other power circuit breakers, oil and oilless, network protectors, and automatic circuit reclosers.....	14	(X)	41,694	(X)	'48,139
36133 —	Low voltage panelboards, distribution boards, and other switching and interrupting devices, 1,000 volts and below.....	134	(X)	2,152,758	(X)	2,025,387
	Panelboards, including enclosing cabinets:					
36133 11	Fusible, including combination switch fuse.....	47		1,702,163 170,257	1,674,342	141,082
36133 12	Circuit breaker.....	54		1,066,908 483,370	'879,034	406,501
	Distribution switchboards:					
36133 15	Fusible.....	31		33,193 106,284	'29,837	101,391
36133 17	Circuit breaker.....	45		82,878 321,007	'80,156	'293,838
36133 19	Other, including theater switchboards.....	9		21,934 11,770	24,054	10,671
	Switches (except switches commonly known as snap, toggle, and rotary switches and switch devices intended primarily to be used with electric motor controls):					
	Knife switches, enclosed:					
36133 21	Heavy duty.....	11		1,794,738 170,864	1,742,520	172,755
36133 22	General duty.....	8		1,567,989 71,328	1,514,487	66,155
36133 24	Enclosed fusible, service entrance, and branch circuit cutouts.....	9		930,081 25,038	841,799	19,815
36133 26	Circuit breaker type.....	18		9,184,735 275,810	9,179,504	294,481
	Load centers:					
36133 32	Grouped metering panels (combinations of two or more meters and related switching units with overcurrent protection associated with each meter, including accessory components, excluding single socket load combinations).....	16		582,000 39,878	487,060	34,805
36133 33	Other switches, excluding snap, bolted toggle, push, etc., including open knife switches, motor contact, motor disconnect, meter service equipment other than meter mounting, and test devices.....	24	(X)	203,740	(X)	'192,933
36133 98	Other low voltage switchgear apparatus.....	36	(X)	273,412	(X)	'290,960
36134 —	Fuses and fuse equipment, under 2,300 volts (except power distribution cutouts).....	24	(X)	522,201	(X)	'500,110
36134 31	Nonrenewable plug fuses <sup>3</sup> .....	2	(X)	(D)	(X)	4,240
36134 51	Nonrenewable cartridge fuses.....	10	(X)	254,408	(X)	'234,791
36134 71	Renewable plug and cartridge fuses, including renewable links <sup>3</sup> .....	3	(X)	(D)	(X)	(D)
36134 93	Other fuses and open fuse material, including cutouts, clips, bases, etc. <sup>3</sup> .....	22	(X)	267,793	(X)	'261,079

See footnotes at end of table.

Table 5. Shipments of Switchgear, Switchboard Apparatus, Relays, and Industrial Controls: 1996 and 1995—Con.

[Quantity in number of units. Value in thousands of dollars]

Product code	Product description	Number of companies	1996		1995	
			Quantity	Value	Quantity	Value
3613—	Switchgear and switchboard apparatus—Con.					
36135 —	Molded case circuit breakers, 1,000 volts and under . . . . .	36	149,875,013	1,218,269	152,547,052	1,173,358
	Industrial type, assembled as complete units in supporting and enclosing housing of insulating materials, with or without accessories or attachments:					
36135 14	With ground fault detection capability <sup>4</sup> . . . . .	13	(D)	(D)	(S)	23,577
36135 16	Without ground fault detection capability <sup>4</sup> . . . . .	18	27,879,463	632,215	29,277,392	574,271
	Residential or light duty type, primarily for load center application, assembled as complete units in supporting and enclosing housing of insulating materials:					
36135 18	With ground fault detection capability <sup>5</sup> . . . . .	7	(D)	(D)	985,705	29,184
36135 19	Without ground fault detection capability <sup>5</sup> . . . . .	7	51,980,001	288,322	58,228,182	287,717
36135 31	Individually enclosed industrial type, excluding panelboards and busway plugs . . . . .	15	9,185,662	15,747	8,155,130	17,143
	Other molded case circuit breakers:					
36135 91	Marine and Navy type <sup>6</sup> . . . . .	4	(D)	(D)	(D)	(D)
36135 92	Aircraft and aerospace <sup>6</sup> . . . . .	6	1,293,889	119,165	1,067,767	114,567
36135 93	Automotive <sup>7</sup> . . . . .	2	(D)	(D)	(D)	(D)
36135 94	Electronic <sup>7</sup> . . . . .	5	53,719,792	138,104	47,579,273	103,971
36135 95	All other types . . . . .	12	(S)	24,716	(S)	22,928
36136 —	Duct, including plug-in units and accessories, 1,000 volts and under, consisting of enclosed sectionalized prefabricated bus bars rated 20 A or more, and associated structures and fittings . . . . .	23	1,454,970	254,460	2,293,932	238,479
36136 11	Busways <sup>8</sup> . . . . .	21	(D)	(D)	1,641,519	233,855
36136 31	Trolley-type and lighting distribution duct <sup>8</sup> . . . . .	3	1,454,970	254,460	652,413	4,624
36139 —	Switchgear (except ducts) . . . . .	129	(X)	1,863,976	(X)	1,758,273
36139 07	Automatic and manual control panels (generators, transformers, feed-controls, etc.) . . . . .	69	(X)	301,866	(X)	308,989
36139 09	Metal-clad switchgear (using power circuit breakers, oil and oilless), all voltages above 1,000 volts, up to and including 38 kV, excluding load interrupter switchgear . . . . .	42	(X)	378,542	(X)	303,126
36139 10	Metal-enclosed load interrupter switchgear assemblies, all voltages, including parts . . . . .	37	(X)	138,807	(X)	129,378
36139 13	Metal-enclosed low-voltage power circuit breaker switchgear assemblies, 1,000 volts and below, including parts and excluding load interrupter switchgear . . . . .	29	(X)	165,116	(X)	142,316
36139 17	Metal-enclosed bus bars when sold separately, above 1,000 volts, including isolated, segregated, nonsegregated, and cable bus bars . . . . .	17	(X)	24,681	(X)	32,368
	Power switching equipment, 2,300 volts and over, including attachments, auxiliaries, bus supports and fittings, and accessories, but excluding power fuses, sold separately. Also includes single-phase circuit reclosers:					
36139 41	Outdoor, excluding structures . . . . .	28	(X)	336,424	(X)	312,324
36139 45	Indoor . . . . .	9	(X)	3,324	(X)	1,873
36139 51	Power fuses and fuse links for 2,300 volts and over, ac service, excluding distribution cutouts <sup>9</sup> . . . . .	12	(X)	(D)	(X)	(D)
36139 81	Power and ground connectors generally used in substation construction <sup>9</sup> . . . . .	6	(X)	143,344	(X)	135,268
36139 91	Overhead transmission and distribution connectors (clamps, taps, terminals, and splices) . . . . .	6	(X)	41,729	(X)	41,141
36139 93	Transmission and distribution connectors, n.e.c., including underground deadends, hot line taps, stirrups, and repair sleeves, etc. <sup>10</sup> . . . . .	6	(X)	(D)	(X)	(D)
36139 83	Distribution cutouts . . . . .	9	(X)	84,888	(X)	103,067
36139 98	Other switchgear devices, including regulators and miscellaneous switchboard devices (for sale separately) <sup>10</sup> . . . . .	25	(X)	245,255	(X)	248,423

See footnotes at end of table.

Table 5. Shipments of Switchgear, Switchboard Apparatus, Relays, and Industrial Controls: 1996 and 1995—Con.

[Quantity in number of units. Value in thousands of dollars]

Product code	Product description	Number of companies	1996		1995	
			Quantity	Value	Quantity	Value
3625—	Relays and industrial controls .....	(NA)	(X)	9,197,782	(X)	8,813,083
36251 —	General-purpose and other relays .....	119	(X)	806,658	(X)	'808,121
36251 01	Industrial-control relays (all voltages), n.e.c. ....	44	82,281,972	261,953	'88,669,458	'260,544
	General-purpose electromechanical relays:					
	Over 100 MW actuating power and sealed (either hermetically or environmentally):					
36251 03	0 through 2.0 amperes contact rating <sup>11</sup> .....	8	(D)	(D)	(D)	(D)
36251 04	Over 2.0 through 10.0 amperes contact rating <sup>11</sup> .....	17	888,551	27,806	'1,971,832	'24,045
36251 05	Over 10.0 amperes contact rating .....	7	16,238,122	33,103	11,632,708	31,885
	Over 100 MW actuating power and not sealed:					
36251 02	0 through 10.0 amperes contact rating .....	13	1,339,791	13,750	2,801,349	'15,703
36251 10	Over 10.0 amperes contact rating <sup>12</sup> .....	12	(D)	(D)	(D)	(D)
36251 11	0 through 100 MW actuating power (both sealed and not sealed) <sup>12</sup> .....	2	1,250,927	10,082	1,488,628	9,744
	Miniature printed circuit mounted electromechanical relays, excluding reed relays (profile height 1/2-inch max.):					
	Sealed (either hermetically or environmentally):					
36251 12	0 through 2.0 amperes contact rating .....	5	(D)	(D)	2,859,003	3,591
36251 15	Over 2.0 amperes contact rating .....	4	(D)	(D)	(D)	(D)
36251 20	Not sealed .....	5	(D)	(D)	(D)	(D)
	DIP or SIP footprint:					
36251 19	Sealed (either hermetically or environmentally) .....	2	(D)	(D)	(D)	(D)
	Telephone relays, all types:					
36251 22	Sealed (either hermetically or environmentally) .....	4	(S)	976	648,744	1,038
36251 23	Not sealed .....	5	50,986	578	32,008	471
36251 30	General-purpose solid-state relays, pure solid-state, and hybrid solid state, excluding time delay .....	12	1,343,522	14,946	4,244,317	19,611
	High performance military/aerospace/aircraft relays and contactors (generally pertaining to Mil-R5757, 6106, 19523, 25108, and 39016):					
36251 31	Round and square can multipole airframe relays and contactors (both sealed and not sealed) (all sizes) .....	6	109,287	28,388	'102,269	'19,354
	Crystal can types (sealed):					
36251 32	Larger than full size .....	5	344,030	21,539	291,541	19,900
36251 33	Full size .....	5	174,140	12,522	151,661	10,541
36251 37	Half size and smaller, including TO-5 package <sup>13</sup> .....	4	(D)	(D)	(D)	(D)
36251 52	RF, antenna and coaxial relays (sealed and not sealed), excluding reed relays <sup>13</sup> .....	6	1,945,980	55,975	1,472,513	44,474
	Reed relays:					
	Dry reed:					
36251 59	Miniature size (glass length less than .85 inch) .....	10	17,744,582	34,585	22,809,642	37,132
36251 61	Standard size <sup>14</sup> .....	6	(D)	(D)	(D)	(D)
36251 66	Mercury wetted reed <sup>14</sup> .....	6	(D)	(D)	(D)	(D)
36251 69	Stepping switches, stepping and impulse relays <sup>14</sup> .....	3	(D)	(D)	(D)	(D)
36251 75	Switchgear and protective relays <sup>14</sup> .....	6	586,406	19,533	'549,805	30,811
	Timing relays (timers):					
36251 79	Solid-state/EMR combination .....	24	930,420	26,436	1,002,467	30,600
36251 81	Solid-state-pure .....	15	250,357	11,050	'276,661	'10,844
36251 82	All other timing relays (timers), including pneumatic, motor driven, electronic, etc. ....	14	421,461	18,096	951,363	25,026
36251 92	All other general-purpose and special-purpose relays, n.e.c. ....	25	(X)	163,485	(X)	'157,931
36251 96	Parts for general-purpose and special-purpose relays, sold separately .....	11	(X)	28,308	(X)	'34,515
36252 —	Specific-purpose industrial controls .....	246	(X)	3,467,092	(X)	3,312,429
36252 45	U.S. Coast Guard, Navy, and Marine auxiliary controls and accessories .....	22	75,612	130,539	78,965	124,897
36252 47	Metal mill controls and accessories (all voltages) .....	8	(D)	(D)	(D)	(D)
36252 48	Crane and hoist controls, constant and adjustable voltage, including operators' desks and stations. ....	18	44,290	124,622	'41,163	101,339

See footnotes at end of table.

Table 5. Shipments of Switchgear, Switchboard Apparatus, Relays, and Industrial Controls: 1996 and 1995—Con.

[Quantity in number of units. Value in thousands of dollars]

Product code	Product description	Number of companies	1996		1995	
			Quantity	Value	Quantity	Value
3625—	Relays and industrial controls—Con.					
36252 —	Specific-purpose industrial controls—Con.					
36252 49	Definite-purpose contactors and starters (600 volts and less) . . . . .	18	11,797,782	149,940	10,694,742	152,869
	Machine tool applications (motion controllers):					
	Stand-alone controls for numerically controlled machine tools:					
36252 51	Computer numerical controls (CNC); positioning (point-to-point) . . . . .	11	9,449	22,262	(S)	20,221
36252 55	Computer numerical controls (CNC); continuous path (contouring) . . . . .	13	34,329	268,566	31,469	219,850
36252 57	Robotic controls . . . . .	2	(D)	(D)	(D)	(D)
36252 58	Other stand-alone motion controls . . . . .	13	23,967	67,299	26,899	61,387
36252 60	Subordinate motion controls . . . . .	11	88,772	14,190	84,237	14,841
36252 71	Programmable controller, sold separately . . . . .	62	4,816,048	1,234,345	4,445,039	1,201,058
36252 76	Other specific- or special-purpose ac and dc controllers, other definite-purpose devices . . . . .	154	(X)	1,367,001	(X)	1,338,102
36253 —	General-purpose industrial controls and power circuit devices . . . . .	268	(X)	4,426,872	(X)	4,189,187
	General purpose controls:					
36253 01	Ac full voltage noncombination magnetic starters (1,000 volts or less) . . . . .	23	1,153,398	154,851	1,312,410	169,382
	Ac full voltage combination magnetic starters (1,000 volts or less):					
36253 03	Combination starters (less pumping panels) . . . . .	21	176,347	75,526	216,181	85,785
36253 05	Pumping panels . . . . .	20	38,997	30,054	40,486	29,101
36253 06	Disconnect switches (600 volts or less) . . . . .	18	2,022,225	58,429	2,030,558	56,241
	Ac full voltage manual controllers, 1,000 volts or less:					
36253 23	Designed and rated to U.S. National Standards (NEMA) <sup>15</sup> . . . . .	10	(D)	(D)	(D)	(D)
36253 25	Designed and rated to International Standards (IEC) <sup>15</sup> . . . . .	7	1,321,845	72,660	1,047,170	70,611
	Ac contactors, 1,000 volts or less, excluding controls for packaged adjustable speed drives and synchronous motor controls:					
36253 27	Designed and rated to U.S. National Standards (NEMA) . . . . .	15	1,100,922	70,964	1,956,544	59,340
36253 29	Designed and rated to International Standards (IEC) . . . . .	13	1,918,596	60,104	1,993,071	156,960
36253 14	Ac reduced voltage controls, 1,000 volts or less, excluding synchronous motor starters . . . . .	22	80,167	59,024	184,968	162,104
36253 15	Synchronous motor starters, 1,000 volts or less, including both full and reduced voltage . . . . .	5	1,749	1,422	1,407	1,087
36253 16	Motor control centers, 1,000 volts or less . . . . .	33	(X)	423,258	(X)	418,930
36253 18	Starters and contactors for squirrel cage and wound rotor and synchronous and nonsynchronous motors, over 1,000 to 7,200 volts, air break, vacuum, and oil immersed . . . . .	11	69,764	85,605	65,585	80,661
36253 21	Brakes and clutches . . . . .	19	1,138,134	66,827	872,058	61,480
36253 34	Digital readout system, including dial or plugboard type . . . . .	22	7,868	10,590	10,026	10,446
	Presence sensors and motion measurement devices:					
	Limit switches (positioning sensors):					
36253 32	Electromechanical positioning sensors . . . . .	28	(X)	137,998	(X)	138,712
36253 33	Movement sensors . . . . .	17	(X)	35,815	(X)	36,074
	Solid-state positioning sensors:					
36253 35	Nonoptical proximity sensors . . . . .	16	(X)	82,667	(X)	180,460
36253 36	Optical proximity sensors . . . . .	17	(X)	133,408	(X)	129,090
36253 37	All other pilot circuit devices, excluding relays and limit switches . . . . .	12	(X)	26,619	(X)	120,943
36253 38	Dc power circuit devices (all voltages) . . . . .	10	(X)	54,347	(X)	58,171
36253 39	Other control sensors (all voltages) . . . . .	18	(X)	126,660	(X)	116,771
	Pushbuttons and pushbutton stations, excluding operators' desks and stations:					
36253 42	Pushbuttons, 18 mm and smaller <sup>16</sup> . . . . .	10	(X)	15,903	(X)	(D)
36253 46	Pushbuttons, 19 mm to 29 mm <sup>16</sup> . . . . .	16	(X)	50,885	(X)	61,612
36253 48	Pushbuttons, 30 mm and larger . . . . .	21	(X)	241,897	(X)	233,593
36253 81	Rheostats and resistors (except for electronic applications) sold separately, n.e.c. . . . .	13	(X)	22,001	(X)	34,826

See footnotes at end of table.

Table 5. Shipments of Switchgear, Switchboard Apparatus, Relays, and Industrial Controls: 1996 and 1995—Con.

[Quantity in number of units. Value in thousands of dollars]

Product code	Product description	Number of companies	1996		1995	
			Quantity	Value	Quantity	Value
3625 —	Relays and industrial controls—Con.					
36253 —	General-purpose industrial controls and power circuit devices—Con.					
	Presence sensors and motion measurement devices—Con.					
	Controls for adjustable speed drives, including electronic and nonelectric and operators' desks and stations:					
36253 83	Controls for ac packaged drives .....	33	529,525	404,307	353,041	315,888
36253 84	Controls for dc packaged drives .....	26	246,144	155,241	<sup>1</sup> 261,503	<sup>1</sup> 134,821
36253 85	Ac drive systems .....	31	67,634	233,876	<sup>1</sup> 69,150	<sup>1</sup> 198,670
36253 86	Dc drive systems .....	26	376,533	162,079	753,129	171,285
36253 98	Solid-state motor controllers (all voltages) .....	51	3,586,173	277,016	<sup>1</sup> 3,957,211	<sup>1</sup> 264,771
36253 99	All other general industry devices and systems .....	101	(X)	1,096,839	(X)	1,031,372
36254 —	Motor controller accessories and parts for industrial controls .....	131	(X)	497,160	(X)	503,346
36254 91	Motor controller accessories, including those items that are sold separately, but become part of a motor controller. Includes overload relays, auxiliary contacts, heater elements, mechanical interlocks, control transformers, kits to add pushbuttons, selector switches, pilot lights, separate controller enclosure fittings, reset mechanisms, etc., excluding motor circuit switches, sold separately .....	40	(X)	144,728	(X)	149,595
36254 97	Parts for industrial controls .....	113	(X)	352,432	(X)	353,751

D Withheld to avoid disclosing data for individual companies. NA Not available. n.e.c. Not elsewhere classified. <sup>1</sup>Revised by 5 percent or more from previously published data. S Does not meet publication standards. X Not applicable.

<sup>1</sup>Product code 36132 17 is included with product code 36132 22 to avoid disclosing data for individual companies.  
<sup>2</sup>Product code 36132 26 is included with product code 36132 31 to avoid disclosing data for individual companies.  
<sup>3</sup>Product codes 36134 31 and 36134 71 are included with product code 36134 93 to avoid disclosing data for individual companies.  
<sup>4</sup>For 1996, product code 36135 14 is included with product code 36135 16 to avoid disclosing data for individual companies.  
<sup>5</sup>For 1996, product code 36135 18 is included with product code 36135 19 to avoid disclosing data for individual companies.  
<sup>6</sup>Product code 36135 91 is included with product code 36135 92 to avoid disclosing data for individual companies.  
<sup>7</sup>Product code 36135 93 is included with product code 36135 94 to avoid disclosing data for individual companies.  
<sup>8</sup>For 1996, product code 36136 11 is included with product code 36136 31 to avoid disclosing data for individual companies.  
<sup>9</sup>Product code 36139 51 is included with product code 36139 81 to avoid disclosing data for individual companies.  
<sup>10</sup>Product code 36139 93 is included with product code 36139 98 to avoid disclosing data for individual companies.  
<sup>11</sup>Product code 36251 03 is included with product code 36251 04 to avoid disclosing data for individual companies.  
<sup>12</sup>Product code 36251 10 is included with product code 36251 11 to avoid disclosing data for individual companies.  
<sup>13</sup>Product code 36251 37 is included with product code 36251 52 to avoid disclosing data for individual companies.  
<sup>14</sup>Product codes 36251 61, 36251 66, and 36251 69 are included with product code 36251 75 to avoid disclosing data for individual companies.  
<sup>15</sup>Product code 36253 23 is included with product code 36253 25 to avoid disclosing data for individual companies.  
<sup>16</sup>For 1995, data for product code 36253 42 are included with product code 36253 46 to avoid disclosing data for individual companies.

Table 6. Shipments, Exports, Imports, and Apparent Consumption of Switchgear, Switchboard Apparatus, Relays, and Industrial Controls: 1996 and 1995

[Value in thousands of dollars]

Product code	Product description	Manufacturer's shipments (value f.o.b. plant)	Exports of domestic merchandise (value at port) <sup>1</sup>	Imports for consumption <sup>2</sup>
<b>1996</b>				
36132 16, 21, 26, 31	Power circuit breakers .....	365,094	125,667	2,550,101
36132 17, 22, 27, 32	Parts for power circuit breakers .....	55,586	160,877	1,707,053
36133 11, 12, 15, 17, 19	Low voltage panelboards and distribution boards .....	1,092,688	126,683	4,426,096
36133 21, 22	Knife switches .....	242,192	2,793	99,658
36134 00	Fuses and fuse equipment, under 2,300 volts .....	522,201	131,419	1,922,842
36135 00	Molded case circuit breakers, 1,000 volts and under .....	1,218,269	92,281	2,922,672
36136 00	Duct, including plug-in units and accessories .....	254,460	39,007	292,056
36139 07, 09, 10, 13, 17, 41, 45, 83, 98	Switchgear and switchgear assemblies <sup>3</sup> .....	(D)	(D)	(D)
36139 51	Power fuses and fuse links, 2,300 volts and over <sup>3</sup> .....	(D)	(D)	(D)
36139 81, 91, 93	Power and ground connectors and transmission and distribution connectors <sup>3</sup> .....	1,863,976	270,272	4,408,984
36251 01-05, 10-12, 15, 20, 30-33, 37, 52, 59, 61, 66, 69, 75, 81-82, 92	Relays .....	750,360	460,285	20,929,854
36252 51, 55	Controls for numerically controlled machine tools .....	290,828	25,112	2,573,519
36252 71	Programmable controllers .....	1,234,345	116,090	8,832,260
36253 01, 03, 05, 15	Motor starters .....	261,853	37,851	1,196,796
36253 16	Motor control centers, 1,000 volts or less .....	423,258	53,197	838,268
36253 21	Brakes and clutches .....	66,827	22,503	1,708,468
36253 32, 33	Limit switches .....	173,813	9,351	642,502
36253 81	Rheostats and resistors .....	22,001	4,649	688,744
<b>1995</b>				
36132 16, 21, 26, 31	Power circuit breakers .....	380,407	117,773	2,779,947
36132 17, 22, 27, 32	Parts for power circuit breakers .....	62,482	(NA)	2,008,304
36133 11, 12, 15, 17, 19	Low voltage panelboards and distribution boards .....	953,483	(NA)	4,183,587
36133 21, 22	Knife switches .....	238,910	(NA)	66,139
36134 00	Fuses and fuse equipment, under 2,300 volts .....	500,110	110,343	2,183,991
36135 00	Molded case circuit breakers, 1,000 volts and under .....	1,173,358	98,674	3,149,743
36136 00	Duct, including plug-in units and accessories .....	238,479	31,117	159,232
36139 07, 09, 10, 13, 17, 41, 45, 83, 98	Switchgear and switchgear assemblies <sup>3</sup> .....	(D)	(D)	(D)
36139 51	Power fuses and fuse links, 2,300 volts and over <sup>3</sup> .....	(D)	(D)	(D)
36139 81, 91, 93	Power and ground connectors and transmission and distribution connectors <sup>3</sup> .....	1,758,273	32,918	4,830,795
36251 01-05, 10-12, 15, 20, 30-33, 37, 52, 59, 61, 66, 69, 75, 81-82, 92	Relays .....	741,497	502,849	23,938,819
36252 51, 55	Controls for numerically controlled machine tools .....	240,071	(NA)	3,240,446
36252 71	Programmable controllers .....	1,201,058	(NA)	9,715,424
36253 01, 03, 05, 15	Motor starters .....	285,355	(NA)	1,300,244
36253 16	Motor control centers, 1,000 volts or less .....	418,930	(NA)	901,530
36253 21	Brakes and clutches .....	61,480	19,751	1,792,337
36253 32, 33	Limit switches .....	174,786	(NA)	(NA)
36253 81	Rheostats and resistors .....	34,826	2,053	28,080

D Withheld to avoid disclosing data for individual companies. NA Not available. <sup>1</sup>Revised by 5 percent or more from previously published data.<sup>1</sup>Source: Bureau of the Census report, EM 545, *U.S. Exports*.<sup>2</sup>Source: Bureau of the Census report, IM 145, *U.S. Imports for Consumption*.<sup>3</sup>Product codes 36139 07, 09, 10, 13, 17, 41, 45, 83, 98 and product code 36139 51 are combined with product code 36139 81, 91, 93 to avoid disclosing data for individual companies.



**HISTORICAL NOTE**

Data on switchgear, switchboard apparatus, relays, and industrial controls have been collected by the Bureau of the Census since 1971. Historical data may be obtained from Current Industrial Reports available at your local Federal

Depository Library. Historical data are also available on microfiche; contact Customer Services, 301-457-4100.

**CONTACT FOR DATA USERS**

For additional information about these data, contact Wanda Sledd, 301-457-4790.

## FLUORESCENT LAMP BALLASTS (MQ36C)

### INTRODUCTION

These data cover all companies engaged in the manufacture of fluorescent lamp ballasts. The statistics were collected by mail on Bureau of the Census quarterly Form MQ36C, Fluorescent Lamp Ballasts. The survey panel includes all known producers of this product, approximately 14 companies.

### SUMMARY OF FINDINGS

The value of manufacturers' shipments of fluorescent lamp ballasts amounted to \$909 million in 1996, a decrease of 9 percent from shipments of \$1 billion in 1995. The quantity of fluorescent lamp ballasts shipped decreased to 97 million units in 1996, from 105 million units in 1995. Corrected power-factor types accounted for 44 percent of the quantity and 43 percent of the value of shipments of all fluorescent lamp ballasts during the year 1996. For 1996, the quantity of shipments for corrected power-factor type decreased 10 percent, while that for uncorrected power-factor type remained flat at 24 million units compared with 1995; the dollar value of shipments of the corrected power-factor type showed a 9-percent decrease, while the dollar value of the uncorrected power-factor type showed a less than 1 percent decline. The value of shipments of electronic ballasts decreased 11 percent in 1996 to \$451 million dollars as compared to a half billion dollars in 1995. Average unit value decreased again in 1996. Quantity of electronic ballasts also decreased 8 percent to 30 million units after an increase to 33 million units in 1995.

### EXPLANATION OF TERMS

#### Magnetic Type:

*Corrected power-factor ballasts.* Any ballast with a power factor of 85 percent or above.

*Uncorrected power-factor ballasts.* Any ballast with a power factor less than 85 percent.

#### Electronic Type:

*Uncorrected power factor.* Less than 90 percent power factor.

*Corrected power factor.* 90 percent power factor or above.

**Rapid start.** Includes ballasts of all voltage and frequency ratings for operation of all lamps designed for cathode preheating without the use of starters.

**Preheat start.** Includes ballasts of all voltage and frequency ratings for operation of all lamps of the switch start type, except ballasts with preheat windings.

**Slimline and instant start.** Includes ballasts of all voltage and frequency ratings for operation of all hot cathode lamps that do not utilize preheating of cathodes.

**All other.** Includes ballasts of all voltage and frequency ratings not classified above. Specifically, includes ballasts with preheat windings for fast starting of standard switch start lamps (trigger start, quick start, etc.), ballasts for dc operation, and cold cathode ballasts.

#### Electronic Fluorescent Ballast

Includes ballasts serving preheat or rapid start lamps, including those ballasts operating lamps less than 20 watts up to 40 watts, driving one, two, three or four lamps, and ballasts for 800mA lamps and above, and miscellaneous applications for powering fluorescent lamps not reported elsewhere. Also includes ballasts for single-pin slimline, instant start lamps, including ballasts driving two 96-inch lamps, and all other slimline lamp ballasts.

**Table 7. Quantity and Value of Shipments of Uncorrected and Corrected Power-Factor Type Fluorescent Ballasts: 1985 to 1996**

[Quantity in thousands of ballasts. Value in thousands of dollars]

Year	Total		Magnetic type				Electronic type	
			Uncorrected power-factor type		Corrected power-factor type			
	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
1996.....	97,355	909,178	24,172	67,884	42,841	389,877	30,342	451,417
1995.....	105,314	1,002,243	24,764	68,165	47,648	427,062	32,902	507,016
1994.....	108,114	940,746	27,517	75,013	55,991	474,958	24,606	390,775
1993.....	107,428	969,542	28,150	65,820	54,790	457,222	24,488	446,500
1992.....	97,034	812,287	28,363	68,771	55,379	468,940	13,292	274,576
1991.....	88,729	718,317	24,919	61,413	55,467	476,867	8,343	180,037
1990.....	81,364	615,569	22,556	54,403	55,807	491,878	3,001	69,288
1989.....	77,702	521,301	18,011	41,667	58,265	439,818	1,426	39,816
1988.....	75,676	476,375	17,813	40,916	56,799	409,954	1,064	25,505
1987.....	74,948	436,045	19,542	42,814	54,754	378,113	652	15,118
1986.....	69,840	407,906	17,370	38,601	52,039	357,470	431	11,835
1985 <sup>1</sup> .....	70,054	398,895	18,456	39,899	51,598	358,996	(X)	(X)

X Not applicable.

<sup>1</sup>Data for electronic type were not collected separately prior to 1986.

**Table 8. Shipments, Exports, Imports, and Apparent Consumption of Fluorescent Lamp Ballasts: 1996 and 1995**

[Quantity in thousands of units. Value in thousands of dollars]

Product code <sup>1</sup>	Product description	Manufacturers' shipments		Exports of domestic merchandise <sup>1</sup>		Imports for consumption <sup>2</sup>	
		Quantity	Value f.o.b. plant	Quantity	Value at port	Quantity	C.i.f. and calculated duty
36124 —	Fluorescent lamp ballasts.....	97,355	909,178	17,955	92,191	81,844	504,702
	1996 ..						
	1995 ..	105,306	1,002,115	10,400	72,610	73,707	502,564

<sup>1</sup>Source: Bureau of the Census report EM 545, *U.S. Exports*. Schedule B export number is 8504.10.0000.

<sup>2</sup>Source: Bureau of the Census report IM 145, *U.S. Imports for Consumption*. The HTSUSA import number is 8504.10.0000.

Table 9. Quantity and Value of Shipments by Type of Ballast: 1996 and 1995

[Quantity in thousands of ballasts. Value in thousands of dollars]

Product code	Product description	Total		First quarter		Second quarter		Third quarter		Fourth quarter	
		Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
	<b>1996</b>										
36124 —	Fluorescent lamp ballasts. . . . .	97,355	909,178	24,034	217,161	23,452	225,539	23,943	228,964	25,926	237,514
	Magnetic type. . . . .	67,013	457,761	17,387	119,910	16,204	109,232	15,844	107,896	17,578	120,723
	Uncorrected power-factor type (less than 85 percent power factor). . . . .	24,172	67,884	6,092	16,711	5,769	15,681	5,601	15,953	6,710	19,539
	Preheat start. . . . .	17,339	36,908	4,406	9,346	4,481	9,552	3,861	8,150	4,591	9,860
36124 58	Single-ended compact lamps <sup>1</sup> . . . . .	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
36124 62	20 watt and less. . . . .	10,757	19,412	2,727	4,707	2,909	5,130	2,390	4,426	2,731	5,149
36124 64	21 watt and over <sup>1</sup> . . . . .	6,582	17,496	1,679	4,639	1,572	4,422	1,471	3,724	1,860	4,711
36124 59	All other uncorrected power-factor type, including rapid start. . . . .	6,833	30,976	1,686	7,365	1,288	6,129	1,740	7,803	2,119	9,679
	Corrected power-factor type (85 percent power factor or above). . . . .	42,841	389,877	11,295	103,199	10,435	93,551	10,243	91,943	10,868	101,184
	Slimline and instant start . . .	7,285	91,119	2,154	26,133	1,658	20,910	1,606	20,007	1,867	24,069
36124 67	Two-lamp 96T12 and 72T12. . . . .	6,612	82,422	1,973	23,902	1,488	18,721	1,448	18,053	1,703	21,746
36124 68	Other slimline and instant start. . . . .	673	8,697	181	2,231	170	2,189	158	1,954	164	2,323
	Rapid start. . . . .	33,322	281,888	8,560	72,719	8,251	68,654	8,053	67,672	8,458	72,843
36124 69	One-lamp, 40 watt 48T12/RS <sup>2</sup> . . . . .	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
36124 71	Two-lamp, 40 watt 48T12/RS <sup>2</sup> . . . . .	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
36124 75	Two-lamp, 32 watt 48T8/RS <sup>2</sup> . . . . .	28,027	186,461	7,148	46,885	7,009	46,825	6,818	45,837	7,052	46,914
	All other rapid start . . . . .	5,295	95,427	1,412	25,834	1,242	21,829	1,235	21,835	1,406	25,929
36124 72	800 to 1,000 mA . . . . .	2,984	65,865	800	17,939	662	14,449	687	15,105	835	18,372
36124 73	1,500 mA. . . . .	203	8,031	54	2,078	48	1,908	47	1,780	54	2,265
36124 74	Other rapid start. . . . .	2,108	21,531	558	5,817	532	5,472	501	4,950	517	5,292
	Preheat start <sup>3</sup> . . . . .	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
36124 77	Single-ended compact lamps <sup>3</sup> . . . . .	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
36124 78	Linear and circline lamps <sup>3</sup> . . . . .	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
36124 98	All other magnetic corrected power-factor type <sup>3</sup> . . . . .	2,234	16,870	581	4,347	526	3,987	584	4,264	543	4,272
	Electronic type . . . . .	30,342	451,417	6,647	97,251	7,248	116,307	8,099	121,068	8,348	116,791
	Uncorrected power-factor type (less than 90 percent power factor):										
36124 91	Single-ended compact lamps. . . . .	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
36124 92	All other electronic uncorrected power-factor type. . . . .	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
	Corrected power-factor type (90 percent power factor or above):										
	Instant start:										
36124 93	One- and two-lamp, 32 watt 48T8. . . . .	12,466	164,632	2,694	34,873	2,868	41,033	3,339	44,494	3,565	44,232
36124 94	Three- and four-lamp, 32 watt 48T8. . . . .	9,851	149,379	2,088	30,547	2,277	37,652	2,667	41,195	2,819	39,985
36124 95	Two-lamp, 59 watt 96T8. . .	847	18,479	191	4,058	193	4,553	208	4,493	255	5,375
36124 96	Two-lamp, 75 watt 96T12/IS. . . . .	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
36124 97	All other instant start. . . . .	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)

See footnotes at end of table.

Table 9. Quantity and Value of Shipments by Type of Ballast: 1996 and 1995—Con.

[Quantity in thousands of ballasts. Value in thousands of dollars]

Product code	Product description	Total		First quarter		Second quarter		Third quarter		Fourth quarter	
		Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
36124 —	<b>1996—Con.</b>										
	Fluorescent lamp ballasts—Con.										
	Electronic type—Con.										
	Corrected power-factor type										
	(less than 90-percent power										
	factor):—Con.										
	Rapid start:										
36124 82	All 32 watt 48T8 .....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
36124 84	All other T8, 4 foot and										
	less .....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
36124 86	Two-lamp, 40 watt										
	48 T12/RS .....	761	12,489	181	2,903	192	3,399	220	3,522	168	2,665
36124 88	800 mA .....	338	8,762	91	2,237	85	2,399	84	2,175	78	1,951
36124 89	All other rapid start .....	537	9,415	104	1,862	134	2,418	157	2,672	142	2,463
36124 99	All other corrected power ...	-	-	-	-	-	-	-	-	-	-
	<b>1995</b>										
36124 —	Fluorescent lamp ballasts .....	105,314	1,002,243	28,938	268,148	28,885	273,890	23,915	238,000	23,576	222,205
	Magnetic type .....	72,412	495,227	20,769	137,154	19,558	127,842	15,455	111,133	16,630	119,098
	Uncorrected power-factor type										
	(less than 85 percent power										
	factor) .....	24,764	68,165	7,354	19,126	6,239	16,756	5,676	16,465	5,495	15,818
	Preheat start .....	17,374	35,289	5,125	9,866	4,393	8,751	4,014	8,496	3,842	8,176
36124 58	Single-ended compact										
	lamps <sup>1</sup> .....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
36124 62	20 watt and less .....	11,018	18,771	3,163	5,252	2,844	4,778	2,537	4,397	2,474	4,344
36124 64	21 watt and over <sup>1</sup> .....	6,356	16,518	1,962	4,614	1,549	3,973	1,477	4,099	1,368	3,832
36124 59	All other uncorrected										
	power-factor type,										
	including rapid start .....	7,390	32,876	2,229	9,260	1,846	8,005	1,662	7,969	1,653	7,642
	Corrected power-factor type										
	(85 percent power factor or										
	above) .....	47,648	427,062	13,415	118,028	13,319	111,086	9,779	94,668	11,135	103,280
	Slimline and instant start ...	8,370	101,877	2,562	30,058	2,171	24,933	1,685	22,484	1,952	24,402
36124 67	Two-lamp 96T12 and										
	72T12 .....	7,394	91,580	2,221	27,188	1,900	22,248	1,506	20,064	1,767	22,080
36124 68	Other slimline and instant										
	start .....	976	10,297	341	2,870	271	2,685	179	2,420	185	2,322
	Rapid start .....	36,822	306,936	10,132	82,689	10,507	81,445	7,548	68,090	8,635	74,712
36124 69	One-lamp, 40 watt										
	48T12/RS <sup>2</sup> .....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
36124 71	Two-lamp, 40 watt										
	48T12/RS <sup>2</sup> .....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
36124 75	Two-lamp, 32 watt										
	48T8/RS <sup>2</sup> .....	30,808	204,097	8,427	55,182	8,919	55,607	6,354	45,734	7,108	47,574
	All other rapid start .....	6,014	102,839	1,705	27,507	1,588	25,838	1,194	22,356	1,527	27,138
36124 72	800 to 1,000 mA .....	3,154	68,393	907	18,470	820	17,147	583	14,131	844	18,645
36124 73	1,500 mA .....	248	9,580	68	2,558	61	2,261	57	2,361	62	2,400
36124 74	Other rapid start .....	2,612	24,866	730	6,479	707	6,430	554	5,864	621	6,093
	Preheat start <sup>3</sup> .....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
36124 77	Single-ended compact										
	lamps <sup>3</sup> .....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
36124 78	Linear and circline										
	lamps <sup>3</sup> .....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
36124 98	All other magnetic corrected										
	power-factor type <sup>3</sup> .....	2,456	18,249	721	5,281	641	4,708	546	4,094	548	4,166
	Electronic type .....	32,902	507,016	8,169	130,994	9,327	146,048	8,460	126,867	6,946	103,107
	Uncorrected power-factor type										
	(less than 90 percent power										
	factor):										
36124 91	Single-ended compact										
	lamps .....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
36124 92	All other electronic										
	uncorrected power-factor										
	type .....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)

See footnotes at end of table.

Table 9. Quantity and Value of Shipments by Type of Ballast: 1996 and 1995—Con.

[Quantity in thousands of ballasts. Value in thousands of dollars]

Product code	Product description	Total		First quarter		Second quarter		Third quarter		Fourth quarter	
		Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
	<b>1995—Con.</b>										
36124 —	Fluorescent lamp ballasts—Con. Electronic type—Con. Corrected power-factor type (90 percent power factor or above):										
	Instant start:										
36124 93	One- and two-lamp, 32 watt 48T8.....	13,259	181,130	3,322	48,014	3,803	53,204	3,304	43,124	2,830	36,788
36124 94	Three- and four-lamp, 32 watt 48T8.....	10,706	168,063	2,497	41,355	3,092	50,027	2,767	41,973	2,350	34,708
36124 95	Two-lamp, 59 watt 96T8..	932	21,112	213	4,920	207	4,799	268	5,968	244	5,425
36124 96	Two-lamp, 75 watt 96T12/IS .....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
36124 97	All other instant start .....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
	Rapid start:										
36124 82	All 32 watt 48T8.....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
36124 84	All other T8, 4 foot and less.....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
36124 86	Two-lamp, 40 watt 48 T12/RS.....	1,011	16,784	239	3,954	290	4,722	245	4,241	237	3,867
36124 88	800 mA .....	384	9,919	81	2,224	104	2,758	97	2,391	102	2,546
36124 89	All other rapid start .....	392	7,023	105	1,976	107	1,920	109	1,869	71	1,258
36124 99	All other corrected power ...	-	-	-	-	-	-	-	-	-	-

- Represents zero. D Withheld to avoid disclosing data for individual companies. mA Milliampere. <sup>1</sup>Revised by 5 percent or more from previously published data.

<sup>1</sup>Product codes 36124 58 and 36124 64 were combined to avoid disclosing data for individual companies.

<sup>2</sup>Product codes 36124 69, 36124 71, and 36124 75 were combined to avoid disclosing data for individual companies.

<sup>3</sup>Data for "Corrected power-factor type, preheat start" and product codes 36124 77 and 36124 78 were combined with product code 36124 98 to avoid disclosing data for individual companies.

## HISTORICAL NOTE

Data on fluorescent lamp ballasts have been collected by the Bureau of the Census since 1955. Historical data may be obtained from Current Industrial Reports (called Facts for Industry before 1959) available at your local Federal Depository Library. Historical data are also available on microfiche; contact the Bureau of Census, Customer Services, 301-457-4100.

## FUNDING

The MQ36C survey is funded, in part, by the Certified Ballasts Manufacturers Association.

## CONTACT FOR DATA USERS

For additional information about these data, contact Chris Blackburn, 301-457-4817.

## WIRING DEVICES AND SUPPLIES (MA36K)

### INTRODUCTION

These data cover firms engaged in the manufacture of current-carrying wiring devices and noncurrent-carrying devices in the United States. Very small firms (generally fewer than five employees) for which 1992 Census of Manufactures data were derived from administrative records of other government agencies are excluded. The statistics were collected by mail on Bureau of the Census annual Form MA36K, Wiring Devices and Supplies. The survey panel includes all known manufacturers of wiring devices and supplies, except the very small firms excluded from the scope of the survey. Approximately 398 companies are included. No estimate is derived for the small firms excluded from the survey.

### SUMMARY OF FINDINGS

During 1996, manufacturers' shipment of wiring devices and supplies totaled \$9.1 billion, an increase of 4 percent from \$8.7 billion in 1995. Current-carrying wiring devices accounted for \$5.0 billion, an increase of 6 percent from \$4.7 billion in 1995, while the noncurrent-carrying wiring

devices accounted for \$4.1 billion, an increase of 4 percent, from \$3.9 billion in 1995. The 1996 shipments included lampholders, valued at \$204.1 million, up 1 percent from \$201.1 million in 1995; convenience and power outlets, valued at \$430.9 million, up 15 percent from \$364.0 million in 1995; switches, valued at \$1.6 billion, unchanged from 1995; metal contacts, valued at \$275.3 million, up 6 percent from \$259.4 million in 1995; wire connectors, valued at \$1.3 billion, up 8 percent from \$1.2 billion in 1995; other current-carrying wiring devices, valued at \$1.2 billion, up 11 percent from \$1.0 billion in 1995; pole line and transmission hardware, valued at \$765.8 million, up 12 percent from \$672.8 million in 1995; electrical conduit and conduit fittings, valued at \$2.0 billion, unchanged from 1995; and other noncurrent-carrying wiring devices, valued at \$1.3 billion, up 6 percent from \$1.2 billion in 1995.

### EXPLANATION OF TERMS

**Products covered.** The instruction manual for this survey, which is available on request, provides representative descriptions of products included in most product code classifications.

Table 10. Value of Shipments of Wiring Devices and Supplies by Class of Product: 1987 to 1996

[Millions of current dollars]

Product code	Product description	1996	1995	1994	1993	1992	1991	1990	1989	1988	1987
3643	Current-carrying wiring devices.....	5,047.3	4,771.7	4,421.7	4,086.6	4,153.6	3,939.3	3,857.8	4,031.4	3,921.9	3,663.6
36431	Lampholders.....	204.1	201.1	211.3	210.4	197.3	214.7	230.0	240.3	226.6	218.4
36432	Convenience and power outlets, both general- and special-purpose, excluding pin and sleeve type.....	430.9	364.0	340.8	313.8	332.0	308.6	287.0	301.2	304.3	290.6
36433	Switches for electrical circuitry.....	1,606.3	1,623.0	1,525.7	1,473.9	1,423.5	1,310.4	1,348.6	1,376.6	1,524.6	1,425.2
36434	Metal contacts precious and other.....	275.3	259.4	244.9	208.0	240.1	332.3	317.4	375.4	201.8	176.6
36435	Wire connectors for electrical circuitry.....	1,296.4	1,193.6	1,081.6	976.0	1,007.3	915.8	844.3	857.2	842.0	794.6
36436	Other current-carrying wiring devices, including attachment plug caps, connector bodies, lightning arrestors, and pin and sleeve convenience power outlets.....	1,234.1	1,130.4	1,017.5	904.4	953.3	857.6	830.4	884.2	822.6	758.2
3644	Noncurrent-carrying wiring devices.....	4,070.8	3,915.0	3,622.4	3,250.7	3,140.4	2,930.3	3,095.8	3,114.7	3,212.1	2,791.1
36441	Pole line and transmission hardware.....	765.9	672.8	641.1	618.0	541.6	493.6	516.5	525.5	455.3	384.6
36442	Electrical conduit and conduit fittings.....	2,031.7	2,049.9	1,865.5	1,633.9	1,601.1	1,496.5	1,657.7	1,664.7	1,833.9	1,528.6
36443	Other noncurrent-carrying wiring devices and supplies.....	1,273.1	1,192.4	1,115.8	998.7	997.7	940.1	921.6	924.5	923.0	877.9

Table 11. Quantity and Value of Shipments of Wiring Devices and Supplies: 1996 and 1995

[Quantity in thousands of units. Value in thousands of dollars]

Product code	Product description	Number of companies	1996		1995	
			Quantity	Value	Quantity	Value
3643—	Wiring devices and supplies .....	(X)	(X)	9,118,141	(X)	8,686,725
36431—	Current-carrying wiring devices .....	(X)	(X)	5,047,385	(X)	4,771,688
36431—	Lampholders .....	28	<sup>b</sup> 694,749	<sup>b</sup> 204,112	694,040	201,181
	Incandescent:					
36431 03	Outlet box, threaded, medium base only, pull and keyless types .....	8	19,736	21,136	19,605	20,730
36431 04	Push through and pull types, all materials, threaded, medium base only, excluding outlet box type and socket interiors <sup>1</sup> .....	4	(D)	(D)	(D)	(D)
36431 06	Weatherproof, threaded, medium base only .....	8	3,769	4,227	3,828	4,791
36431 11	Candelabra base, all types .....	10	<sup>c</sup> 50,342	<sup>b</sup> 10,608	<sup>r</sup> 48,742	<sup>r</sup> 10,159
36431 13	Sign and fixture, medium base only .....	7	<sup>b</sup> 22,367	<sup>b</sup> 21,030	18,077	16,583
36431 19	All other incandescent, medium, admedium, intermediate, lumiline, miniature, including but not limited to pin-type, cleat, hasp, and socket interiors sold separately, all bases <sup>1</sup> .....	18	<sup>c</sup> 309,474	<sup>c</sup> 90,716	<sup>c</sup> 335,150	<sup>c</sup> 93,060
	Fluorescent:					
36431 15	Bi-pin .....	8	<sup>b</sup> 242,752	<sup>b</sup> 31,856	220,414	28,208
36431 21	Slimline .....	5	16,563	6,180	17,073	6,532
36431 23	Recessed double contact .....	6	<sup>b</sup> 12,796	<sup>b</sup> 9,037	12,555	9,219
36431 25	All other fluorescent, including but not limited to circline, panelescent, and starter holders .....	6	<sup>a</sup> 13,193	<sup>a</sup> 5,757	12,470	5,563
36431 28	All other lampholders, including cold cathode neon, and bases for quartz lamps .....	6	<sup>a</sup> 3,757	<sup>b</sup> 3,565	<sup>b</sup> 6,126	<sup>c</sup> 6,336
36432—	Convenience and power outlets, both general- and special-purpose, excluding pin and sleeve type .....	16	261,866	430,980	241,456	364,027
36432 27	Receptacles with GFIC (all types, all amperages) .....	5	24,408	166,888	18,320	125,046
36432 28	Receptacles without GFIC:					
	2-pole, 2-wire (flush, all types) .....	7	3,487	2,215	3,046	1,863
	2-pole, 3-wire and up (flush):					
36432 29	Locking, 15 amperes and under <sup>2</sup> .....	6	(D)	(D)	(D)	(D)
36432 30	Locking, 20 amperes and over .....	6	4,396	<sup>a</sup> 24,428	3,492	16,644
36432 31	Nonlocking, 15 amperes and under .....	5	80,446	57,853	77,415	54,142
36432 32	Nonlocking, 20 amperes and over .....	7	26,379	49,383	23,183	43,858
36432 34	Appliance and special applications all amperages, all types .....	5	<sup>b</sup> 26,065	<sup>b</sup> 9,013	17,888	7,012
36432 39	All other types, including dust and explosion proof, surface and 2-pole/2-wire <sup>2</sup> .....	10	96,685	121,200	98,112	115,462
36433—	Switches for electrical circuitry .....	79	840,220	1,606,306	848,396	1,623,048
	General use flush-mounted switches, designed for mounting in switch or outlet boxes (except dimmers):					
	Ac (except mercury):					
36433 60	Single pole, 15 amperes and under .....	8	94,848	67,534	78,909	56,679
36433 63	Single pole, over 15 amperes .....	6	8,038	<sup>a</sup> 22,447	8,804	20,138
36433 64	Other than single pole, including but not limited to double pole 3-way, 4-way .....	8	<sup>a</sup> 45,178	72,373	40,975	66,928
36433 51	Ac-dc (except mercury) <sup>3</sup> .....	4	(D)	(D)	(D)	(D)
36433 69	All other general-use switches, including surface-mounted, mercury, etc. <sup>3</sup> .....	8	22,059	19,749	18,134	17,651

See footnotes at end of table.



Table 11. Quantity and Value of Shipments of Wiring Devices and Supplies: 1996 and 1995—Con.

[Quantity in thousands of units. Value in thousands of dollars]

Product code	Product description	Number of companies	1996		1995	
			Quantity	Value	Quantity	Value
3643- —	Wiring devices and supplies—Con.					
36433 —	Current-carrying wiring devices—Con.					
36433 70	Switches for electrical circuitry—Con.					
	Special-purpose switches:					
	Appliance and fixture, including pendant and canopy types and variable speed controls . . . . .	21	107,240	139,288	<sup>f</sup> 95,227	<sup>f</sup> 144,161
36433 71	Precision (1/8-inch gap or less) snap-acting switches, excluding limit switches . . . . .	10	<sup>a</sup> 82,071	<sup>a</sup> 51,315	<sup>a</sup> 95,393	<sup>a</sup> 55,454
36433 72	Aircraft types . . . . .	9	2,874	83,879	2,819	80,657
36433 76	Automotive types . . . . .	26	290,043	789,423	<sup>f</sup> 320,654	<sup>f</sup> 836,773
36433 77	All other special-purpose switches, including foot actuated, light sensing, and signal actuated. . . . .	29	178,981	278,377	179,426	259,447
	Dimmers:					
	Incandescent:					
36433 93	Infinitely variable, 600 watts or less. . . . .	10	<sup>b</sup> 6,512	<sup>a</sup> 36,747	6,044	<sup>f</sup> 31,654
36433 94	Infinitely variable, over 600 watts. . . . .	9	<sup>a</sup> 345	<sup>a</sup> 10,661	<sup>a</sup> 331	18,306
36433 95	All other types, including but not limited to portable lamps and high-low switches . . . . .	8	2,031	<sup>b</sup> 34,513	1,680	<sup>a</sup> 35,200
36434 —	Metal contacts, precious and other . . . . .	16	<sup>c</sup> 18,110,433	<sup>a</sup> 275,391	18,209,820	259,426
36435 —	Wire connectors, including connectors used under national electrical application. . . . .	65	29,861,648	1,296,450	27,869,005	1,193,591
36435 82	Pressure connectors, where pressure is applied by screw, cone, or other mechanical device. . . . .	28	614,816	175,154	611,692	156,969
36435 83	Compression connectors, uninsulated terminals and splicers, tool installed . . . . .	28	<sup>b</sup> 3,181,706	<sup>a</sup> 174,918	<sup>b</sup> 2,681,275	<sup>a</sup> 151,267
36435 84	Preinsulated terminals and splicers, tool installed . . . . .	18	<sup>a</sup> 1,881,171	<sup>a</sup> 186,958	<sup>a</sup> 1,634,457	<sup>a</sup> 164,135
36435 86	Banded or strip terminals and splicers, machine installed. . . . .	16	6,561,783	152,382	6,788,937	155,645
36435 87	Pigtail connectors, including wire nuts . . . . .	16	3,180,380	<sup>a</sup> 79,916	2,908,297	<sup>a</sup> 75,202
36435 88	Blade or pin type, separable terminations and splicers . . . . .	12	<sup>a</sup> 4,984,931	169,375	4,638,321	151,873
36435 89	Other wire connectors, n.e.c., including solder type . . . . .	28	9,456,861	357,747	8,606,026	<sup>f</sup> 338,500
36436 —	Other current-carrying wiring devices, including attachment plug caps, connector bodies, lightning arresters, pin and sleeve convenience power outlets, etc. . . . .	126	(X)	1,234,146	(X)	1,130,415
	Attachment plug caps and flanged outlets, including motor bases, all types; including fused, fuseless, switch, and switchless:					
36436 40	2-pole, 2-wire, all types, general use locking and nonlocking, all amperages . . . . .	15	<sup>c</sup> 36,409	<sup>b</sup> 15,139	<sup>c</sup> 46,569	16,153
	2-pole, 3-wire and up:					
36436 41	Locking, 15 amperes and under. . . . .	9	<sup>b</sup> 2,600	<sup>b</sup> 6,516	2,406	5,860
36436 42	Locking, 20 amperes and over . . . . .	9	<sup>a</sup> 2,305	<sup>a</sup> 19,618	2,310	17,566
36436 43	Nonlocking, 15 amperes and under. . . . .	12	21,604	<sup>a</sup> 35,348	22,127	38,383
36436 44	Nonlocking, 20 amperes and over. . . . .	12	9,464	21,184	9,670	20,745
36436 45	All other types (except pin and sleeve), including dust and explosion-proof, appliance, and other special application. . . . .	10	2,480	37,090	2,725	37,823
	Connector bodies and flanged outlets, all types:					
36436 49	2-pole, 2-wire, all types, all amperages . . . . .	12	<sup>b</sup> 3,082	<sup>b</sup> 2,250	<sup>a</sup> 2,991	2,124
	2-pole, 3-wire and up:					
36436 51	Locking, 15 amperes and under. . . . .	10	2,189	15,555	2,073	12,649
36436 53	Locking, 20 amperes and over . . . . .	10	<sup>a</sup> 1,269	<sup>b</sup> 20,044	941	14,986
36436 55	Nonlocking, 15 amperes and under. . . . .	12	<sup>a</sup> 6,198	<sup>b</sup> 24,577	5,360	20,484
36436 57	Nonlocking, 20 amperes and over. . . . .	8	811	<sup>a</sup> 4,496	676	4,576

See footnotes at end of table.

Table 11. Quantity and Value of Shipments of Wiring Devices and Supplies: 1996 and 1995—Con.

[Quantity in thousands of units. Value in thousands of dollars]

Product code	Product description	Number of companies	1996		1995	
			Quantity	Value	Quantity	Value
3643— 36436—	Wiring devices and supplies—Con. Current-carrying wiring devices—Con. Other current-carrying wiring devices, including attachment plug cups, connector bodies, lightning arresters, pin and sleeve convenience power outlets, etc.—Con. Connector bodies and flanged outlets, all types—Con.					
36436 58	All other types, excluding pin and sleeve, including dust and explosion-proof, appliance, and other special application. . . . .	9	43,760	37,542	41,156	33,477
	Pin and sleeve convenience and power outlets, attachment plug caps, and connector bodies:					
	Pin and sleeve, general-purpose (120 volts and over, 20 amperes and over):					
36436 65	Convenience and power outlets. . . . .	11	<sup>b</sup> 1,175	<sup>b</sup> 38,446	963	33,140
36436 67	Attachment plug caps. . . . .	9	<sup>b</sup> 345	<sup>a</sup> 21,761	318	19,561
36436 69	Connector bodies. . . . .	10	<sup>a</sup> 482	<sup>a</sup> 25,942	438	23,591
36436 72	All other pin and sleeve, including dust and explosion-proof, 20- ampere types, etc. <sup>4</sup> . . . . .	6	(D)	(D)	(D)	(D)
36436 79	Fluorescent starters. . . . .	5	8,358	2,228	9,469	2,324
36436 81	Terminal blocks. . . . .	22	<sup>a</sup> 158,831	<sup>a</sup> 144,216	157,468	127,408
36436 83	Lightning arresters for alternating current power transmission systems and substations; U.S. designation, station and intermediate, I.E.C. designation 10 kA and 5 kA Series A. . . . .	7	(X)	35,884	(X)	32,633
36436 85	Lightning arresters for alternating current power distribution systems and substations; U.S. designation, distribution and secondary I.E.C. designation 5 kA Series B, 2.5 kA and 1.5 kA. . . . .	6	(X)	131,722	(X)	121,988
36436 88	Surge suppressors, designed for equipment operating on 110/120 volt circuits. . . . .	12	(X)	<sup>b</sup> 110,575	(X)	90,404
36436 91	Lightning rods. . . . .	14	(X)	<sup>a</sup> 49,687	(X)	39,863
36436 94	Electric harnesses and assemblies, excluding engine harnesses (from purchased wire). . . . .	19	(X)	<sup>b</sup> 166,496	(X)	<sup>a</sup> 155,481
36436 97	Miscellaneous, including combination devices, adaptors, current taps, surface extensions, rosettes, choke coils, rail bonds, and overhead trolley line materials <sup>4</sup> . . . . .	40	(X)	260,216	(X)	249,299
36436 98	All other wiring devices with integral ground fault circuit interrupting capabilities, excluding circuit breakers. . . . .	5	<sup>c</sup> 6,938	<sup>b</sup> 7,614	7,356	9,897
3644— 36441— 36441 12	Noncurrent-carrying wiring devices. . . . . Pole and transmission line hardware. . . . . Pole and transmission line construction materials, also known as overhead and underground line hardware for electric transmission, distribution, and communication lines. . . . .	(X) 36 29	(X) (X) (X)	4,070,756 <sup>b</sup> 765,852 <sup>b</sup> 609,709	(X) (X) (X)	<sup>f</sup> 3,915,037 672,826 <sup>f</sup> 536,712
36441 13	Pole and transmission line anchors. . . . .	5	(X)	15,719	(X)	16,509
36441 19	All other pole and transmission line hardware. . . . .	12	(X)	<sup>b</sup> 140,424	(X)	119,605
36442—	Electrical conduit and conduit fittings. . . . . Rigid metal conduit, excluding couplings, nipples, bends, and elbows:	76	(X)	2,031,734	(X)	<sup>f</sup> 2,049,858
36442 01	Standard weights (steel) (short tons) <sup>5</sup> . . . . .	6	<sup>b</sup> 258,609	<sup>b</sup> 253,371	262,693	<sup>b</sup> 260,834
36442 05	Other metallic conduit (short tons) <sup>5</sup> . . . . .	2	(D)	(D)	(D)	(D)
36442 24	Nonmetallic conduit (1,000 pounds). . . . .	7	<sup>a</sup> 727,560	<sup>a</sup> 304,871	<sup>a</sup> 649,234	<sup>a</sup> 312,794

See footnotes at end of table.

Table 11. Quantity and Value of Shipments of Wiring Devices and Supplies: 1996 and 1995—Con.

[Quantity in thousands of units. Value in thousands of dollars]

Product code	Product description	Number of companies	1996		1995	
			Quantity	Value	Quantity	Value
3644—	Wiring devices and supplies—Con.					
36442 —	Noncurrent-carrying wiring devices—Con.					
36442 27	Electrical conduit and conduit fittings—Con.					
36442 33	Electrical metallic tubing (short tons) . . . . .	5	385,847	328,907	381,441	328,194
36442 32	Flexible steel and aluminum conduit (1,000 feet) . . . . .	10	293,197	89,208	282,199	87,564
36422 35	Flexible nonmetallic conduit (1,000 pounds) . . . . .	12	47,364	48,522	<sup>c</sup> 45,744	42,789
36442 38	Raceways and wire ways, including fittings, metal . . . . .	14	(X)	171,789	(X)	156,923
36442 51	Ventilated cable tray and accessories . . . . .	5	(X)	55,772	(X)	<sup>b</sup> 62,009
36442 53	Cast conduit bodies, covers, and gaskets . . . . .	10	(X)	<sup>a</sup> 121,912	(X)	123,883
36442 54	Rigid conduit fittings, including couplings, nipples, bends, and elbows:					
36442 53	Couplings, connectors, and unions . . . . .	17	(X)	<sup>b</sup> 140,537	(X)	141,356
36442 54	Locknuts and bushings . . . . .	9	(X)	<sup>a</sup> 24,225	(X)	38,305
36442 59	All other rigid conduit fittings . . . . .	6	(X)	<sup>b</sup> 36,302	(X)	36,721
36442 52	Nonmetallic conduit fittings . . . . .	14	(X)	53,087	(X)	50,876
36442 56	EMT fittings (couplings and connectors):					
36442 57	Gland type . . . . .	12	(X)	<sup>b</sup> 34,356	(X)	42,221
36442 58	Set-screw type . . . . .	9	(X)	31,661	(X)	41,707
36442 44	All others . . . . .	9	(X)	<sup>b</sup> 9,187	(X)	10,414
36442 71	Service entrance caps, ells, and connectors . . . . .	12	(X)	11,097	(X)	13,265
36442 77	Cable, cord, and flexible conduit fittings:					
36442 72	Armored cable, metallic sheathed cable, and flexible conduit fittings . . . . .	13	(X)	194,655	(X)	157,632
36442 46	Liquid-tight flexible conduit fittings . . . . .	9	(X)	54,191	(X)	63,170
36442 41	Nonmetallic sheathed cable and cord fittings . . . . .	17	(X)	<sup>a</sup> 37,376	(X)	40,779
36442 42	Other electric conduit fittings . . . . .	17	(X)	30,708	(X)	38,422
36443 —	Other noncurrent-carrying wiring devices and supplies . . . . .	77	(X)	1,273,170	(X)	1,192,353
36443 31	Stamped metal boxes, covers, and accessories, including stamped conduit boxes:					
36443 32	Switch and receptacle boxes . . . . .	13	(X)	384,006	(X)	355,299
36443 33	Outlet boxes . . . . .	10	(X)	103,185	(X)	93,913
36443 34	Covers . . . . .	13	(X)	51,674	(X)	47,879
36443 41	Supports, bar hangers, and other accessories . . . . .	16	(X)	61,575	(X)	56,941
36443 42	Cast metal boxes, covers, gaskets, and accessories:					
36443 43	FS and FD switch and receptacle type . . . . .	11	(X)	19,857	(X)	26,399
36443 35	Outlet type . . . . .	8	(X)	45,675	(X)	<sup>f</sup> 49,459
36443 36	Junction type . . . . .	15	(X)	<sup>c</sup> 67,381	(X)	74,363
36443 37	Switch, outlet, FM/TV, and telephone wall plates:					
36443 38	Metallic . . . . .	8	44,430	24,968	42,537	21,093
36443 39	Nonmetallic . . . . .	9	314,502	71,061	247,794	55,708
36443 40	Plastics boxes and covers . . . . .	16	(X)	140,818	(X)	129,755
36443 41	Floor boxes and covers . . . . .	9	(X)	<sup>a</sup> 48,294	(X)	<sup>f</sup> 43,170
36443 42	Other noncurrent-carrying wiring devices and supplies . . . . .	31	(X)	254,676	(X)	<sup>f</sup> 238,374

D Withheld to avoid disclosing data for individual companies. <sup>f</sup> Revised by 5 percent or more from previously published data. X Not applicable.

<sup>1</sup>Product codes 36431 04 and 36431 19 are combined for 1996 to avoid disclosing data for individual companies.

<sup>2</sup>Product codes 36432 29 and 36432 39 are combined to avoid disclosing data for individual companies.

<sup>3</sup>Product codes 36433 51 and 36433 69 are combined to avoid disclosing data for individual companies.

<sup>4</sup>Product codes 36436 72 and 36436 97 are combined to avoid disclosing data for individual companies.

<sup>5</sup>Product codes 36442 01 and 36442 05 are combined for 1996 to avoid disclosing data for individual companies.

Note: Percent of estimation of each item is indicated as follows: <sup>a</sup>10 to 25 percent of this item is estimated. <sup>b</sup>26 to 50 percent of this item is estimated. <sup>c</sup>Over 50 percent of this item is estimated.

Table 12. Value of Shipments, Exports, and Imports of Selected Wiring Devices: 1996 and 1995

[Millions of dollars]

Product description	Manufacturers' shipments f.o.b. plant <sup>1</sup>	Exports of domestic merchandise at port <sup>1 2</sup>	Imports for consumption <sup>1 3</sup>
<b>1996</b>			
Lampholders .....	204.1	16.7	66.2
Metal contacts .....	275.3	91.4	54.9
<b>1995</b>			
Lampholders .....	202.5	14.2	62.2
Metal contacts .....	259.4	40.4	50.7

<sup>1</sup>For comparison of SIC-based codes with Schedule B export numbers and HTSUSA import numbers, see "Contact for Data Users" at end of this subsection.

<sup>2</sup>Source: Bureau of the Census report EM 545, *U.S. Exports*.

<sup>3</sup>Source: Bureau of the Census report IM 145, *U.S. Imports for Consumption*.

## HISTORICAL NOTE

Data on wiring devices and supplies have been collected by the Bureau of the Census since 1960. Historical data may be obtained from Current Industrial Reports available at your local Federal Depository Library. Historical data are also available on microfiche; contact Customer Services, 301-457-4100.

## CONTACT FOR DATA USERS

For additional information about these data, contact J. Christian Savage, 301-457-1307.

## ELECTRIC LIGHTING FIXTURES (MA36L)

### INTRODUCTION

These data cover companies engaged in the manufacture of specified types of electric lighting fixtures, except very small firms (generally fewer than 10 employees) for which 1992 Census of Manufactures data were derived from administrative records of other government agencies.

The statistics were collected by mail on Bureau of the Census annual Form MA36L, Electric Lighting Fixtures. The survey panel includes all known producers of the specified types of electric lighting fixtures, except the very small firms excluded from the scope of the survey. Approximately 320 companies are included. No estimate is derived for the small firms excluded from the survey.

### SUMMARY OF FINDINGS

During 1996, the total value of shipments of electric lighting fixtures was \$5,996.8 million. This represents a 1.1-percent increase from the 1995 total value of \$5,930.4 million. The 1996 figure includes residential type fixtures, \$972.9 million, a decrease of 1.1 percent from 1995; commercial and institutional type fixtures, \$2,855.1 million, an increase of 2.1 percent from 1995; industrial type fixtures, \$674.7 million, a decrease of 0.2 percent from 1995; and outdoor lighting equipment, \$1,494.1 million, an increase of 1.4 percent from 1995. Vehicular lighting equipment data were discontinued in 1992.

### EXPLANATION OF TERMS

See Introduction for an explanation of terms.

**Table 13. Value of Shipments of Electric Fixtures: 1987 to 1996**

[Millions of dollars]

Product code	Product description	1996	1995	1994	1993	1992	1991	1990	1989	1988	1987
36451	Electric lighting fixtures <sup>1</sup> . . . . .	5,996.8	5,930.4	5,548.0	5,115.0	4,720.1	4,426.0	4,798.2	4,738.0	4,571.8	4,417.8
36462	Residential type . . . . .	972.9	983.8	1,025.1	996.5	898.2	760.9	827.6	858.5	877.1	916.1
	Commercial and institutional type (except spot-light) . . . . .	2,855.1	2,797.3	2,633.7	2,390.8	2,221.2	2,164.8	2,379.7	2,316.7	2,242.7	2,094.8
36463	Industrial type . . . . .	674.7	676.3	554.9	493.4	442.1	446.4	529.4	504.6	430.6	419.1
36470	Vehicular lighting equipment . . . . .	(NA)	(NA)	(NA)	(NA)	(NA)	1,616.1	1,620.7	1,570.5	1,564.4	1,368.5
36485	Outdoor lighting equipment . . . . .	1,494.1	1,473.0	1,334.2	1,234.2	1,158.6	1,053.9	1,061.5	1,058.2	1,021.4	987.8

NA Not available.

<sup>1</sup>Excludes product code 36470, "Vehicular lighting equipment," which is not available after 1991.

Table 14. Quantity and Value of Shipments of Electric Lighting Fixtures: 1996 and 1995

[Quantity in thousands of units. Value in thousands of dollars]

Product code	Product description	Number of companies	1996		1995	
			Quantity	Value	Quantity	Value
36451 —	Electric lighting fixtures, residential type . . . . .	109	(X)	<sup>b</sup> 972,937	(X)	<sup>a</sup> 983,765
	Incandescent, excluding PAR lampholders and floodlights:					
	Interior, including bath or kitchen:					
36451 11	Ceiling or pendant . . . . .	67	<sup>b</sup> 14,926	<sup>b</sup> 254,682	<sup>a</sup> 16,623	<sup>a</sup> 290,980
36451 13	Wall or bracket . . . . .	55	<sup>b</sup> 2,725	<sup>b</sup> 61,510	<sup>b</sup> 3,532	<sup>b</sup> 79,739
	Track lighting:					
36451 06	Single circuit track lengths and accessories . . . . .	3	(X)	4,439	(X)	<sup>r</sup> 4,816
36451 07	Multiple circuit track lengths and accessories . . . . .	3	(X)	449	(X)	<sup>r</sup> 559
36451 08	Line voltage heads <sup>1</sup> . . . . .	1	(D)	(D)	(D)	(D)
36451 09	Low voltage heads <sup>1</sup> . . . . .	2	(D)	(D)	(D)	(D)
36451 10	Track lengths and heads sold together (kits) <sup>1</sup> . . . . .	2	380	7,736	<sup>r</sup> 391	<sup>r</sup> 8,147
36451 12	Recessed IC (direct contact with ceiling insulation) . . . . .	7	<sup>a</sup> 14,799	<sup>a</sup> 108,366	<sup>r</sup> 12,641	<sup>r</sup> 91,907
36451 14	Recessed non-IC (3-inch minimum clearance from ceiling insulation) . . . . .	7	<sup>a</sup> 4,758	<sup>a</sup> 77,530	<sup>a</sup> <sup>r</sup> 4,643	<sup>r</sup> 73,649
	Outdoor:					
36451 15	Designed for attachment to house . . . . .	41	<sup>b</sup> 3,705	<sup>c</sup> 56,481	<sup>a</sup> <sup>r</sup> 3,951	<sup>a</sup> 60,267
36451 16	Custom lighting (lanterns, etc.) . . . . .	8	(D)	(D)	(D)	(D)
36451 17	Not designed for attachment to house (garden, patio, and yard) . . . . .	35	<sup>a</sup> 2,718	<sup>a</sup> 62,682	<sup>a</sup> 2,683	65,513
	Fluorescent:					
	Wraparounds:					
36451 19	4 foot, 2 lamp . . . . .	7	1,594	33,924	<sup>r</sup> 1,541	<sup>r</sup> 31,956
36451 21	4 foot, 4 lamp . . . . .	9	430	13,816	305	<sup>r</sup> 9,890
36451 23	All other residential wraparounds . . . . .	12	<sup>c</sup> 2,589	<sup>c</sup> 26,018	<sup>a</sup> <sup>r</sup> 2,337	<sup>a</sup> <sup>r</sup> 23,324
36451 20	Ceiling mounted decorative . . . . .	26	<sup>c</sup> 5,035	<sup>b</sup> 77,270	<sup>b</sup> <sup>r</sup> 4,980	<sup>a</sup> <sup>r</sup> 75,483
36451 22	Ceiling mounted general-purpose . . . . .	17	<sup>c</sup> 6,118	<sup>b</sup> 80,551	5,289	<sup>r</sup> 63,592
36451 24	Pendant . . . . .	5	(D)	(D)	(D)	(D)
36451 26	Recessed IC (direct contact with ceiling insulation) <sup>2</sup> . . . . .	4	(D)	(D)	(D)	(D)
36451 28	Recessed non-IC (3-inch minimum clearance from ceiling insulation) <sup>2</sup> . . . . .	2	574	30,927	<sup>r</sup> 478	<sup>r</sup> 29,792
36451 30	Wall or bracket . . . . .	23	<sup>c</sup> 1,155	<sup>b</sup> 14,595	<sup>cr</sup> 924	<sup>a</sup> <sup>r</sup> 12,240
36451 69	Components and renewal parts for residential type, sold separately . . . . .	31	(X)	<sup>a</sup> 48,088	(X)	<sup>r</sup> 45,851
36462 —	Electric lighting fixtures, commercial, and institutional type (except portable and spotlight) . . . . .	159	(X)	<sup>a</sup> 2,855,107	(X)	<sup>a</sup> 2,797,250
	Incandescent fixtures:					
	Utilitarian and ornamental types (primarily for public buildings, banks, stores, office buildings, schools, auditoriums, churches, theaters, etc.):					
36462 11	Surface or pendant . . . . .	52	<sup>b</sup> 828	<sup>a</sup> 59,881	<sup>b</sup> <sup>r</sup> 816	<sup>a</sup> <sup>r</sup> 61,926
	Recessed:					
36462 12	IC (direct contact with ceiling insulation) . . . . .	18	6,237	56,907	<sup>r</sup> 5,678	<sup>r</sup> 51,140
36462 14	Non-IC (3-inch minimum clearance from ceiling insulation) . . . . .	19	<sup>a</sup> 9,229	<sup>b</sup> 134,214	<sup>r</sup> 9,321	<sup>r</sup> 141,856
	Track lighting:					
36462 20	Single circuit track lengths and accessories . . . . .	7	(X)	<sup>a</sup> 51,852	(X)	56,762
36462 22	Multiple circuit track lengths and accessories . . . . .	7	(X)	<sup>b</sup> 8,382	(X)	<sup>b</sup> 8,345
36462 24	Line voltage heads . . . . .	11	<sup>b</sup> 2,510	<sup>b</sup> 50,790	<sup>r</sup> 2,635	<sup>r</sup> 54,274
36462 26	Low voltage heads . . . . .	11	2,290	<sup>a</sup> 32,563	2,299	33,899
36462 28	Track lengths and heads sold together (kits) . . . . .	5	<sup>a</sup> 248	<sup>a</sup> 3,625	280	4,171
36462 18	Specialized custom lighting fixtures, chandeliers, church lighting, etc. . . . .	40	(X)	<sup>b</sup> 57,899	(X)	<sup>b</sup> 57,168
36462 19	Other incandescent fixtures such as interior display and PAR lampholders . . . . .	20	(X)	<sup>b</sup> 30,555	(X)	<sup>b</sup> <sup>r</sup> 37,819
	High intensity discharge types:					
36462 30	Surface or pendant . . . . .	30	<sup>a</sup> 165	<sup>b</sup> 26,722	<sup>a</sup> <sup>r</sup> 128	<sup>a</sup> <sup>r</sup> 19,581
36462 31	Indirect lighting . . . . .	12	<sup>a</sup> 46	<sup>a</sup> 21,086	<sup>r</sup> 53	<sup>r</sup> 22,531
	Recessed non-IC (3-inch minimum clearance from ceiling insulation):					
36462 36	Open reflector . . . . .	18	<sup>a</sup> 569	<sup>a</sup> 40,492	<sup>r</sup> 586	<sup>r</sup> 38,465
36462 38	Enclosed . . . . .	16	<sup>b</sup> 217	<sup>b</sup> 30,591	<sup>a</sup> 201	<sup>b</sup> 27,417
	Recessed IC (direct contact with ceiling insulation):					
36462 39	Open reflector <sup>3</sup> . . . . .	2	(D)	(D)	(D)	(D)
36462 41	Enclosed <sup>3</sup> . . . . .	5	8	1,532	13	2,827
	Fluorescent:					
	Recessed troffers, airhandling, including heat extraction versions:					
	Lensed:					
36462 80	2 feet X 4 feet, 4 lamp . . . . .	9	234	13,211	<sup>r</sup> 217	<sup>r</sup> 12,266
36462 81	2 feet X 4 feet, 3 lamp . . . . .	8	163	10,234	<sup>r</sup> 150	<sup>r</sup> 9,103
36462 82	2 feet X 4 feet, 2 lamp . . . . .	8	100	5,987	<sup>r</sup> 105	<sup>r</sup> 6,030
36462 52	All other lensed, airhandling . . . . .	12	133	9,153	<sup>r</sup> 135	<sup>r</sup> 8,774

See footnotes at end of table.

Table 14. Quantity and Value of Shipments of Electric Lighting Fixtures: 1996 and 1995—Con.

[Quantity in thousands of units. Value in thousands of dollars]

Product code	Product description	Number of companies	1996		1995	
			Quantity	Value	Quantity	Value
36462 —	Electric lighting fixtures, commercial, and institutional type (except portable and spotlight)—Con. Fluorescent—Con. Recessed troffers, airhandling, including heat extraction versions—Con. Metal louvered:					
36462 83	2 feet X 4 feet, 4 lamp .....	8	268	20,356	<sup>r</sup> 278	<sup>r</sup> 20,640
36462 84	2 feet X 4 feet, 3 lamp .....	10	1,228	90,097	<sup>r</sup> 1,163	83,835
36462 85	2 feet X 4 feet, 2 lamp .....	8	364	24,666	<sup>r</sup> 385	25,274
36462 53	All other metal louvered, airhandling .....	11	1,768	123,083	<sup>r</sup> 1,711	<sup>r</sup> 116,968
	Nonmetal louvered:					
36462 86	2 feet X 4 feet, 4 lamp <sup>d</sup> .....	4	(D)	(D)	(D)	(D)
36462 87	2 feet X 4 feet, 3 lamp <sup>d</sup> .....	4	(D)	(D)	(D)	(D)
36462 88	2 feet X 4 feet, 2 lamp <sup>d</sup> .....	4	(D)	(D)	(D)	(D)
36462 54	All other nonmetal louvered, airhandling <sup>d</sup> .....	6	63	6,842	57	6,505
	Recessed troffers, nonairhandling, including heat extraction versions:					
	Lensed:					
36462 89	2 feet X 4 feet, 4 lamp .....	17	3,242	138,404	<sup>r</sup> 3,177	129,047
36462 90	2 feet X 4 feet, 3 lamp .....	15	1,432	66,992	<sup>r</sup> 1,495	68,421
36462 91	2 feet X 4 feet, 2 lamp .....	15	1,848	70,493	<sup>r</sup> 2,008	73,853
36462 58	All other lensed, nonairhandling .....	25	<sup>a</sup> 4,277	<sup>a</sup> 180,080	<sup>r</sup> 4,020	<sup>a</sup> <sup>r</sup> 162,670
	Metal louvered:					
36462 92	2 feet X 4 feet, 4 lamp .....	8	183	9,483	<sup>r</sup> 240	<sup>r</sup> 16,486
36462 93	2 feet X 4 feet, 3 lamp .....	7	616	28,236	<sup>r</sup> 612	<sup>r</sup> 21,199
36462 94	2 feet X 4 feet, 2 lamp .....	10	385	22,729	<sup>r</sup> 460	<sup>r</sup> 31,087
36462 56	All other metal louvered, airhandling .....	13	<sup>a</sup> 382	<sup>a</sup> 23,211	<sup>a</sup> 422	<sup>a</sup> <sup>r</sup> 26,307
	Nonmetal louvered:					
36462 95	2 feet X 4 feet, 4 lamp .....	8	76	3,602	<sup>r</sup> 56	<sup>r</sup> 2,760
36462 96	2 feet X 4 feet, 3 lamp .....	6	38	1,993	<sup>r</sup> 40	<sup>r</sup> 2,298
36462 97	2 feet X 4 feet, 2 lamp .....	8	43	2,015	50	1,832
36462 60	All other nonmetal louvered, nonairhandling .....	8	<sup>b</sup> 155	<sup>b</sup> 5,469	<sup>b</sup> 147	<sup>b</sup> <sup>r</sup> 5,053
36462 49	Striplights (surface) .....	51	9,659	219,348	<sup>r</sup> 10,164	<sup>r</sup> 223,713
36462 50	Striplights (recessed) .....	14	464	14,130	<sup>r</sup> 584	<sup>r</sup> 19,421
36462 55	Ceiling systems, including luminous ceilings .....	16	(X)	<sup>c</sup> 29,281	(X)	<sup>c</sup> <sup>r</sup> 26,068
	Plastics wraparounds:					
36462 40	4 foot, 2 lamp .....	21	1,947	61,521	2,099	<sup>r</sup> 63,863
36462 42	4 foot, 4 lamp .....	19	699	31,374	<sup>r</sup> 768	<sup>r</sup> 31,592
36462 51	All other plastics commercial and institutional wraparounds .....	20	<sup>b</sup> 1,489	<sup>b</sup> 52,804	<sup>a</sup> <sup>r</sup> 1,504	<sup>b</sup> <sup>r</sup> 52,531
36462 57	Wall mounted fixtures .....	56	<sup>b</sup> 1,492	<sup>b</sup> 94,272	<sup>b</sup> 1,206	<sup>b</sup> <sup>r</sup> 79,980
36462 65	Under cabinet mount task light .....	30	<sup>a</sup> 2,235	74,770	<sup>b</sup> <sup>r</sup> 1,814	<sup>a</sup> <sup>r</sup> 66,250
	Surface and pendant, all other:					
36462 66	Lensed .....	51	<sup>c</sup> 3,560	<sup>b</sup> 115,716	<sup>c</sup> <sup>r</sup> 3,113	<sup>a</sup> <sup>r</sup> 106,885
36462 68	Louvered .....	25	<sup>b</sup> 283	<sup>b</sup> 35,297	<sup>b</sup> 282	<sup>c</sup> 35,905
	Compact fluorescent downlights:					
36462 70	Recessed IC (direct contact with ceiling insulation) .....	10	<sup>a</sup> 742	<sup>b</sup> 34,535	<sup>r</sup> 707	<sup>a</sup> <sup>r</sup> 34,743
36462 72	Recessed non-IC (3-inch minimum clearance from ceiling insulation) .....	15	<sup>a</sup> 2,133	<sup>b</sup> 98,688	<sup>a</sup> <sup>r</sup> 1,951	<sup>a</sup> <sup>r</sup> 97,985
	Specific function lighting, all sources (incandescent, HID, and fluorescent):					
36462 59	Enclosed and gasketed (clean room fixtures) .....	35	<sup>a</sup> 674	<sup>a</sup> 54,837	<sup>a</sup> <sup>r</sup> 778	<sup>r</sup> 60,739
36462 74	Indirect lighting, furniture mount .....	5	15	2,406	30	3,068
36462 76	Indirect lighting, pendant mount .....	7	<sup>a</sup> 28	<sup>a</sup> 6,866	<sup>a</sup> <sup>r</sup> 16	<sup>a</sup> <sup>r</sup> 4,197
36462 61	Indoor signs, including electroluminescence (exit, directional, etc.) .....	29	<sup>b</sup> 2,151	<sup>b</sup> 160,712	<sup>b</sup> <sup>r</sup> 1,981	<sup>b</sup> <sup>r</sup> 146,873
36462 62	Indoor emergency lighting (automatic self-powered) ..	19	1,549	81,519	<sup>a</sup> <sup>r</sup> 1,425	<sup>a</sup> <sup>r</sup> 74,036
36462 63	Vandal resistant (specialty products designed for this application) .....	14	336	<sup>a</sup> 24,596	<sup>r</sup> 282	17,078
36462 64	All other .....	31	(X)	<sup>c</sup> 92,484	(X)	<sup>c</sup> 97,537
36462 69	Components and renewal parts for commercial and institutional type, sold separately .....	43	(X)	<sup>a</sup> 106,524	(X)	<sup>a</sup> <sup>r</sup> 106,197
36463 —	Electric lighting fixtures, industrial type .....	61	(X)	674,694	(X)	<sup>r</sup> 676,341
	General lighting (except portable):					
36463 11	Incandescent .....	17	<sup>b</sup> 1,191	<sup>c</sup> 28,106	<sup>a</sup> <sup>r</sup> 1,307	<sup>a</sup> <sup>r</sup> 32,977
36463 13	Fluorescent .....	35	<sup>a</sup> 3,376	<sup>a</sup> 137,711	<sup>a</sup> <sup>r</sup> 3,343	<sup>a</sup> <sup>r</sup> 134,279
	High intensity discharge types, including integrally mounted and remote ballasts:					
36463 06	Open reflector .....	15	1,665	157,999	<sup>r</sup> 1,691	<sup>r</sup> 163,139
36463 08	Enclosed .....	14	1,105	149,764	1,095	<sup>r</sup> 149,924
36463 10	Parking garage lighting (fixtures designed specifically for this application) .....	9	126	14,255	<sup>r</sup> 120	<sup>r</sup> 13,019
	Hazardous lighting—UL listed, class, division, group:					
36463 16	Incandescent, including portable .....	9	(X)	<sup>a</sup> 19,334	(X)	<sup>a</sup> 18,371
36463 17	Fluorescent, including portable .....	17	(X)	<sup>c</sup> 20,881	(X)	<sup>b</sup> 19,203
36463 19	High intensity discharge types, including integrally mounted and remote ballasts .....	10	(X)	68,507	(X)	<sup>r</sup> 65,789

See footnotes at end of table.

Table 14. Quantity and Value of Shipments of Electric Lighting Fixtures: 1996 and 1995—Con.

[Quantity in thousands of units. Value in thousands of dollars]

Product code	Product description	Number of companies	1996		1995	
			Quantity	Value	Quantity	Value
36463 — 36463 29	Electric lighting fixtures, industrial type—Con. Components and renewal parts for industrial type, sold separately . . . . .	19	(X)	<sup>a</sup> 78,137	(X)	<sup>r</sup> 79,640
36485 —	Outdoor lighting equipment, excluding lamps. . . . .	101	(X)	1,494,130	(X)	1,473,042
36485 11	Street and highway lighting luminaries, including bridge and tunnel lighting: Incandescent (filament and quartz iodine) . . . . .	4	(D)	(D)	(D)	(D)
36485 13	High intensity discharge types, including low pressure sodium and integrally mounted and remote ballasts:	4		436	476	19,070
36485 14	Open . . . . .	16		1,413	<sup>r</sup> 1,361	<sup>r</sup> 112,262
36485 15	Enclosed . . . . .	5		<sup>c</sup> 8	<sup>c</sup> 11	<sup>b</sup> 2,454
36485 17	Fluorescent . . . . .	3		<sup>c</sup> 92	<sup>c</sup> 85	<sup>c</sup> 13,896
	Special-purpose luminaries for highmast, sign lighting, and expressway fixtures, excluding value of poles . . . . .			<sup>c</sup> 14,911		
	Floodlighting, area, and site lighting luminaries: General-purpose floodlighting:					
36485 20	Incandescent filament . . . . .	11		<sup>b</sup> 147	<sup>b</sup> 114	<sup>b</sup> 8,207
36485 22	Incandescent quartz iodine . . . . .	18		<sup>c</sup> 918	<sup>a</sup> 956	<sup>a</sup> 15,983
36485 23	High intensity discharge types, general, including low pressure sodium and integrally mounted and remote ballasts . . . . .	28		1,485	1,184	<sup>a</sup> 206,502
36485 26	Fluorescent . . . . .	13		334	<sup>c</sup> 294	<sup>c</sup> 15,556
36485 27	HID sportlighting (fixtures designed specifically for this application) . . . . .	11		181	174	32,029
	HID area and site lighting:					
36485 35	Site lighting (under 20-foot mounting) . . . . .	24		<sup>a</sup> 1,457	<sup>r</sup> 1,285	<sup>a</sup> 88,387
36485 39	Bollards . . . . .	17		<sup>a</sup> 56	<sup>b</sup> 50	<sup>b</sup> 12,900
36485 51	Post-top . . . . .	14		128	135	20,254
36485 42	Large area lighting (20- to 60-foot mounting) . . . . .	20		<sup>a</sup> 475	<sup>a</sup> 453	<sup>a</sup> 139,205
36485 32	Wall packs (such as high intensity discharge, incandescent, and quartz) . . . . .	22		1,079	<sup>r</sup> 1,084	<sup>r</sup> 114,700
36485 34	Outdoor PAR lampholders . . . . .	16		<sup>a</sup> 8,981	8,274	<sup>r</sup> 62,981
	Other floodlighting and area lighting equipment:					
36485 43	Spotlights, including indoor and stage and excluding vehicular . . . . .	8		<sup>c</sup> 285	<sup>c</sup> 288	<sup>b</sup> 34,658
36485 45	All other outdoor lighting equipment (such as underwater fountain and pool lighting) . . . . .	24	(X)	<sup>b</sup> 87,445	(X)	<sup>b</sup> 78,970
	Aviation ground lighting equipment (for fixed-based airports):					
36485 31	Runaway approach lighting, including fixtures, regulators, insulating transformers, isolating lamp transformers, beacons, wind tees, and cones . .	6	(X)	<sup>b</sup> 17,617	(X)	<sup>b</sup> 16,587
36485 33	Runway (except runway approach), taxiway, and ramp light, including fixtures, regulators, and isolating lamp transformers . . . . .	8	(X)	<sup>a</sup> 40,539	(X)	<sup>a</sup> 40,310
36485 98	Components and renewal parts for outdoor lighting equipment, sold separately . . . . .	29	(X)	<sup>a</sup> 49,424	(X)	<sup>a</sup> 49,454
	Poles, standards, newels, brackets, and accessories: For street and highway lighting, including traffic signal standards:					
36485 36	Steel and cast iron poles . . . . .	15	(X)	<sup>a</sup> 106,125	(X)	<sup>r</sup> 101,060
36485 38	Aluminum poles . . . . .	12	(X)	<sup>a</sup> 46,152	(X)	<sup>r</sup> 49,259
36485 40	Concrete poles <sup>5</sup> . . . . .	3	(X)	(D)	(X)	(D)
36485 37	All other (fiberglass, wood, etc.) <sup>5</sup> . . . . .	1	(X)	17,857	(X)	<sup>r</sup> 22,555
	For area lighting, sports and other off-street use:					
36485 46	Steel and cast iron poles (60-foot and over) . . . . .	6	(X)	9,245	(X)	9,661
36485 47	Steel and cast iron poles (under 60-foot) . . . . .	21	(X)	<sup>a</sup> 90,928	(X)	<sup>a</sup> 87,317
36485 48	Aluminum poles . . . . .	20	(X)	<sup>a</sup> 36,256	(X)	39,399
36485 49	All other (concrete, wood, etc.) . . . . .	8	(X)	(D)	(X)	(D)

D Withheld to avoid disclosing data for individual companies. <sup>r</sup>Revised by 5 percent or more from previously published data. X Not applicable.<sup>1</sup>Product codes 36451 08, 36451 09, and 36451 10 are combined to avoid disclosing data for individual companies.<sup>2</sup>Product codes 36451 26 and 36451 28 are combined to avoid disclosing data for individual companies.<sup>3</sup>Product codes 36462 39 and 36462 41 are combined to avoid disclosing data for individual companies.<sup>4</sup>Product codes 36462 86, 36462 87, 36462 88, and 36462 54 are combined to avoid disclosing data for individual companies.<sup>5</sup>Product codes 36485 40 and 36485 37 are combined to avoid disclosing data for individual companies.Note: Percent of estimation of each item is indicated as follows: <sup>a</sup>10 to 25 percent of this item is estimated. <sup>b</sup>26 to 50 percent of this item is estimated. <sup>c</sup>Over 50 percent of this item is estimated.



Table 15. Shipments, Exports, and Imports of Electric Lighting Fixtures: 1996

[Quantity in units. Value in thousands of dollars]

Product code <sup>1</sup>	Product description	Manufacturers' shipments f.o.b. plant (value)	Exports of domestic merchandise <sup>1</sup>		Imports for consumption <sup>1</sup>	
			Quantity	Value at port <sup>2</sup>	Quantity	Value in foreign country <sup>3</sup>
36451 06-18, 20, 22, 24, 26, 28, 30	Electric lighting fixtures, residential type (except portable), excluding components and renewal parts .....	924,945	1,390,115	33,193	62,273,792	532,179
36462 11-12, 14, 18-20, 22, 24, 26, 28, 30-31, 36, 38, 39, 41, 43-50, 55-57, 59, 61-66, 68, 70, 72, 74, 76, 36463 06, 08, 10-11, 13, 16-17, 19	Electric lighting fixtures, commercial, institutional and industrial types, excluding components and renewal parts .....	3,345,140	1,949,313	73,515	9,849,004	112,552
36485 11, 13-15, 17, 20, 22-23, 26-27, 31-35, 39, 42-43, 45, 51, 36451 69, 36462 69, 36463 29, 36485 98	Other electric lighting fixtures .....	1,420,316	13,302,712	318,795	91,960,476	644,575

<sup>1</sup>For comparison of SIC-based codes with Schedule B export numbers and HTSUSA import numbers, see "Contact for Data Users" at end of this subsection.

<sup>2</sup>Source: Bureau of the Census report EM 545, *U.S. Exports*.

<sup>3</sup>Source: Bureau of the Census report IM 145, *U.S. Imports for Consumption*.

## HISTORICAL NOTE

Data on electric lighting fixtures have been collected by the Bureau of the Census since 1962. Historical data may be obtained from Current Industrial Reports available at your local Federal Depository Library. Historical data are also available on microfiche; contact Customer Services, 301-457-4100.

## FUNDING

The MA36L survey is funded by the National Electric Manufacturers Association.

## CONTACT FOR DATA USERS

For additional information about these data, contact Zoraida Arledge, 301-457-4800.

## COMMUNICATION EQUIPMENT (MA36P)

### INTRODUCTION

These data cover all significant manufacturers of communication equipment, including telephone, telegraph, and other electronic systems. The mailing panel included all establishments with 20 employees or more for industries 3661, 3663, 3669, and 3699.

The statistics were collected by mail on Bureau of the Census annual Form MA36P, Communication Equipment, Including Telephone, Telegraph, and Other Electronic Systems and Equipment. The survey panel includes all known manufacturers of telephone and telegraph apparatus, communications systems and equipment, and electronic equipment, except the firms excluded from the scope of the survey. Approximately 1,040 companies are included. No estimate is derived for the small firms excluded from the survey.

### SUMMARY OF FINDINGS

During 1996, the total value of shipments of communication equipment totaled \$65.2 billion, an increase of 15.7 percent from the 1995 figure of \$56.4 billion. Telephone switching equipment totaled \$9.8 billion, a 19.7-percent

increase from the \$8.2 billion shipped in 1995. Carrier line equipment and modems totaled \$7.4 billion, an increase of 25.3 percent from the 1995 value of \$5.9 billion. Other telephone and telegraph equipment totaled \$14.4 billion in 1996, an increase of 36.7 percent from the 1995 value of \$10.5 billion.

Communication systems and equipment totaled \$24.4 billion, an increase of 6 percent from the 1995 value of \$23.0 billion.

Broadcast, studio, and related electronic equipment totaled \$3.0 billion, an increase of 7.0 percent from the 1995 value of \$2.8 billion. Alarm systems totaled \$1.8 billion, an increase of 9.7 percent from the 1995 value of \$1.7 billion.

### EXPLANATION OF TERMS

**Research and development.** Dollar shipments reflect income from development, design, and engineering services in connection with the manufacture of the products shipped.

Table 16. **Value of Shipments of Communication Equipment, Including Telephone, Telegraph, and Other Electronic Systems and Equipment by Class of Product: 1991 to 1996**

[Millions of dollars]

Product code	Product description	1996	1995	1994	1993	1992	1991
	Communication equipment, including telephone, telegraph, and other electronic systems and equipment ..	65,220.4	56,362.0	49,598.1	42,113.8	39,501.9	37,821.0
36611	Telephone switching and switchboard equipment ....	9,791.5	8,178.4	8,067.6	7,240.9	7,291.3	6,956.6
36613	Carrier line equipment and modems .....	7,351.2	5,868.6	5,114.0	4,993.3	4,810.6	4,298.4
36614	Other telephone and telegraph equipment and components .....	14,363.2	10,510.0	8,479.5	7,026.4	5,507.3	4,909.5
36631	Communication systems and equipment (except broadcast) .....	24,400.5	23,031.9	19,977.5	16,196.7	15,162.8	14,987.9
36632	Broadcast, studio, and related electronic equipment ..	3,046.2	2,844.7	2,469.5	2,077.5	1,948.2	1,836.3
36693	Intercommunications systems, including inductive paging systems (selective calling) .....	285.3	296.0	283.7	241.7	288.5	303.8
36691	Alarm systems .....	1,824.2	1,662.1	1,550.5	1,532.4	1,370.4	1,145.0
36692	Vehicular and pedestrian traffic control equipment and electrical railway signals and attachments .....	758.7	710.7	669.9	573.4	597.3	491.1
36991	Electronic teaching machines, teaching aids, trainers, and simulators .....	839.8	913.3	838.5	847.7	1,310.8	1,411.0
36992	Laser sources <sup>1</sup> .....	908.6	787.5	726.4	(NA)	(NA)	(NA)
36995	Ultrasonic equipment .....	187.6	172.3	137.5	127.3	119.2	113.7
36999	Other electronic systems and equipment, n.e.c. <sup>2</sup> .....	1,463.7	1,386.5	1,283.5	1,256.5	1,095.5	720.8

NA Not available. n.e.c. Not elsewhere classified. <sup>1</sup>Revised by 5 percent or more from previously published data.

<sup>1</sup>Beginning in 1994, data for "Laser equipment, instrumentation, and components" have been eliminated from this survey. Only laser sources are being collected.

<sup>2</sup>Product code 36997 changed to product code 36999 for 1992. Product codes 36998, 39992, and 39447 are no longer collected on this survey.

Table 17. Quantity and Value of Shipments of Communication Equipment, Including Telephone, Telegraph, and Other Electronic Systems and Equipment by Product Code: 1996 and 1995

[Quantity in number of units. Value in thousands of dollars]

Product code	Product description	Number of companies	1996		1995	
			Quantity	Value	Quantity	Value
36611 —	Telephone switching and switchboard equipment.....	79	(X)	9,791,463	(X)	8,178,385
	Central office switching equipment:					
36611 23	Local switching <sup>1</sup> .....	11	(X)	(D)	(X)	2,719,336
36611 28	Toll switching <sup>1</sup> .....	10	(X)	5,229,652	(X)	1,284,322
	Private branch exchange switching equipment:					
36611 41	Up to 99 lines <sup>2</sup> .....	7	(X)	318,015	(X)	(D)
36611 43	100-399 lines <sup>2</sup> .....	9	(X)	192,863	(X)	551,414
36611 45	400-1,000 lines.....	7	(X)	245,346	(X)	246,130
36611 49	Over 1,000 lines.....	7	(X)	188,905	(X)	236,944
36611 51	Cellular mobile telephone switching equipment <sup>3</sup> .....	8	(X)	(D)	(X)	(D)
36611 55	Packet switching equipment <sup>3</sup> .....	5	(X)	891,152	(X)	573,034
36611 91	Other telephone switching and switchboard equipment.....	32	(X)	2,354,226	(X)	2,339,960
36611 98	Parts, components, and subassemblies for telephone switching equipment.....	25	(X)	371,304	(X)	<sup>r</sup> 227,245
36613 —	Carrier line equipment and modems.....	89	(X)	7,351,196	(X)	5,868,599
	Carrier line equipment:					
	Repeaters and line transceivers:					
36613 01	Analog <sup>4</sup> .....	5	(X)	(D)	(X)	(D)
36613 05	Digital, all copper wire <sup>4</sup> .....	14	(X)	(D)	(X)	(D)
36613 09	Digital, optical input or output <sup>4</sup> .....	3	(X)	1,016,062	(X)	477,990
	Multiplex equipment, including channel banks:					
36613 30	Analog.....	11	(X)	<sup>a</sup> 46,533	(X)	56,359
36613 33	Digital, all copper wire <sup>5</sup> .....	29	(X)	(D)	(X)	(D)
36613 36	Digital, optical input or output <sup>5</sup> .....	9	(X)	1,226,180	(X)	1,078,230
	Other subscriber loop carrier terminal and line equipment:					
36613 41	Analog <sup>6</sup> .....	4	(X)	(D)	(X)	(D)
36613 45	Digital, all copper wire <sup>6</sup> .....	16	(X)	(D)	(X)	(D)
36613 49	Digital, optical input or output <sup>6</sup> .....	5	(X)	1,744,976	(X)	1,297,017
	Other carrier line equipment:					
36613 51	Analog <sup>7</sup> .....	6	(X)	(D)	(X)	(D)
	Digital:					
36613 55	Meeting or exceeding T1 standard (1.5 mbps) <sup>7</sup> .....	11	(X)	(D)	(X)	(D)
36613 59	Other <sup>7</sup> .....	10	(X)	1,754,936	(X)	1,290,740
	Modems:					
36613 61	Up through 10,000 bps.....	29	<sup>b</sup> 1,526,649	<sup>b</sup> 382,433	1,812,158	574,569
36613 65	Over 10,000 bps.....	30	<sup>a</sup> 4,810,480	<sup>a</sup> 1,180,076	<sup>r</sup> 4,386,512	1,093,694
36614 —	Other telephone and telegraph equipment and components.....	209	(X)	14,363,192	(X)	10,510,018
	Telephone sets:					
36614 21	Single line and ISDN sets <sup>8</sup> .....	10	(D)	(D)	(D)	(D)
36614 25	Key sets <sup>8</sup> .....	7	3,549,364	218,735	<sup>r</sup> 3,464,650	<sup>r</sup> 199,003
36614 29	Public pay telephone equipment.....	8	<sup>a</sup> 180,068	<sup>a</sup> 90,556	<sup>a</sup> <sup>r</sup> 172,675	<sup>a</sup> <sup>r</sup> 78,300
36614 36	Cordless handsets <sup>9</sup> .....	4	(D)	(D)	(D)	(D)
36614 38	Other telephone sets and accessories (e.g., handsets) <sup>9</sup> .....	13	(X)	<sup>c</sup> 229,499	(X)	<sup>c</sup> <sup>r</sup> 211,376
	Other data communications equipment:					
36614 41	Routers and gateways.....	18	(X)	5,790,896	(X)	3,385,570
36614 43	Bridges.....	15	(X)	92,936	(X)	94,349
36614 45	Terminal servers <sup>10</sup> .....	12	(X)	(D)	(X)	(D)
36614 47	Concentrators <sup>10</sup> .....	13	(X)	2,581,638	(X)	2,001,566
36614 49	Other data communications equipment (front end processors, translators, etc.).....	37	(X)	<sup>a</sup> 949,079	(X)	<sup>b</sup> <sup>r</sup> 831,426
36614 51	Voice frequency equipment.....	11	(X)	86,969	(X)	<sup>r</sup> 66,861
36614 55	Telephone key systems equipment <sup>11</sup> .....	9	(X)	(D)	(X)	(D)
36614 59	Video teleconferencing equipment (video CODECS and other systems equipment).....	16	(X)	522,120	(X)	400,572
	Voice/call message processing equipment, including answering devices:					
36614 61	Voice mail equipment.....	12	(X)	427,367	(X)	282,267
36614 63	Voice response equipment <sup>12</sup> .....	15	(X)	(D) (X)	(D)	(D)
36614 65	Automated attendance equipment <sup>12</sup> .....	5	(X)	(D)	(X)	(D)
36614 67	Automatic call distributors <sup>12</sup> .....	3	(X)	700,755	(X)	<sup>r</sup> 597,252
36614 69	Other voice or call processing equipment.....	23	(X)	217,517	(X)	<sup>a</sup> <sup>r</sup> 170,930
36614 91	Facsimile communication equipment (complete).....	8	(X)	63,792	(X)	<sup>r</sup> 59,128

See footnotes at end of table.

Table 17. Quantity and Value of Shipments of Communication Equipment, Including Telephone, Telegraph, and Other Electronic Systems and Equipment by Product Code: 1996 and 1995—Con.

[Quantity in number of units. Value in thousands of dollars]

Product code	Product description	Number of companies	1996		1995	
			Quantity	Value	Quantity	Value
36614 97	Other telephone and telegraph equipment and components—Con.					
36614 99	Other telephone/telegraph equipment <sup>11</sup> . . . . .	59	(X)	2,096,013	(X)	1,873,990
	Parts, components, and subassemblies for other telephone equipment . . . . .	32	(X)	<sup>a</sup> 295,320	(X)	<sup>r</sup> 257,428
36631 —	Communications systems and equipment (except broadcast) . . . . .	331	(X)	24,400,471	(X)	23,031,913
	Radio station type <sup>13</sup> . . . . .	(NA)	(X)	17,111,613	(X)	16,051,083
36631 15	Amateur . . . . .	12	(X)	<sup>a</sup> 15,058	(X)	18,120
36631 17	Broadcast (sound and television) <sup>14</sup> . . . . .	8	(X)	(D)	(X)	(D)
36631 19	Earth exploration <sup>14</sup> . . . . .	1	(X)	(D)	(X)	(D)
36631 21	Meteorological . . . . .	4	(X)	<sup>c</sup> 11,873	(X)	<sup>c</sup> 11,343
36631 23	Fixed <sup>14</sup> . . . . .	24	(X)	3,811,481	(X)	3,261,200
36631 25	Intersatellite . . . . .	15	(X)	2,330,099	(X)	1,897,212
36631 27	Telecommand <sup>15</sup> . . . . .	5	(X)	(D)	(X)	(D)
36631 29	Telemetry . . . . .	18	(X)	112,051	(X)	<sup>a</sup> 111,176
36631 31	Radionavigational and locational . . . . .	9	(X)	<sup>a</sup> 228,136	(X)	<sup>a</sup> 197,993
36631 33	Aeronautical communications <sup>15</sup> . . . . .	9	(X)	462,215	(X)	<sup>a</sup> 302,714
	Mobile:					
	Cellular system equipment (report switching equipment in 36611 51):					
36631 34	Analog <sup>16</sup> . . . . .	8	(X)	(D)	(X)	(D)
36631 35	Digital <sup>16</sup> . . . . .	11	(X)	(D)	(X)	(D)
36631 42	Other conventional and trunked system equipment <sup>16</sup> . . . . .	19	(X)	(D)	(X)	(D)
36631 44	Other mobile <sup>16</sup> . . . . .	13	(X)	9,957,293	(X)	10,073,925
36631 46	Other . . . . .	13	(X)	183,407	(X)	<sup>r</sup> 177,400
36631 48	Other type . . . . .	(NA)	(X)	7,288,858	(X)	6,980,830
	Checkout, monitoring, evaluation, and other electronic support equipment for communications systems . . . . .	51	(X)	<sup>a</sup> 524,992	(X)	470,528
	Antenna systems (sold separately):					
36631 53	Below 890 MHz . . . . .	46	(X)	648,580	(X)	691,493
36631 55	890 MHz and above . . . . .	43	(X)	<sup>a</sup> 406,020	(X)	<sup>b</sup> 408,937
	Fiber optics equipment, excluding connectors, cable, photodiode and laser diode components, microwave equipment, and multiplexors:					
	Equipment meeting SONET standards:					
36631 57	OC-1 equipment <sup>17</sup> . . . . .	3	(X)	(D)	(X)	(D)
36631 59	OC-2 and 3 equipment <sup>17</sup> . . . . .	4	(X)	(D)	(X)	(D)
36631 61	OC-4 through OC-9 equipment <sup>17</sup> . . . . .	1	(X)	(D)	(X)	(D)
36631 63	Greater than OC-9 equipment <sup>17</sup> . . . . .	5	(X)	(D)	(X)	(D)
36631 69	Equipment not meeting SONET standards . . . . .	19	(X)	<sup>a</sup> 733,059	(X)	<sup>a</sup> 662,151
36631 73	Other carrier equipment, n.e.c. <sup>17</sup> . . . . .	13	(X)	<sup>a</sup> 561,468	(X)	<sup>r</sup> 388,426
36631 79	Other communications systems and equipment . . . . .	168	(X)	4,414,739	(X)	4,359,295
36632 —	Broadcast, studio, and related electronic equipment . . . . .	174	(X)	3,046,220	(X)	<sup>r</sup> 2,844,723
	Audio equipment, excluding consumer and PA types:					
36632 12	Amplifiers and preamplifiers . . . . .	29		<sup>a</sup> 709,090	<sup>b</sup> 597,624	211,943
36632 13	Control consoles and switchers . . . . .	24		36,417	<sup>a</sup> 27,026	<sup>b</sup> 88,768
36632 17	Other (power supplies, terminal equipment, broadcast recorders, etc.) . . . . .	37	(X)	<sup>a</sup> 301,577	(X)	<sup>a</sup> 260,095
	Video equipment, excluding consumer and PA types:					
36632 22	Amplifiers <sup>18</sup> . . . . .	5	(D)	(D)	(D)	(D)
36632 24	Television cameras <sup>18</sup> . . . . .	4	(D)	(D)	(D)	(D)
36632 25	Video tape recorders <sup>18</sup> . . . . .	3	(X)	75,874	(X)	<sup>r</sup> 87,331
36632 28	Other (power supplies, synchronization equipment, terminal equipment monitors, telecine chains, control consoles and switchers, film equipment, and television outside vans) . . . . .	23	(X)	589,509	(X)	<sup>a</sup> 541,895
	Transmitters, translators, RF power amplifiers, and related equipment:					
36632 31	AM and FM transmitters . . . . .	13	(X)	<sup>a</sup> 63,601	(X)	56,392

See footnotes at end of table.

Table 17. Quantity and Value of Shipments of Communication Equipment, Including Telephone, Telegraph, and Other Electronic Systems and Equipment by Product Code: 1996 and 1995—Con.

[Quantity in number of units. Value in thousands of dollars]

Product code	Product description	Number of companies	1996		1995	
			Quantity	Value	Quantity	Value
36632 —	Broadcast, studio, and related electronic equipment—Con.					
	Transmitters, translators, RF power amplifiers, and related equipment—Con.					
36632 34	Television transmitters . . . . .	8	(X)	122,676	(X)	<sup>a</sup> <sup>r</sup> 105,845
36632 37	Other (broadcast transmission line equipment, phasing equipment, television boosters and repeaters (translators), etc.) . . . . .	21	(X)	308,887	(X)	311,048
36632 39	Studio transmission links (STL) and remote pickup equipment. . . . .	5	(X)	<sup>a</sup> 41,032	(X)	<sup>a</sup> 60,532
	Cable television (master antennae and CATV equipment), excluding construction cost:					
36632 41	Head end equipment (antennae baluns, carrier generators, head end control units, single and broadband preamplifiers and strip amplifiers, converters, modulators and demodulators; splitting filters and traps, power supplies, switches, etc.) . . .	20	(X)	307,758	(X)	<sup>r</sup> 272,352
36632 46	Subscriber converters <sup>19</sup> . . . . .	-	(X)	-	(X)	(D)
36632 49	Subscriber equipment (decoders, switchers; wall outlet taps; distribution amplifiers; power suppliers; directional couplers, splitters, alternators, and equalizers) <sup>19 20</sup> . . . . .	4	(X)	(D)	(X)	(D)
36632 43	Broadcasting transmitting antennae and community antennae systems . . . . .	10	(X)	29,925	(X)	28,744
36632 44	Closed circuit television systems and equipment, (specially designed cameras, monitors, video recorders, receivers, scan converters and control consoles), excluding broadcast and consumer products <sup>19 20</sup> . . . . .	24	(X)	523,676	(X)	<sup>a</sup> <sup>r</sup> 532,868
36632 45	Other broadcast, studio, theatre, and commercial sound equipment (sold separately), excluding studio lighting equipment, radiating and supporting towers . .	7	(X)	<sup>a</sup> 240,870	(X)	249,014
36632 59	Parts and accessories for broadcast, studio, and related electronic equipment, sold separately . . . . .	14	(X)	<sup>c</sup> 42,028	(X)	<sup>c</sup> 37,896
36691 —	Alarm systems . . . . .	104	(X)	1,824,165	(X)	1,662,116
	Intrusion detection:					
36691 48	Local . . . . .	29	(X)	125,407	(X)	<sup>r</sup> 131,222
36691 49	Central station . . . . .	24	(X)	403,217	(X)	378,676
36691 50	Direct connect . . . . .	12	(X)	12,108	(X)	<sup>r</sup> 23,589
36691 51	Hold-up systems (commercial and industrial) <sup>21</sup> . . . . .	8	(X)	(D)	(X)	(D)
36691 52	Automotive . . . . .	9	(X)	<sup>b</sup> 208,468	(X)	185,387
	Fire detection and prevention:					
	Smoke and heat detection alarms:					
36691 53	Ionization chamber type . . . . .	9	(X)	116,411	(X)	123,712
36691 54	Other, including photo cell type . . . . .	20	(X)	320,115	(X)	283,250
36691 56	Central station . . . . .	14	(X)	121,059	(X)	104,806
36691 57	Direct connect . . . . .	17	(X)	<sup>a</sup> 186,438	(X)	155,348
36691 59	Other intercommunication and alarm systems, including electric sirens, and horns (marine, industrial, and air raid), and security locking systems <sup>21</sup> . . . . .	38	(X)	<sup>b</sup> 330,942	(X)	<sup>b</sup> 276,126
36692 —	Vehicular and pedestrian traffic control equipment, electrical railway signal, and attachments . . . . .	42	(X)	758,719	(X)	710,660
	Vehicular and pedestrian traffic control equipment:					
36692 42	Signal heads, including parts and accessories . . . . .	11	(X)	72,741	(X)	62,107
36692 43	Electronic and electromechanical controllers, detectors, and sensors, including parts and accessories . . . . .	28	(X)	271,055	(X)	<sup>r</sup> 234,781
	Railway signals and attachments, electric:					
36692 45	Railway highway grade crossing signals, excluding relays and other control apparatus <sup>22</sup> . . . . .	5	(X)	(D)	(X)	(D)
36692 46	Other railway signal systems and safety control equipment <sup>22</sup> . . . . .	9	(X)	414,923	(X)	<sup>r</sup> 413,772

See footnotes at end of table.

Table 17. Quantity and Value of Shipments of Communication Equipment, Including Telephone, Telegraph, and Other Electronic Systems and Equipment by Product Code: 1996 and 1995—Con.

[Quantity in number of units. Value in thousands of dollars]

Product code	Product description	Number of companies	1996		1995	
			Quantity	Value	Quantity	Value
36693 —	Intercommunications systems, including inductive paging systems (selective calling).....	44	(X)	285,336	(X)	295,985
36693 12	Wired.....	40	(X)	<sup>a</sup> 215,827	(X)	<sup>a</sup> 212,629
36693 13	Nonwired.....	11	(X)	<sup>b</sup> 69,509	(X)	<sup>a</sup> 83,356
36991 —	Electronic teaching machines, teaching aids, trainers, and simulators.....	46	(X)	839,764	(X)	913,254
36991 81	Electronic trainers and simulators.....	40	(X)	808,997	(X)	<sup>b</sup> 878,292
36991 85	Other electronic teaching machines and teaching aids.....	9	(X)	<sup>a</sup> 30,767	(X)	<sup>c</sup> 34,962
36992 —	Laser sources.....	42	(X)	908,562	(X)	787,542
	Gas lasers:					
36992 12	5 watts or less.....	8	(X)	<sup>a</sup> 52,485	(X)	51,086
36992 16	6 watts to 100 watts <sup>23</sup> .....	6	(X)	(D)	(X)	(D)
36992 22	101 watts to 500 watts <sup>23</sup> .....	2	(X)	(D)	(X)	(D)
36992 26	Over 500 watts <sup>23</sup> .....	6	(X)	<sup>a</sup> 113,957	(X)	<sup>a</sup> 133,053
	Solid-state lasers:					
36992 32	100 watts or less.....	12	(X)	<sup>c</sup> 27,658	(X)	<sup>f</sup> 24,125
36992 36	101 watts to 500 watts <sup>24</sup> .....	5	(X)	(D)	(X)	(D)
36992 42	Over 500 watts <sup>24</sup> .....	2	(X)	(D)	(X)	(D)
36992 60	Other lasers, including dye lasers <sup>24</sup> .....	22	(X)	<sup>b</sup> 714,462	(X)	<sup>a</sup> 579,278
36995 —	Ultrasonic equipment, n.e.c.....	21	(X)	187,583	(X)	172,278
36999 —	Other electronic systems and equipment, n.e.c.....	163	(X)	1,463,712	(X)	1,386,501
36999 51	Consumer electronic equipment, n.e.c.....	21	(X)	<sup>a</sup> 326,508	(X)	<sup>a</sup> 295,702
36999 55	Scientific electronic equipment, n.e.c.....	20	(X)	136,896	(X)	125,172
36999 61	Industrial electronic equipment, n.e.c.....	37	(X)	<sup>a</sup> 261,815	(X)	235,491
36999 65	All other electronic equipment, n.e.c.....	104	(X)	<sup>a</sup> 738,493	(X)	<sup>a</sup> 730,136
50650 00	Selected nonmanufacturing revenues: Supplies and accessories shipped without further manufacture for use with communication equipment..	56	(X)	<sup>a</sup> 394,104	(X)	<sup>a</sup> 330,381
99980 49	Research and development, testing, and evaluation of systems and components.....	37	(X)	481,449	(X)	584,759
73700 00	Software sold with communications systems shipped by manufacturers.....	33	(X)	310,517	(X)	<sup>a</sup> 245,752
73730 00	Systems integration revenues, including configuration installation and site preparation, and custom programming.....	50	(X)	<sup>a</sup> 200,626	(X)	<sup>a</sup> 181,569
73790 00	Other nonmanufacturing revenues associated with computer systems.....	30	(X)	<sup>a</sup> 501,463	(X)	<sup>b</sup> 592,735

- Represents zero. D Withheld to avoid disclosing data for individual companies. NA Not available. n.e.c. Not elsewhere classified.  
<sup>f</sup>Revised by 5 percent or more from previously published data. X Not applicable.

<sup>1</sup>For 1996, product code 36611 23 is included with product code 36611 28 to avoid disclosing data for individual companies.

<sup>2</sup>For 1995, product code 36611 41 is included with product code 36611 43 to avoid disclosing data for individual companies.

<sup>3</sup>Product code 36611 51 is included with product code 36611 55 to avoid disclosing data for individual companies.

<sup>4</sup>Product codes 36613 01 and 36613 05 are included with product code 36613 09 to avoid disclosing data for individual companies.

<sup>5</sup>Product code 36613 33 is included with product code 36613 36 to avoid disclosing data for individual companies.

<sup>6</sup>Product codes 36613 41 and 36613 45 are included with product code 36613 49 to avoid disclosing data for individual companies.

<sup>7</sup>Product codes 36613 51 and 36613 55 are included with product code 36613 59 to avoid disclosing data for individual companies.

<sup>8</sup>Product code 36614 21 is included with product code 36614 25 to avoid disclosing data for individual companies.

<sup>9</sup>Product code 36614 36 is included with product code 36614 38 to avoid disclosing data for individual companies.

<sup>10</sup>Product code 36614 45 is included with product code 36614 47 to avoid disclosing data for individual companies.

<sup>11</sup>Product code 36614 55 is included with product code 36614 97 to avoid disclosing data for individual companies.

<sup>12</sup>Product codes 36614 63 and 36614 65 are included with product code 36614 67 to avoid disclosing data for individual companies.

<sup>13</sup>Of this total, space-based (satellite) accounted for \$4.3 billion in 1996 and \$3.3 billion in 1995, airborne and marine based accounted for \$445.2 million in 1996 and \$474.5 million in 1995, earth (fixed) based accounted for \$2.9 billion in 1996 and \$2.4 billion in 1995, and earth (mobile) portable based accounted for \$9.5 billion in 1996 and \$9.8 billion in 1995.

<sup>14</sup>Product codes 36631 17 and 36631 19 are included with product code 36631 23 to avoid disclosing data for individual companies.

<sup>15</sup>Product code 36631 27 is included with product code 36631 33 to avoid disclosing data for individual companies.

**Table 17. Quantity and Value of Shipments of Communications Equipment, Including Telephone, Telegraph, and Other Electronic Systems and Equipment by Product Code: 1996 and 1995—Con.**

<sup>16</sup>Product codes 36631 34 and 36631 35 are included with product code 36631 42 to avoid disclosing data for individual companies.

<sup>17</sup>Product codes 36631 57, 36631 59, 36631 61, and 36631 63 are included with product code 36631 73 to avoid disclosing data for individual companies.

<sup>18</sup>Product codes 36632 22 and 36632 24 are included with product code 36632 25 to avoid disclosing data for individual companies.

<sup>19</sup>For 1995, product codes 36632 46 and 36632 49 are included with product code 36632 44 to avoid disclosing data for individual companies.

<sup>20</sup>For 1996, product codes 36632 49 is included with product code 36632 44 to avoid disclosing data for individual companies.

<sup>21</sup>Product code 36691 51 is included with product code 36691 59 to avoid disclosing data for individual companies.

<sup>22</sup>Product code 36692 45 is included with product code 36692 46 to avoid disclosing data for individual companies.

<sup>23</sup>Product codes 36692 16 and 36692 22 are included with product code 36692 26 to avoid disclosing data for individual companies.

<sup>24</sup>Product codes 36692 36 and 36992 42 are included with product code 36692 60 to avoid disclosing data for individual companies.

Note: Percent of estimation of each item is indicated as follows: <sup>a</sup>10 to 25 percent of this item has been estimated. <sup>b</sup>25 to 50 percent of this item has been estimated. <sup>c</sup>Over 25 percent of this item has been estimated.

**Table 18. Shipments, Imports, and Exports of Communications Equipment, Including Telephone, Telegraph, and Other Electronic Systems and Equipment: 1996**

[Value in thousands of dollars]

Product code	Product description	Manufacturers' shipments (value f.o.b. plant)	Exports of domestic merchandise (value at port) <sup>1</sup>	Imports for consumption (value) <sup>2</sup>
36611 41, 43, 45, 49	Private branch telephonic exchange switching apparatus . . . . .	945,129	277,665	58,470
36611 23, 28	Central office telephonic switching apparatus . . . . .	5,229,652	343,048	88,562
36611 51, 55, 91	Telephonic switching apparatus, n.e.c. . . . .	3,245,378	162,820	73,383
36611 98	Parts, components, and subassemblies for telephone switching and switchboard apparatus . . . . .	371,304	765,931	749,386
36613 01, 05, 09	Repeaters and line transceivers, carrier line equipment . . . . .	1,016,062	35,835	35,355
36613 30, 33, 36, 41, 45, 49, 51, 55, 59	Carrier line equipment, n.e.c. . . . .	4,772,625	639,288	457,688
36614 21, 25, 29, 36, 38	Telephone sets, including cordless handset telephones . . . . .	538,790	608,359	1,491,007
36613 61, 65	Modems, including auxiliary sets . . . . .	1,562,509	1,059,493	531,657
36614 41, 43, 45, 47, 49, 51, 59, 97	Telephone and telegraphic equipment, n.e.c., including voice frequency equipment <sup>3</sup> . . . . .	(D)	608,832	416,719
36614 55	Telephone key systems . . . . .	11,597,531	14,849	13,283
36614 61, 63, 65, 67, 69	Telephone answering devices . . . . .	1,345,639	118,786	210,483
36614 91	Facsimile communication equipment (complete) . . . . .	63,792	(NA)	770,736
36614 99	Parts, components, and subassemblies for other telephone equipment . . . . .	295,320	1,304,321	1,021,874
36632 12	Audio amplifiers and preamplifiers (except consumer and PA types) . . . . .	305,715	203,731	339,087
36632 31, 34, 37	Transmitters, translators, RF power amplifiers, and related equipment . . . . .	495,164	549,618	111,770
36631 34, 35, 42, 44	Mobile radio systems and equipment, including transceivers, and portable receivers, transmitter and receiver, hand held . . . . .	9,957,293	5,739,741	2,416,074
36693 12, 13	Intercommunications systems, including inductive paging systems (selective calling) . . . . .	285,336	148,305	202,400
36632 24	Television cameras (except consumer and PA types) . . . . .	(D)	87,443	28,631
36631 53, 55, 36632 43	Antennae systems, including broadcasting, transmitting, and community antennae systems . . . . .	1,084,525	594,355	370,868

See footnotes at end of table.

Table 18. **Shipments, Imports, and Exports of Communications Equipment, Including Telephone, Telegraph, and Other Electronic Systems and Equipment: 1996—Con.**

[Value in thousands of dollars]

Product code	Product description	Manufacturers' shipments (value f.o.b. plant)	Exports of domestic merchandise (value at port) <sup>1</sup>	Imports for consumption (value) <sup>2</sup>
36632 41, 44, 46, 49	Cable television and closed circuit television systems and equipment, including AM and FM transmitters .....	831,434	544,898	1,469,466
36691 48, 49, 50, 51, 52, 59	Intrusion detection alarm systems .....	1,080,142	55,736	174,119
36691 53	Smoke detection alarms, ionization type .....	116,411	7,574	84,956
36691 54	Smoke detection alarms, n.e.c., including photo cell type .....	320,115	35,969	29,309
36691 56-57	Central station and direct connect fire detection and prevention alarm systems .....	307,497	145,271	116,608
36692 42-43	Vehicular and pedestrian traffic control equipment .....	343,796	48,415	32,366
36692 45-46	Railway signals and attachments, electric .....	414,923	23,795	2,580
36991 81	Electronic trainers and simulators .....	808,997	161,354	64,759
36995 00	Ultrasonic equipment, n.e.c. ....	187,583	129,586	5,466

D Withheld to avoid disclosing data for individual companies. NA Not available. n.e.c. Not elsewhere classified.

<sup>1</sup>Source: Bureau of the Census report EM 545, *U.S. Exports*.<sup>2</sup>Source: Bureau of the Census report IM 145, *U.S. Imports for Consumption*. Value represents c.i.f. (cost, insurance, and freight) value at first point of entry in the United States plus U.S. import duties.<sup>3</sup>Manufacturers' shipments for product codes 36614 41, 36614 43, 36614 45, 36614 47, 36614 49, 36614 51, 36614 55, 36614 59, and 36614 97 are combined to avoid disclosing data for individual companies.

## HISTORICAL NOTE

Data on selected electronic and associated products have been collected by the Bureau of the Census since 1961 on survey MA36N, Selected Electronics and Associated Products. In 1985, survey MA36N was divided into three annual surveys: MA36P, Communication Equipment, Including Telephone, Telegraph, and Other Electronic Systems and Equipment; MA36Q, Semiconductors, Printed Circuit Boards, and Other Electronic Components; and MA38R (formerly MA36R), Electromedical Equipment and

Irradiation Equipment (Including X-Ray). Historical data may be obtained from Current Industrial Reports available at your local Federal Depository Library. Historical data are also available on microfiche; contact Customer Services, 301-457-4100.

## CONTACT FOR DATA USERS

For additional information about these data, contact Cynthia Ramsey, 301-457-4823.



## SEMICONDUCTORS, PRINTED CIRCUIT BOARDS, AND RELATED EQUIPMENT (MA36Q)

### INTRODUCTION

These data cover all significant manufacturers of semiconductors, printed circuit boards, and other electronic components. The mailing panel included all establishments with 20 employees or more for industries 3671, 3672, 3674, 3675, 3676, 3677, 3678, and 3679.

The statistics were collected by mail on Bureau of the Census annual Form MA36Q, Semiconductors, Printed Circuit Boards, and Other Electronic Components. The survey panel includes all known producers of these products, except the firms excluded from the scope of the survey. Approximately 3,480 companies are included. No estimate is derived for the small firms excluded from the survey.

### SUMMARY OF FINDINGS

During 1996, the total value of shipments of semiconductors, printed circuit boards, and other electronic components totaled \$123,381.3 million. This represents a 3.8-percent increase from the revised 1995 total of \$118,905.5 million. The 1996 figure includes: electron tubes and parts,

\$4,070.3 million, an increase of 4.8 percent from 1995; printed circuit boards, \$8,302.9 million, a decrease of 0.1 percent from 1995; semiconductors and related devices, \$67,531.6 million, an increase of 7.0 percent over the revised total from 1995. Capacitors decreased 8.7 percent to \$1,630.5 million; resistors decreased by 4.9 percent, to \$906.5 million; coils and transformers had a 3.1-percent decrease to \$1,368.5 million; electronic connectors had \$4,189.8 million in 1996, compared to \$4,253.3 million in 1995, a decrease of 1.5 percent; and other electronic components increased to \$35,381.1 million, from a revised 1995 total of \$35,166.0 million, an increase of 0.6 percent.

### EXPLANATION OF TERMS

**Research and development.** Dollar shipments reflect income development, design, and engineering services performed by the reporting plant in connection with the manufacture of the products shipped, whether included in a single production contract, or contracted for separately, but intended as preparation for the manufacture of the specific products.

Table 19. **Value of Shipments of Semiconductors, Printed Circuit Boards, and Other Electronic Components by Class of Product: 1991 to 1996**

[Value in million of dollars]

Product code	Product description	1996	1995	1994	1993	1992	1991
36713	Transmittal, industrial, and special-purpose electron tubes (except X-ray) . . . . .	645.3	7854.9	854.9	677.6	868.4	1,072.5
36714	Receiving type electron tubes and cathode ray picture tubes . . . . .	3,272.0	2,907.0	2,627.1	2,258.6	2,047.4	1,925.1
36715	Electron tube parts . . . . .	153.1	120.2	114.9	160.1	129.5	120.3
36720	Printed circuit boards . . . . .	8,302.9	8,367.3	6,812.3	6,273.0	5,721.7	6,275.3
36741	Integrated microcircuits (semiconductor networks) . . . . .	54,072.5	48,437.9	36,020.4	23,636.1	20,065.4	19,150.9
36742	Transistors . . . . .	1,405.0	942.5	834.6	704.5	674.8	736.9
36743	Diodes and rectifiers . . . . .	918.8	1,066.7	829.5	640.7	652.2	653.5
36749	Other semiconductor devices . . . . .	11,135.3	12,639.4	9,915.4	6,908.2	5,899.2	5,760.8
36750	Capacitors for electronic applications . . . . .	1,630.5	1,785.3	1,512.3	1,294.3	1,288.0	1,224.0
36760	Resistors . . . . .	906.5	953.2	869.5	716.5	708.3	721.5
36770	Coils, transformers, reactors, and chokes for electronic applications . . . . .	1,368.5	1,411.8	1,250.7	1,121.4	1,095.3	1,006.6
36781	Coaxial connectors . . . . .	636.0	731.6	642.4	419.0	424.5	384.5
36782	Cylindrical connectors . . . . .	608.8	552.9	511.3	482.8	503.9	483.4
36783	Rack and panel connectors . . . . .	508.0	540.5	545.6	427.6	461.9	484.9
36784	Printed circuit connectors . . . . .	1,066.9	1,026.4	923.4	859.4	855.2	843.8
36785	Other connectors, including parts . . . . .	1,370.1	1,401.9	1,377.2	1,152.8	1,123.3	1,068.9
36791	Filters (except microwave) and piezoelectric devices . . . . .	720.5	729.2	674.1	534.3	448.8	451.5
36793	Microwave components and devices . . . . .	1,346.6	1,233.4	1,227.2	1,136.3	1,258.4	1,178.5
36795	Transducers, electrical/electronic input or output . . . . .	1,174.9	1,111.3	970.5	832.5	810.3	799.5
36796	Switches, mechanical types for electronic circuitry . . . . .	731.8	666.3	621.5	572.6	541.7	545.1
36798	Printed circuit assemblies . . . . .	24,133.8	24,447.7	17,514.8	15,087.1	13,745.8	12,590.4
36799	All other electronic components, n.e.c. . . . .	7,273.5	6,978.1	6,149.7	5,257.6	5,260.3	5,997.3

n.e.c. Not elsewhere classified. <sup>†</sup>Revised by 5 percent or more from previously published data.

Table 20. Quantity and Value of Shipments of Semiconductors, Printed Circuit Boards, and Other Electronic Components: 1996 and 1995

[Quantity in thousands of units. Value in thousands of dollars]

Product code	Product description	Number of companies	1996		1995	
			Quantity	Value	Quantity	Value
3671—	Electron tubes .....	(NA)	(X)	4,070,346	(X)	3,882,086
36713 —	Transmittal, industrial, and special-purpose electron tubes (except X-ray) .....	40	(X)	645,320	(X)	'854,932
36713 15	Power and special-purpose tubes: High vacuum tubes, including triodes, multigrid external and internal anodes, diodes, and other <sup>1</sup> .....	8	166	77,229	(D)	(D)
36713 24	Gas and vapor tubes, including thyratrons, ignitrona, gas duplexers, spark gaps, and other <sup>1</sup> .....	9	373	39,480	649	184,058
36713 34	Klystrons, including amplifier, reflex, and other .....	6	465	42,372	510	49,595
36713 47	Magnetrons, including pulsed, fixed, tunable, cross-field, continuous wave, and other .....	7	41	31,165	116	54,791
36713 55	Traveling wave tubes (TWT): Forward wave: Continuous wave (CW): Up to and including 10 watts CW power output rating <sup>2</sup> .....	3	(D)	(D)	(D)	(D)
36713 61	Over 10 watts CW power output rating <sup>2</sup> .....	6	1,862	102,046	1,454	76,479
36713 65	Pulsed power: Up to and including 1 kW peak power output rating <sup>3</sup> .....	3	(D)	(D)	(D)	(D)
36713 66	Over 1 kW peak power output rating <sup>3</sup> .....	4	403	48,995	1,803	75,604
36713 92	Backward wave .....	2	(D)	(D)	(D)	(D)
36713 70	Light sensing tubes: Camera tubes, photo emissive and photo conductive <sup>4</sup> .....	4	(D)	(D)	(D)	(D)
36713 73	Image intensifiers and converters <sup>4</sup> .....	4	(D)	(D)	(D)	(D)
36713 76	Photo multipliers and other <sup>4</sup> .....	3	105	87,500	167	191,946
36713 83	Light emitting devices, including storage tubes all sizes, cathode ray tubes, color and monochrome (industrial and military), special display devices, including alphanumeric readout tubes, figure indicating tubes, and other .....	13	4,239	107,947	2,392	114,097
36713 96	Miscellaneous special-purpose tubes (reference cavities, radiation detection (geiger, neutron counters, etc.), beam deflection, decade counters, orbital beam, vacuum gauges, vacuum capacitors, switches, relays, etc. ....)	8	(X)	107,772	(X)	'107,147
36714 —	Receiving type electron tubes and cathode ray picture tubes .....	(NA)	(X)	3,271,976	(X)	2,907,001
36714 01	Receiving type electron tubes, all types, including rebuilt .....	4	(D)	(D)	(D)	(D)
36714 09	Television tubes, including any defective tube that has been rebuilt: Color having a video display diagonal of: 50 cm and under (20 inches and under) .....	9	11,755	922,155	10,787	767,615
36714 12	Over 50 cm, but not exceeding 63 cm (21 through 25 inches) .....	4	3,890	436,140	4,030	461,522
36714 14	Exceeding 63 cm (26 inches and over) .....	8	9,531	1,863,776	8,025	1,636,522
36714 27	Other, including rebuilt color and new and rebuilt black and white .....	3	(D)	(D)	(D)	(D)
36715 57	Electron tube parts (except glass blanks): bases, getters, cathodes, headers, and guns .....	18	(X)	153,050	(X)	120,153
36720—	Printed-circuit (wiring) boards .....	575	(X)	8,302,893	(X)	8,367,295
36720 12	Single-sided glass printed .....	277	(X)	276,159	(X)	'272,150
36720 14	Double-sided glass printed .....	386	(X)	1,343,090	(X)	'1,337,069
36720 16	Multilayer glass printed .....	373	(X)	3,829,618	(X)	3,740,060
36720 20	Single-sided flex printed .....	37	(X)	130,419	(X)	146,360
36720 23	Double-sided flex printed .....	36	(X)	102,973	(X)	'85,765
36720 27	Multilayer flex and rigid/flex printed .....	53	(X)	549,183	(X)	'510,299
36720 29	All paper/mat/composite printed boards .....	14	(X)	111,916	(X)	'106,126

See footnotes at end of table.

Table 20. Quantity and Value of Shipments of Semiconductors, Printed Circuit Boards, and Other Electronic Components: 1996 and 1995—Con.

[Quantity in thousands of units. Value in thousands of dollars]

Product code	Product description	Number of companies	1996		1995	
			Quantity	Value	Quantity	Value
36720—	Printed-circuit (wiring) boards—Con.					
36720 31	Other substitute printed boards .....	50	(X)	1,229,858	(X)	'1,305,221
36720 40	Receipts for contract work on printed circuit boards (etching, dip-soldering, imprinting, etc.) but not printed board assembly .....	82	(X)	729,677	(X)	864,245
3674—	Semiconductors and related devices .....	(NA)	(X)	67,531,622	(X)	'63,086,491
36741 —	Monolithic integrated circuits .....	190	13,699,712	54,072,541	11,556,599	'48,437,866
	Monolithic integrated circuits, digital, nonsilicon (e.g., gallium arsenide):					
36741 19	Memory .....	5	7,709	144,210	(D)	(D)
36741 28	Logic and other .....	9	(D)	(D)	(D)	(D)
	Monolithic integrated circuits, digital, silicon:					
	Bipolar transistors, memory:					
36741 07	Static read-write random access (SRAM) .....	7	2,418	19,370	(D)	(D)
36741 09	Other memory .....	3	(D)	(D)	(D)	(D)
	Other bipolar transistors, including logic:					
36741 13	Transistor-transistor logic (TTL) .....	16	2,551,164	1,320,365	2,334,774	1,281,381
36741 14	Emitter coupled logic (ECL) .....	9	291,846	188,526	326,910	199,483
36741 15	Other .....	14	870,948	1,230,960	'751,418	'945,782
	Metal oxide semiconductor (MOS) field effect transistors:					
	Volatile memory DRAM (dynamic read-write random access):					
36741 81	Not over 80 k <sup>5</sup> .....	6	(D)	(D)	1,788	10,239
36741 82	Over 80 k but not over 300 k <sup>5</sup> .....	5	(D)	(D)	(D)	(D)
36741 83	Over 300 k but not over 3 MB <sup>5</sup> .....	10	133,575	1,825,338	153,516	2,142,620
36741 84	Over 3 MB but not over 15 MB .....	10	318,052	1,946,348	238,753	3,846,270
36741 85	Over 15 MB .....	9	66,944	1,447,939	5,149	'748,274
	Volatile memory SRAM (static read-write random access):					
36741 91	Not over 40 k .....	11	38,867	306,397	'36,135	270,162
36741 92	Over 40 k but not over 80 k .....	12	42,350	147,161	(D)	(D)
36741 93	Over 80 k but not over 300 k .....	17	116,509	680,857	95,587	559,097
36741 94	Over 300 k but not over 3 MB <sup>6</sup> .....	10	(D)	(D)	(D)	(D)
36741 95	Over 3 MB <sup>6</sup> .....	5	71,172	1,000,147	54,289	835,166
	Nonvolatile EEPROM's (electrically erasable programmable read-only memory):					
36741 96	Not over 80 k .....	7	417,532	302,878	289,297	245,725
36741 97	Over 80 k but not over 900 k .....	7	49,144	204,714	39,838	'146,794
36741 98	Over 900 k .....	5	(D)	(D)	(D)	(D)
	Nonvolatile EPROMs (erasable, except electrically), programmable read-only memory):					
36741 86	Not over 80 k .....	8	18,094	70,910	17,207	79,400
36741 87	Over 80 k but not over 900 k .....	12	175,110	641,413	189,739	607,826
36741 88	Over 900 k .....	7	(D)	(D)	67,550	274,986
36741 90	Other nonvolatile memory .....	13	156,206	1,097,917	'169,551	'1,229,667
	Other, including microprocessors, controllers, application specific integrated circuits (ASICs), and programmable logic arrays (PLAs):					
36741 36	Microprocessors having an internal data bus of 8 bits or less .....	14	749,317	3,335,544	516,518	2,163,808
36741 38	Microprocessors having an internal data bus of 16 bits .....	15	154,310	1,212,175	195,522	1,479,213
36741 39	Microprocessors having an internal data bus of 32 bits or more .....	13	(D)	(D)	'98,616	'10,460,538
36741 18	Other (microcontrollers, ASICs, PLAs, etc.) .....	40	1,534,282	6,395,805	1,309,432	5,683,788
	Other digital, silicon, including bipolar combined with MOS:					
36741 20	Complementary BiMOS (BiCMOS) .....	4	(D)	(D)	(D)	(D)
36741 21	Other complementary (BiCMOS), including logic .....	10	1,153,062	571,250	675,978	303,435
36741 26	Other digital silicon ICs .....	25	243,966	998,919	262,141	'908,801

See footnotes at end of table.

Table 20. Quantity and Value of Shipments of Semiconductors, Printed Circuit Boards, and Other Electronic Components: 1996 and 1995—Con.

[Quantity in thousands of units. Value in thousands of dollars]

Product code	Product description	Number of companies	1996		1995	
			Quantity	Value	Quantity	Value
3674—	Semiconductors and related devices—Con.					
36741—	Monolithic integrated circuits—Con.					
	Nondigital silicon monolithic integrated circuits (e.g., linear and analog):					
36741 49	Radio frequency .....	6	147,531	264,012	79,675	132,162
36741 02	Other, analog .....	24	2,088,312	2,675,235	1,540,258	1,941,916
36741 03	Other, including mixed signal (analog and digital), logic <sup>7</sup> .....	5	(D)	(D)	(D)	(D)
36741 04	Other, including mixed signal (analog and digital), other <sup>7</sup> .....	13	445,943	2,574,727	214,530	1,413,979
	Hybrid integrated circuits:					
36741 08	Radio frequency .....	25	104,244	376,493	64,321	241,799
36741 31	Other .....	52	195,890	872,606	151,698	704,861
36741 06	Other .....	46	965,781	5,617,109	<sup>r</sup> 1,130,841	<sup>r</sup> 6,692,734
36742—	Transistors .....	41	(X)	1,404,993	(X)	942,458
36742 63	Signal (less than 1 watt dissipation) .....	26	(X)	346,672	(X)	373,364
36742 64	Power (1 watt or greater dissipation) .....	33	(X)	1,058,321	(X)	569,094
36743—	Diodes and rectifiers .....	51	3,685,768	918,768	4,179,046	1,066,723
36743 22	Signal diodes and assemblies thereof (maximum current 0.5 amps) .....	19	45,719	16,645	43,511	15,477
36743 42	Semiconductor rectifiers/power diodes and assemblies thereof (current rating greater than 0.5 amps) .....	26	1,225,444	384,191	1,437,693	487,670
36743 94	Zener diodes (voltage regulator and voltage reference diodes) <sup>8</sup> .....	20	(D)	(D)	(D)	(D)
36743 12	Selenium rectifiers <sup>8</sup> .....	4	2,032,006	254,910	2,281,115	248,231
36743 83	Microwave diodes (mixers, detectors, varactors, parametric, harmonic generators, etc.) .....	15	382,599	263,022	416,727	315,345
36749—	Other semiconductor devices .....	171	(X)	11,135,320	(X)	12,639,444
	Light-sensitive and light-emitting devices:					
36749 12	Solar cells <sup>9</sup> .....	14	(X)	(D)	(X)	(D)
36749 13	Photovoltaic modules <sup>9</sup> .....	5	(X)	117,457	(X)	94,208
	Light-emitting diodes (LEDs):					
36749 14	Discrete, infrared and laser <sup>10</sup> .....	18	(X)	(D)	(X)	(D)
36749 16	Alpha or numeric displays <sup>10</sup> .....	9	(X)	405,888	(X)	401,495
36749 22	Photodiodes, including infrared detectors .....	19	(X)	55,093	(X)	52,957
36749 24	Optical coupled isolators, including sensors and emitters .....	8	(X)	149,879	(X)	113,017
36749 29	Other light sensitive and light-emitting devices, including photovoltaic devices and photoelectric-magnetic devices .....	13	(X)	177,616	(X)	134,520
	Other semiconductor devices:					
36749 85	Thyristors (SCRs, triacs, PNP diodes) <sup>11</sup> .....	11	(X)	(D)	(X)	(D)
36749 86	Hall effect devices <sup>11</sup> .....	1	(X)	197,328	(X)	146,012
36749 87	All other semiconductor devices (tunnel diodes, thermoelectric semiconductor junctions, metal-oxide varistors, solidstate transducers, and special semiconductor devices, n.e.c.) .....	23	(X)	2,062,280	(X)	1,956,517
	Semiconductor parts:					
	Chips and wafers:					
36749 94	For integrated circuits (ICs) .....	48	(X)	4,047,915	(X)	<sup>r</sup> 3,889,069
36749 96	For discrete semiconductors .....	35	(X)	1,167,508	(X)	2,296,887
36749 97	All other semiconductor parts (headers, packages, heat sinks, other accessories, etc.) ..	50	(X)	2,754,356	(X)	<sup>r</sup> 3,554,762
36291—	Paper, plastics (film), metalized, and dual (film/paper) dielectric capacitors, fixed .....	(NA)	81,953	142,730	83,582	152,473
	Ac types:					
36291 11	Less than 300 volts .....	16	12,337	22,417	11,614	22,257
36291 13	300 volts to 599 volts .....	16	58,926	95,274	61,414	105,004
36291 15	600 volts to 999 volts .....	12	6,544	11,842	6,161	11,329
36291 17	1,000 volts or over .....	9	4,146	13,197	4,393	13,883

See footnotes at end of table.

Table 20. Quantity and Value of Shipments of Semiconductors, Printed Circuit Boards, and Other Electronic Components: 1996 and 1995—Con.

[Quantity in thousands of units. Value in thousands of dollars]

Product code	Product description	Number of companies	1996		1995	
			Quantity	Value	Quantity	Value
36750 —	Capacitors .....	84	(X)	1,630,471	(X)	1,785,298
	Capacitors having a reactive power handling capacity of 0.5 kVAR or less:					
	Dc types/other:					
36750 19	Axial lead .....	22	37,882	39,800	48,282	45,939
36750 21	Radial lead .....	13	114,674	24,253	140,655	26,799
36750 24	Chips and other leaded devices .....	-	-	-	-	-
	Tantalum electrolytic:					
36750 26	Metal case, including foil and wet .....	6	25,242	47,749	52,388	63,882
36750 28	Dipped .....	4	(D)	(D)	(D)	(D)
36750 31	Chips <sup>12</sup> .....	5	(D)	(D)	(D)	(D)
36750 33	Other leaded (molded axial and molded radial) <sup>12</sup> .....	3	670,866	136,805	844,003	173,912
	Aluminum electrolytic:					
36750 38	Less than 18 mm through 35 mm <sup>13</sup> .....	4	(D)	(D)	(D)	(D)
36750 41	Small can style (over 35 mm through 51 mm) <sup>13</sup> .....	3	(D)	(D)	(D)	(D)
36750 43	Other can style (over 51 mm) .....	5	6,666	58,969	7,166	57,398
36750 45	Ac motor start <sup>13</sup> .....	1	77,454	105,346	89,407	113,836
	Ceramic dielectric, single layer:					
36750 54	Axial and radial <sup>14</sup> .....	7	(D)	(D)	(D)	(D)
36750 51	Chips <sup>14</sup> .....	1	134,466	23,322	<sup>†</sup> 199,844	<sup>†</sup> 29,290
	Ceramic dielectric, multilayer:					
36750 53	Axial leads <sup>15</sup> .....	4	(D)	(D)	(D)	(D)
36750 55	Radial leads <sup>15</sup> .....	9	2,669,675	137,933	3,701,631	194,513
36750 57	Chips .....	12	30,594,837	585,942	26,504,559	540,703
	Other:					
36750 59	Mica dielectric .....	9	11,508	11,816	12,935	11,901
36750 61	All other fixed .....	20	168,425	77,811	143,192	66,412
	Variable:					
36750 63	Mica, ceramic or glass dielectric .....	3	(D)	(D)	(D)	(D)
36750 69	Other .....	6	1,081	5,670	1,295	6,526
36750 75	Parts of capacitors, including unfinished chips for further finishing and assembly .....	8	(X)	(D)	(X)	(D)
36760 —	Resistors .....	86	(X)	906,521	(X)	<sup>†</sup> 953,210
36760 11	Fixed carbon resistors, composition or film types. ....	9	116,898	49,137	147,091	49,369
	Other fixed resistors (power capacity 20W or less):					
	Surface mounted, having two terminals:					
36760 24	Flat resistor chips .....	16	434,801	56,457	377,043	47,864
36760 25	Cylindrical leadless resistors, including metal film, metal oxide, and thick cermet film .....	8	(D)	(D)	(D)	(D)
	Surface mounted, having more than two terminals (resistor networks):					
36760 28	Dual-in-line package .....	7	99,641	33,755	121,913	34,551
36760 32	Other, including flat packs .....	7	98,084	43,623	84,132	<sup>†</sup> 31,063
	Resistors, having two leads:					
36760 34	Wirewound .....	25	185,297	79,852	160,480	76,121
36760 36	Other, including metal film, metal oxide, and thick cermet film .....	17	1,301,886	102,807	1,004,824	<sup>†</sup> 90,899
	Resistor networks, having more than two leads:					
36760 38	Single-in-line .....	12	198,865	39,914	240,674	<sup>†</sup> 46,593
36760 42	Dual-in-line .....	8	40,014	15,275	45,964	15,984
36760 44	Other .....	9	12,980	26,893	<sup>†</sup> 12,494	<sup>†</sup> 26,581
	Variable, nonwirewound:					
	Trimmers:					
36760 51	Single-turn, carbon and other film .....	6	18,492	14,571	115,971	<sup>†</sup> 51,963
36760 54	Multiturn, carbon and other film .....	5	(D)	(D)	103,438	78,759
36760 58	Surface mounted .....	1	(D)	(D)	(D)	(D)
	Potentiometers:					
36760 57	Precision type .....	12	17,068	77,627	<sup>†</sup> 13,506	<sup>†</sup> 64,985
36760 62	Panel type .....	3	9,811	15,566	<sup>†</sup> 8,320	<sup>†</sup> 12,842
	Variable, wirewound:					
36760 72	Variable wirewound (except potentiometers), including nonprecision and trimmers .....	5	3,481	4,748	<sup>†</sup> 7,014	<sup>†</sup> 11,149
36760 67	Potentiometers, precision type .....	11	1,937	22,502	<sup>†</sup> 2,402	<sup>†</sup> 23,421
36760 74	Potentiometers, panel type .....	4	2,208	6,728	2,234	6,758

See footnotes at end of table.

Table 20. Quantity and Value of Shipments of Semiconductors, Printed Circuit Boards, and Other Electronic Components: 1996 and 1995—Con.

[Quantity in thousands of units. Value in thousands of dollars]

Product code	Product description	Number of companies	1996		1995	
			Quantity	Value	Quantity	Value
36760 —	Resistors—Con.					
	Miscellaneous:					
36760 75	Varistors .....	4	(D)	(D)	(D)	(D)
36760 77	Thermistors, bead type, disc, rod .....	13	209,150	103,835	229,417	104,070
36760 79	Parts for resistors .....	10	(X)	(D)	(X)	(D)
36770 —	Coils, transformers, reactors, and chokes for electronic applications .....	252	(X)	1,368,509	(X)	1,411,822
36770 32	Audio frequency (AF) transformers .....	90	47,392	142,505	46,657	133,232
36770 33	Low frequency (LF) chokes .....	94	9,515	73,244	10,308	54,716
36770 41	Plate and filament transformers, including autotransformers (except toroidal) .....	67	14,679	127,709	15,042	130,615
36770 61	Pulse transformers, computer, and other types .....	89	37,381	135,361	87,927	204,259
36770 12	Radio frequency (RF) chokes .....	37	82,926	36,351	66,504	29,105
36770 13	Radio frequency (RF) coils .....	43	226,145	88,085	252,864	101,994
36770 14	Intermediate frequency (IF) transformers .....	32	7,878	42,524	9,167	47,700
36770 71	Television transformers and reactors (horizontal output, vertical deflection, focus coils, deflection yokes, etc.) .....	20	12,904	107,896	11,133	84,491
36770 91	Toroidal windings (transformers and reactors) (except complete magnetic amplifiers) .....	112	34,417	168,613	29,032	143,008
36770 92	Other (balun coils, permeability tuning devices, etc.) .....	99	(X)	446,221	(X)	482,702
3678—	Electronic connectors .....	(NA)	(X)	4,189,816	(X)	4,253,232
36781 —	Coaxial (RF) connectors .....	47	596,257	636,010	626,400	731,557
36781 21	Miniature (BNC, PNC, MHB) .....	21	64,241	84,441	75,100	93,315
36781 22	Subminiature (SMA, SMB, SMC) .....	23	36,435	93,148	32,116	78,783
36781 24	Other standard and precision .....	36	495,581	458,421	519,184	559,459
36782 —	Cylindrical connectors .....	39	163,469	608,807	157,559	552,893
36782 25	Heavy duty and standard .....	29	76,319	297,112	74,280	280,314
36782 29	Miniature .....	16	15,711	112,479	13,732	106,959
36782 31	Subminiature .....	15	71,439	199,216	69,547	165,620
36783 —	Rack and panel (rectangular) connectors .....	36	1,307,121	508,024	1,347,503	540,518
36783 35	Integral shell, Mil-C-22857 (8434) and similar types .....	19	201,816	129,425	177,120	113,330
	Subminiature:					
36783 42	Ribbon, including planar cable type .....	7	(D)	(D)	(D)	(D)
36783 44	D-Subminiature, including planar cable type .....	12	(D)	(D)	(D)	(D)
36783 46	Microminiatures .....	14	10,327	59,926	9,589	81,879
36784 —	Printed circuit connectors .....	48	1,975,771	1,066,864	2,760,642	1,026,372
36784 44	Card insertion types .....	22	469,126	173,297	1,019,081	189,277
	Two-piece types:					
36784 48	Post, header and receptacle type .....	29	1,094,172	360,608	1,513,792	520,560
36784 49	Other two-piece types .....	23	412,473	532,959	227,769	316,535
36785 —	Other connectors, including parts .....	82	(X)	1,370,111	(X)	1,401,892
36785 41	Hermetic sealed (except single-contact and coaxial types) .....	24	40,162	115,681	41,166	100,398
36785 51	Plate module types .....	4	8,404	29,299	7,385	28,293
36785 53	Fiber optic connectors .....	8	29,304	194,244	17,359	165,852
36785 59	Other planar cable (flat conductor or ribbon cable), excluding rack and panel (rectangular) types .....	12	795,406	247,057	794,270	244,699
36785 54	Miscellaneous special purpose .....	48	1,387,079	636,243	3,591,989	723,364
36785 56	Parts for connectors (connectors shipped but still requiring further manufacture) .....	21	(X)	147,587	(X)	139,286
3679—	Electronic components and subassemblies, n.e.c. ....	(NA)	(X)	35,381,092	(X)	35,166,028
36791 —	Filters (except microwave) and piezoelectric devices .....	107	172,467	720,537	176,263	729,215
36791 10	Filters (except microwave) .....	(NA)	111,426	339,960	115,637	384,238
36791 11	Mechanical, excluding optical lenses (germanium silicon, fused quartz, rock salt, and other) .....	5	8,476	64,083	8,752	41,520

See footnotes at end of table.

Table 20. **Quantity and Value of Shipments of Semiconductors, Printed Circuit Boards, and Other Electronic Components: 1996 and 1995—Con.**

[Quantity in thousands of units. Value in thousands of dollars]

Product code	Product description	Number of companies	1996		1995	
			Quantity	Value	Quantity	Value
3679—	Electronic components and subassemblies, n.e.c.—Con.					
36791—	Filters (except microwave) and piezoelectric devices—Con.					
36791 10	Filters (except microwave)—Con. Radio frequency interference/ electromagnetic interference (RFI/EMI) control filters:					
36791 13	Ceramic dielectric .....	13	76,057	131,526	70,744	189,672
36791 15	Combination or other dielectric .....	14	26,472	119,912	35,172	123,862
36791 21	Electronic wave filters (LC band and high pass) .	21	421	24,439	969	29,184
36791 30	Piezoelectric devices .....	(NA)	61,041	380,577	60,626	344,977
	Oscillator crystals:					
36791 31	AT-cut .....	27	10,843	44,476	14,568	56,773
36791 33	Other .....	11	28,920	57,824	23,695	48,263
	Crystal oscillators:					
36791 35	Oven .....	8	93	20,986	123	29,379
36791 37	TCXO/VCXO .....	11	500	28,860	524	29,540
36791 39	Hybrid .....	12	3,712	28,764	4,204	25,161
36791 41	Other .....	9	2,657	29,069	2,441	33,264
	Crystal filters:					
36791 43	Monolithic, including filter crystals and/or monolithic filter units not assembled into filters .....	6	770	10,806	607	7,282
36791 45	Packaged AT-cut, including monolithic, tandem monolithic, and resonator filter assemblies ...	12	341	10,598	298	7,874
36791 47	Other .....	6	3,232	73,904	1,193	47,268
	Crystal blanks:					
36791 51	AT-cut .....	7	3,156	6,731	3,921	7,150
36791 55	Other .....	13	6,817	68,559	9,052	53,023
36793—	Microwave components and devices (except antenna), tubes, and semiconductors .....	132	(X)	1,346,599	(X)	1,233,417
36793 11	Ferrite, microwave components including yttrium garnets (circulators, isolators, phase shifters, attenuators, equalizers, limiters, mixers, etc.) .....	43	(X)	410,491	(X)	306,668
	Microwave devices, other than ferrite and solid state:					
36793 21	Attenuators (dummy loads, high- and low-power terminations, etc.) .....	41	(X)	68,461	(X)	60,857
36793 23	Cavities (amplifier cavities, coaxial tuned cavities, etc.) .....	14	(X)	46,598	(X)	57,506
36793 25	Couplers (directional couplers, hybrid junctions, etc.) .....	32	(X)	55,057	(X)	44,121
36793 27	Reactive microwave components, n.e.c. ....	42	(X)	115,003	(X)	122,606
36793 29	Switches, coaxial and waveguide .....	32	(X)	61,863	(X)	50,953
36793 31	Rigid waveguide and fittings (bend and twists, couplings, flanges, other simple waveguide components, n.e.c.) .....	27	(X)	(D)	(X)	53,344
36793 33	Flexible waveguides and fittings .....	13	(X)	(D)	(X)	33,790
36793 51	Other microwave components (except ferrite devices) (coaxial to waveguide and other transitions, duplexers and diplexers, holders and mounts, linear and circular polarizers, magnetron test plumbing, rotary joints and sector scan joints, mixer arrays, shutters, tuners, windows, etc.) .....	41	(X)	141,425	(X)	131,476
36793 71	Microwave subassemblies, including parametric amplifiers and other solid-state assemblies.....	31	(X)	346,344	(X)	372,096
36795—	Transducers, electrical/electronic I/O, n.e.c. ....	87	110,393	1,174,931	107,515	1,111,250
36795 11	Electroacoustic (sonar, ultrasonic, vibration*, etc.)..	15	14,519	115,348	19,093	108,357
36795 21	Electromechanical: Accelerometers* .....	13	11,898	137,562	7,096	117,877

See footnotes at end of table.

Table 20. Quantity and Value of Shipments of Semiconductors, Printed Circuit Boards, and Other Electronic Components: 1996 and 1995—Con.

[Quantity in thousands of units. Value in thousands of dollars]

Product code	Product description	Number of companies	1996		1995	
			Quantity	Value	Quantity	Value
3679—	Electronic components and subassemblies, n.e.c.—Con.					
36795—	Transducers, electrical/electronic I/O, n.e.c.—Con.					
	Electromechanical:—Con.					
36795 23	Pressure*	38	45,739	476,051	43,381	443,848
36795 25	Strain gauges and other mechanical*	23	15,878	183,004	13,480	171,045
36795 31	Thermoelectric (pyrometers, thermocouples*, etc.)	8	1,887	54,874	1,626	47,081
36795 98	Other (optical, chemical, magnetic, nuclear*, etc.)	26	20,472	208,092	22,839	223,042
36796—	Switches, mechanical types for electronic circuitry	69	(X)	731,793	(X)	666,315
36796 15	Slide, including rocker, miniature and subminiature*	12	(X)	63,165	(X)	58,476
36796 19	Rotary selector, including lever and jog-lever, miniature, and subminiature*	19	(X)	73,636	(X)	79,098
36796 21	Keyboard*	7	(X)	51,502	(X)	48,487
36796 25	Pushbutton*	21	(X)	60,179	(X)	55,675
36796 29	Snap-action*	10	(X)	16,039	(X)	19,359
36796 31	Thumbwheel <sup>16</sup>	4	(X)	(D)	(X)	(D)
36796 14	Membrane	16	(X)	73,762	(X)	53,775
36796 12	Toggle standard type	10	(X)	35,402	(X)	33,728
36796 13	Toggle miniature and subminiature <sup>16</sup>	4	(X)	(D)	(X)	(D)
36796 33	DIP <sup>16</sup>	6	(X)	86,991	(X)	81,324
36796 39	Other	30	(X)	271,117	(X)	236,393
36798—	Printed circuit assemblies (loaded boards, subassemblies and modules) <sup>17</sup>	674	(X)	24,133,750	(X)	24,447,711
36798 51	Computer and peripheral printed board assemblies <sup>17</sup>	269	(X)	12,050,038	(X)	11,932,503
36798 53	Communications printed board assemblies <sup>17</sup>	224	(X)	3,062,636	(X)	2,838,211
36798 55	Industrial process control board assemblies <sup>17</sup>	171	(X)	361,613	(X)	736,242
36798 57	Instrumentation printed board assemblies (except industrial process) <sup>17</sup>	169	(X)	3,352,802	(X)	2,692,657
36798 59	Search and detection printed board assemblies <sup>17</sup>	41	(X)	47,101	(X)	24,502
36798 61	Consumer electronics, printed board assemblies <sup>17</sup>	113	(X)	513,477	(X)	379,340
36798 90	Other electronics, printed board assemblies, including office equipment and point of sales <sup>17</sup>	264	(X)	4,746,083	(X)	5,844,256
36799—	Electronic components and subassemblies, n.e.c.	552	(X)	7,273,482	(X)	6,978,120
	Antenna systems (except structural towers sold separately):					
36799 07	Home antenna	11		25,724	22,232	249,088
36799 08	Auto antenna	11		17,526	64,783	28,227
36799 09	Antenna accessories, sold separately (pedestals, drives, passive reflectors, rotators, radomes, etc.)	22	(X)	187,476	(X)	181,400
36799 11	Delay lines (distributed constant, lumped constant, magnetostrictive, ultrasonic, etc.)	18		15,702	112,679	16,490
36799 13	Oscillators (except instrumentation and crystal types)	15		9,212	157,259	9,075
36799 20	Magnetic recording and reproducing heads, including audio, video, digital, and instrumentation	17		31,463	665,032	26,687
	Static power supply converters for electronic applications (sold separately):					
36799 21	Regulated	88		152,473	1,249,327	146,801
36799 22	Other (unregulated, variable frequency, ac, dc, converters and inverters, vibrator, etc.)	58	(X)	643,265	(X)	576,164
36799 31	Electronic cable harnesses and cable assemblies	235	(X)	1,609,877	(X)	1,598,650
36799 33	Cryogenic cooling devices (cryostats, etc.) for infrared detectors, masers	6	(X)	30,653	(X)	39,546
36799 51	Liquid crystal displays (LCDs) and other liquid devices	14	(X)	88,383	(X)	162,002
36799 55	Magnetic cores	14	(X)	218,921	(X)	218,494
	Electronic parts, n.e.c. and specialized electronic hardware:					
36799 66	Sockets for electronic component insertion: Integrated circuit sockets	10	(X)	193,419	(X)	210,653

See footnotes at end of table.



Table 20. **Quantity and Value of Shipments of Semiconductors, Printed Circuit Boards, and Other Electronic Components: 1996 and 1995—Con.**

[Quantity in thousands of units. Value in thousands of dollars]

Product code	Product description	Number of companies	1996		1995	
			Quantity	Value	Quantity	Value
3679—	Electronic components and subassemblies, n.e.c.—Con.					
36799—	Electronic components and subassemblies, n.e.c.—Con.					
	Electronic parts, n.e.c. and specialized electronic hardware:—Con.					
	Sockets for electronic component insertion:—Con.					
36799 62	Other, including tube, relay, discrete semiconductors, ac and dc converters and inverters, etc. . . . .	11	(X)	54,323	(X)	56,712
36799 98	All other electronic parts and specialized electronic hardware, n.e.c. . . . .	136	(X)	1,730,993	(X)	1,684,636
	Electronic research, development, testing, and evaluation (receipts or billings, not reported as shipments of specific products):					
99980 42	Systems . . . . .	21	(X)	84,523	(X)	117,417
99980 43	Equipment and subassemblies. . . . .	37	(X)	70,769	(X)	34,276
99980 44	Component parts. . . . .	35	(X)	87,519	(X)	69,233
99980 46	Basic scientific electronic research . . . . .	20	(X)	47,911	(X)	32,953
99980 47	Design and engineering services. . . . .	53	(X)	95,270	(X)	301,332
99980 48	Software . . . . .	11	(X)	5,947	(X)	5,814
99980 49	Testing. . . . .	8	(X)	12,411	(X)	8,418
99980 50	Supplies and accessories sold with components . . . . .	6	(X)	1,393	(X)	1,456

\*Similar products are collected on Current Industrial Report forms MA36A, *Switchgear, Switchgear Apparatus, Relays, and Industrial Controls* and MA36K, *Wiring Devices and Supplies*. - Represents zero. D Withheld to avoid disclosing data for individual companies. NA Not available. n.e.c. Not elsewhere classified. <sup>1</sup>Revised by 5 percent or more from previously published data. X Not applicable.

- <sup>1</sup>Product codes 36713 15 and 36713 24 are combined to avoid disclosing data for individual companies.
- <sup>2</sup>Product codes 36713 55 and 36713 61 are combined to avoid disclosing data for individual companies.
- <sup>3</sup>Product codes 36713 65 and 36713 66 are combined to avoid disclosing data for individual companies.
- <sup>4</sup>Product codes 36713 70, 36713 73, and 36713 76 are combined to avoid disclosing data for individual companies.
- <sup>5</sup>Product codes 36741 81, 36741 82 and 36741 83 are combined to avoid disclosing data for individual companies.
- <sup>6</sup>Product codes 36741 94 and 36741 95 are combined to avoid disclosing data for individual companies.
- <sup>7</sup>Product codes 36741 03 and 36741 04 are combined to avoid disclosing data for individual companies.
- <sup>8</sup>Product codes 36743 94 and 36743 12 are combined to avoid disclosing data for individual companies.
- <sup>9</sup>Product codes 36749 12 and 36749 13 are combined to avoid disclosing data for individual companies.
- <sup>10</sup>Product codes 36749 14 and 36749 16 are combined to avoid disclosing data for individual companies.
- <sup>11</sup>Product codes 36749 85 and 36749 86 are combined to avoid disclosing data for individual companies.
- <sup>12</sup>Product codes 36750 31 and 36750 33 are combined to avoid disclosing data for individual companies.
- <sup>13</sup>Product codes 36750 38, 36750 41, and 36750 45 are combined to avoid disclosing data for individual companies.
- <sup>14</sup>Product codes 36750 54 and 36750 51 are combined to avoid disclosing data for individual companies.
- <sup>15</sup>Product codes 36750 53 and 36750 55 are combined to avoid disclosing data for individual companies.
- <sup>16</sup>Product codes 36796 13 and 36796 31 are combined with product code 36796 33 to avoid disclosing data for individual companies.
- <sup>17</sup>Data are collected on two Current Industrial Report forms, MA35R, *Computer and Office and Accounting Machines,* and MA36Q, *Semiconductors, Printed Circuit Boards, and Other Electronic Components.*

Table 21. Shipments, Imports, and Exports of Semiconductors, Printed Circuit Boards, and Other Electronic Components: 1996

[Value in thousands of dollars]

Product code	Product description	Manufacturers' shipments (value, f.o.b. plant)	Exports of domestic merchandise (value at port) <sup>1</sup>	Imports for consumption <sup>2</sup>
36713 15	High vacuum tubes .....	77,229	11,352	5,518
36713 24	Gas and vapor tubes .....	39,480	3,262	238
36713 34	Klystrons, including amplifiers, reflex, and other .....	42,372	12,931	33,788
36713 47	Magnetrons, including pulsed, fixed, tunable, cross-field, continuous wave and other .....	31,165	2,916	22,464
36713 70, 73	Light sensing tubes, including camera tubes, photo emissive and photo conductive, and image intensifiers and converters .....	(D)	69,059	9,572
36713 76	Light sensing tubes, n.e.c., including photo multipliers .....	(D)	5,650	8,526
36714 01	Receiving type electron tubes, including rebuilt .....	(D)	3,376	2,774
36714 09, 12, 14, 27	Television tubes, color and black and white, new and rebuilt .....	(D)	476,962	71,573
36715 57	Electron tube parts (except glass blanks) .....	153,050	37,856	149,261
36720 12, 14, 16, 20, 23, 27, 29, 31	Printed circuit boards .....	7,573,216	658,865	688,878
36741 28	Monolithic integrated circuits, digital (except memory and silicon) .....	(D)	365,404	37,120
36741 19	Monolithic integrated circuits, digital, memory (except silicon) .....	144,210	51,087	64,326
36741 07	Monolithic integrated circuits, digital, silicon, bipolar transistors, memory, static random access memory (SRAM) .....	19,370	6,211	2,258
36741 09	Monolithic integrated circuits, digital, silicon, bipolar transistors, memory (except static random access memory (SRAM)) .....	(D)	15,705	6,867
36741 14	Monolithic integrated circuits, digital, silicon, bipolar transistors (except memory, emitter logic (ECL)) .....	188,526	12,871	22,600
36741 13	Monolithic integrated circuits, digital, silicon, bipolar transistors (except memory, transistor-transistor logic (TTL)) .....	1,320,365	17,142	85,194
36741 15	Monolithic integrated circuits, digital, silicon, bipolar transistors (except memory, n.e.c.) .....	1,230,960	40,841	34,769
	Monolithic integrated circuits, digital, silicon, metal oxide (MOS) field effect transistors:			
36741 81-82	With volatile memory DRAMs, not over 300 k <sup>3</sup> .....	(D)	31,452	31,749
36741 83-85	With volatile memory DRAMs, over 300 k <sup>3</sup> .....	5,219,625	358,336	1,925,497
36741 91-93	With volatile memory SRAMs, not over 300 k .....	1,134,415	26,312	182,218
36741 94-95	With volatile memory SRAMs, over 300 k .....	1,000,147	35,447	253,193
36741 96-98	Except volatile memory, electrically (EEPROM) .....	(D)	134,639	437,147
36741 86-88	Except volatile memory (except electrically (EEPROM)) .....	(D)	73,023	219,312
36741 90	Except volatile memory, n.e.c. ....	1,097,917	125,487	250,633
	Monolithic integrated circuits, digital, silicon, metal oxide (MOS) field effect transistors (except memory type):			
36741 36	Microprocessors 8 bits or less .....	3,335,544	67,349	419,418
36741 38	Microprocessors 16 bits .....	1,212,175	48,328	178,512
36741 39	Microprocessors 32 bits or more .....	(D)	350,467	1,023,443
36741 18	Other (microcontrollers, ASICs, PLAs, etc.) .....	6,395,805	547,416	2,593,226
36741 20	Monolithic integrated circuits, digital, silicon, metal oxide (MOS) field effect transistors, complementary BiMOS, memory type .....	(D)	6,287	44,007
36741 21	Monolithic integrated circuits, digital, silicon, metal oxide (MOS) field effect transistors, complementary BiMOS (except memory type) .....	571,250	16,884	162,380
36741 26	Monolithic integrated circuits, digital, silicon, metal oxide (MOS) field effect transistors, complementary BiMOS, n.e.c., including logic type (except memory types) .....	998,919	127,855	52,645
36741 49, 02-04	Monolithic integrated circuits, nondigital, silicon, including linear, analog, radio frequency, etc. ....	5,513,974	380,959	1,277,918
36741 08, 31	Hybrid integrated circuits .....	1,249,099	216,026	219,598
36750 26	Capacitors, fixed, tantalum electrolytic, metal case, including foil and wet .....	47,749	5,480	5,855
36750 28	Capacitors, fixed, tantalum electrolytic, dipped .....	(D)	2,874	11,458
36750 31	Capacitors, fixed, tantalum electrolytic, chips <sup>4</sup> .....	(D)	38,039	82,174
36750 33	Capacitors, fixed, tantalum electrolytic, n.e.c., including leaded <sup>4</sup> .....	136,805	10,835	10,511
36750 38	Capacitors, fixed, aluminum electrolytic, not exceeding 35 mm <sup>5</sup> .....	(D)	17,112	83,372

See footnotes at end of table.

Table 21. Shipments, Imports, and Exports of Semiconductors, Printed Circuit Boards, and Other Electronic Components: 1996—Con.

[Value in thousands of dollars]

Product code	Product description	Manufacturers' shipments (value, f.o.b. plant)	Exports of domestic merchandise (value at port) <sup>1</sup>	Imports for consumption <sup>2</sup>
36750 41, 43, 45	Capacitors, fixed, aluminum electrolytic, over 35 mm <sup>5</sup> .....	164,315	1,747	10,352
36750 51	Capacitors, fixed, ceramic dielectric, single layer, chips <sup>6</sup> .....	23,322	12,723	1,930
36750 54	Capacitors, fixed, ceramic dielectric, single layer, axial and radial <sup>6</sup> .....	(D)	3,138	11,048
36750 53	Capacitors, fixed, ceramic dielectric, multilayer, axial <sup>7</sup> .....	(D)	6,344	11,398
36750 55	Capacitors, fixed, ceramic dielectric, multilayer, radial <sup>7</sup> .....	137,933	14,364	21,408
36750 57	Capacitors, fixed, ceramic dielectric, multilayer, chips.....	585,942	114,451	76,785
36750 59	Capacitors, fixed, mica dielectric.....	11,816	408	1,172
36750 61	Capacitors, fixed, n.e.c.....	77,811	118,113	18,291
36750 63	Capacitors, variable, mica/ceramic/glass dielectric.....	(D)	4,792	4,163
36750 69	Capacitors, variable, n.e.c.....	5,670	14,110	5,958
36750 75	Capacitors, parts, including unfinished chips for further finishing..	(D)	127,419	10,844
36291 11	Capacitors, fixed, ac type, less than 300 volts.....	22,417	1,733	15,250
36291 13	Capacitors, fixed, ac type, 300-599 volts.....	95,274	396	10,419
36291 15	Capacitors, fixed, ac type, 600-999 volts.....	11,842	4	901
36291 17	Capacitors, fixed, ac type, 1,000 volts or more.....	13,197	7,719	256
36750 19	Capacitors, fixed, dc type, axial.....	39,800	266	1,403
36750 21	Capacitors, fixed, dc type, radial.....	24,253	103	13,917
36750 24	Capacitors, fixed, dc type, chips and other leaded.....	-	2,730	8,070
36742 63	Transistors, signal, less than 1 watt dissipation.....	346,672	29,533	101,175
36742 64	Transistors, power, 1 watt or greater dissipation.....	1,058,321	71,260	234,009
36743 22	Signal diodes and assemblies.....	16,645	2,937	29,500
36743 94	Zener diodes <sup>8</sup> .....	(D)	10,863	29,951
36743 42, 12	Diodes and rectifiers, n.e.c. <sup>8</sup> .....	639,101	70,621	135,123
36743 83	Microwave diodes.....	263,022	18,086	5,347
36749 12	Solar cell.....	(D)	31,811	20,293
36749 14, 16	Light emitting diodes.....	405,888	27,622	127,044
36749 24	Optical coupled isolators.....	149,879	1,658	29,640
36749 29	Other light-sensitive and light-emitting devices.....	177,616	29,617	56,558
36749 85	Thyristors, SCRs, triacs, and PNP diodes.....	(D)	8,754	54,381
36749 94	Chips and wafers for integrated circuits.....	4,047,915	4,794,551	503,101
36749 96	Chips and wafers for discrete semiconductors.....	1,167,508	481,284	66,582
36749 97	Other semiconductor parts.....	2,754,356	78,307	35,862
36760 11	Carbon resistors, fixed, composition or film types, designed for surface mounting (SMD) by contact, having two terminals, cylindrical leadless having two leads, carbon composition and carbon film.....	49,137	9,158	14,703
36760 24, 25	Carbon resistors, fixed, with a power capacity of 20 watts or less, surface mounted (SMD), having two terminals, including both flat resistor chips, and cylindrical leadless resistors.....	(D)	2,700	36,743
36760 28, 32	Carbon resistors, fixed, with a power capacity of 20 watts or less, surface mounted (SMD), having more than two terminals, resistor, and resistor-capacitor networks.....	77,378	3,358	12,264
36760 34	Resistors, fixed, with a power capacity of 20 watts or less, wirewound, having two leads.....	79,852	3,961	7,981
36760 36	Resistors, fixed, with a power capacity of 20 watts or less, other than wirewound, having two leads.....	102,807	9,231	15,475
36760 38, 42, 44	Resistors, fixed, with a power capacity of 20 watts or less, resistor networks, having more than two leads.....	82,082	4,987	17,008
36760 72, 67, 74	Resistors, variable, wirewound, including rheostats and potentiometers, for a power handling capacity not exceeding 20 watts.....	33,978	2,058	7,219
36760 51, 54, 58, 57, 62, 75, 77	Resistors, variable, n.e.c.....	(D)	36,972	63,961
36760 79	Resistors, parts.....	(D)	42,989	3,252
36791 31, 33, 35, 37, 39, 41, 43, 45, 47	Piezoelectric devices (except crystal blanks).....	305,287	61,189	188,794
36791 51, 55	Piezoelectric devices, crystal blanks.....	75,290	7,966	3,165

See footnotes at end of table.

Table 21. Shipments, Imports, and Exports of Semiconductors, Printed Circuit Boards, and Other Electronic Components: 1996—Con.

[Value in thousands of dollars]

Product code	Product description	Manufacturers' shipments (value, f.o.b. plant)	Exports of domestic merchandise (value at port) <sup>1</sup>	Imports for consumption <sup>2</sup>
36770 71	Television transformers and reactors . . . . .	107,896	7,760	53,353
36770 32, 41, 61, 13, 14, 91, 92	Coils, transformers, reactors, and chokes for electronic applications, n.e.c. . . . .	1,151,018	108,030	223,897
36781	Connectors, coaxial . . . . .	636,010	31,599	37,250
36782	Connectors, cylindrical . . . . .	608,807	13,575	39,336
36783	Connectors, rack and panel . . . . .	508,024	10,695	6,710
36784	Connectors, printed circuit . . . . .	1,066,864	97,352	70,764
36799 07-09	Antenna systems (except structural towers, sold separately) . . . . .	519,351	13,002	11,340
36799 20	Magnetic recording and reproducing heads . . . . .	665,032	3,838	11,872
36796 19	Switches, rotary selector . . . . .	73,636	7,768	4,636
36796 25	Switches, pushbutton . . . . .	60,179	11,288	48,187
36796 15	Switches, slide, including rocker, miniature and subminiature . . . . .	63,165	2,049	5,841
36796 29	Switches, snap-action . . . . .	16,039	11,765	22,430
36796 21, 31, 12-14, 33, 39	Switches, other . . . . .	518,774	238,522	305,182

- Represents zero. D Withheld to avoid disclosing data for individual companies. n.e.c. Not elsewhere classified.

<sup>1</sup>Source: Bureau of the Census report EM 545, *U.S. Exports*.

<sup>2</sup>Source: Bureau of the Census report IM 145, *General Imports for Consumption*.

<sup>3</sup>Manufacturers' shipments for "Volatile memory, DRAMs, not over 300 k" and "Volatile memory, DRAMs, over 300 k" are combined to avoid disclosing data for individual companies.

<sup>4</sup>Manufacturers' shipments for "Capacitors, fixed, tantalum electrolytic, chips," and "Capacitors, fixed, tantalum electrolytic, n.e.c., including leaded" are combined to avoid disclosing data for individual companies.

<sup>5</sup>Manufacturers' shipments for "Capacitors, fixed, aluminum electrolytic, not exceeding 35 mm" and "Capacitors, fixed, aluminum electrolytic, over 35 mm" are combined to avoid disclosing data for individual companies.

<sup>6</sup>Manufacturers' shipments for "Capacitors, fixed, ceramic dielectric, single layer, chips" and "Capacitors, fixed, ceramic dielectric, single layer, axial and radial" are combined to avoid disclosing data for individual companies.

<sup>7</sup>Manufacturers' shipments for "Capacitors, fixed, ceramic dielectric, multilayer, axial leads" and "Capacitors, fixed, ceramic dielectric, multilayer, radial leads" are combined to avoid disclosing data for individual companies.

<sup>8</sup>Manufacturers' shipments for "Zener diodes" and "Diodes and rectifiers, n.e.c." are combined to avoid disclosing data for individual companies.

## HISTORICAL NOTE

Data on selected electronic and associated products have been collected by the Bureau of the Census since 1961 on survey MA36N, Selected Electronics and Associated Products. In 1985, survey MA36N was divided into three annual surveys: MA36P, Communication Equipment, Including Telephone, Telegraph, and Other Electronic Systems and Equipment; MA36Q, Semiconductors, Printed Circuit Boards, and Other Electronic Components; and MA38R (formerly MA36R), Electromedical Equipment and

Irradiation Equipment (Including X-ray). Historical data may be obtained from Current Industrial Reports available at your local Federal Depository Library. Historical data are also available on microfiche; contact Customer Services, 301-457-4100.

## CONTACT FOR DATA USERS

For additional information about these data, contact Philippe Morris, 301-457-4819.

## SELECTED INSTRUMENTS AND RELATED PRODUCTS (MA38B)

### INTRODUCTION

These data cover firms engaged in the manufacture of instruments and related products, except very small firms (generally less than 20 employees) for which 1992 Census of Manufactures data were derived from administrative records of other government agencies.

The statistics were collected by mail on Bureau of the Census annual Form MA38B, Selected Instruments and Related Products. The survey panel includes all known producers of these products, except the very small firms excluded from the scope of the survey. Approximately 2,196 companies are included. No estimate is derived for the small firms excluded from the survey.

### SUMMARY OF FINDINGS

During 1996, the total value of shipments of selected instruments and related products totaled \$67.3 billion, up 2 percent from the 1995 value of \$65.7 billion. The 1996 figure includes automatic regulating, control, and solenoid valves, \$2.4 billion, up 4 percent from 1995; search, detection, navigation, guidance, aeronautical, and nautical systems, instruments, and equipment, \$25.8 billion, a decrease of 3 percent from 1995; laboratory apparatus and furniture, \$1.9 billion, up 6 percent from 1995; controls for monitoring residential and commercial environments, and appliance regulating controls, \$2.6 billion, up 4 percent from 1995; process control instruments, \$6.8 billion, an increase of 6 percent from 1995; fluid meters and counting devices, \$3.5 billion, virtually unchanged from 1995; instruments to measure electricity, \$11.3 billion, an increase of 10 percent from 1995; analytical and scientific instruments (except optical), \$6.1 billion, an increase of 7 percent from

1995; optical instruments and lenses, \$2.4 billion, an increase of 9 percent from 1995; measuring and controlling devices, n.e.c., \$4.1 billion, an increase of 3 percent from 1995.

### EXPLANATION OF TERMS

**Electronic systems—unified architecture.** Includes system-type control, display, and computing instruments actuated from standardized electrical transmission signals in which control and signal conditioning are integral with the display/operator interface.

**Electronic systems—nonunified architecture.** Includes system-type instruments and related equipment actuated from standardized electrical transmission signals in which control and signal conditioning are separated from the display/operator interface. Equipment includes single-loop and multiloop controllers, dedicated operator stations, shared CRT-based operator work stations, process I/O equipment, communication equipment, and other related miscellaneous equipment such as power supplies, racks, panels, cables, console furniture, printers, tape drives, mounting hardware, shelves, nests, calibrators, and testors. Does not include multifunction process computers reported in product code 38230 12.

**Industrial multifunction process computers.** Includes the hardware and standard software of the CPU and all peripheral equipment of the computers that provide centralized processing intelligence for two or more of the following functions: data manipulation and reporting, supervisory control and data acquisition, calculations using control algorithms, database management, use of a high-level programming language, and operator interface.

Table 22. Value of Shipments of Selected Instruments and Related Products by Product Code: 1990 to 1996

[Millions of dollars]

Product code	Product description	1996	1995	1994	1993	1992	1991	1990
34918	Automatic regulating and control valves .....	1,905.3	1,860.4	1,807.1	1,647.5	1,579.3	1,537.4	1,418.0
34919	Solenoid-operated valves (except nuclear and fluid power transfer) .....	504.5	463.8	452.3	406.0	404.7	360.1	345.9
38121	Aeronautical, nautical, and navigational instruments .....	2,350.1	<sup>1</sup> 2,124.5	1,858.9	2,121.2	2,517.4	2,671.6	2,517.5
38122	Search and detection, navigation and guidance systems and equipment .....	23,855.9	24,697.4	25,566.7	28,604.4	31,311.2	31,773.8	32,420.2
38210	Laboratory apparatus and laboratory furniture .....	1,944.6	1,836.9	1,811.1	1,597.8	1,714.8	1,612.0	1,675.0
38220	Controls for monitoring residential and commercial environments and appliance regulating controls .....	2,619.1	2,533.4	2,520.9	2,309.9	2,196.6	1,982.2	1,982.0
38230	Process control instruments .....	6,759.0	6,438.5	6,240.0	5,934.9	5,731.4	5,229.6	5,223.5
38242	Integrating and totalizing meters for gas and liquids .....	963.1	915.2	859.1	777.0	727.4	697.8	724.6
38243	Counting devices .....	362.7	363.8	354.9	285.4	273.4	226.3	209.8
38244	Motor vehicle instruments <sup>1</sup> .....	2,205.3	2,193.1	2,092.0	1,768.1	1,576.3	1,329.5	1,456.6
38251	Integrating instruments, electrical .....	432.2	445.0	440.3	461.0	439.3	389.6	396.1
38252	Test equipment for testing electrical, radio and communication circuits, and motors .....	10,311.2	<sup>1</sup> 9,255.0	7,582.0	6,571.6	6,493.0	6,524.5	6,156.0
38253	Instruments to measure electricity .....	554.5	554.9	554.4	525.8	557.9	584.0	586.4
38260	Analytical and scientific instruments (except optical) .....	6,093.2	5,737.2	5,534.0	4,766.1	4,885.9	4,519.1	4,411.8
38271	Sighting, tracking, and fire control equipment, optical type .....	616.2	655.4	652.1	768.6	770.9	547.2	580.8
38274	Optical instruments and lenses <sup>2</sup> .....	1,762.0	<sup>1</sup> 1,579.1	1,596.7	1,455.8	1,322.4	1,292.3	1,251.8
38291	Aircraft engine instruments (except flight) .....	447.0	429.7	430.4	551.6	590.3	682.0	579.0
38292	Physical properties and kinematic testing equipment .....	1,377.6	1,374.4	1,199.3	1,174.7	1,148.6	1,023.7	1,012.4
38294	Nuclear radiation detection and monitoring instruments .....	502.7	501.2	489.1	519.4	533.4	570.4	566.7
38295	Commercial, geophysical, meteorological, and general purpose instruments .....	1,385.5	1,373.2	1,344.0	1,271.4	1,361.0	1,335.1	1,139.8
38296	Surveying and drafting instruments .....	397.6	355.9	324.3	301.4	255.1	234.6	273.9

<sup>1</sup>Revised by 5 percent or more from previously published data.

<sup>1</sup>Revision for 1990 product code 38244, "Motor vehicle instruments," is due to the clarification of products in product code 38244 60, "Instrument panels, including cluster modules." Previously, a large part of these data were collected in product code 37149, "All other motor vehicle parts and accessories, new, n.e.c."

<sup>2</sup>Beginning in 1992, product codes 38272, "Binoculars and astronomical instruments," and 38273, "Other optical instruments and lenses (except) sighting, tracking, and fire control" have been combined into product code 38274, "Optical instruments and lenses;" years 1991 and 1990 have been restated.

Table 23. Quantity and Value of Shipments of Selected Instruments and Related Products: 1996 and 1995

[Quantity in number of units. Value in thousands of dollars]

Product code	Product description	Number of companies	1996		1995	
			Quantity	Value	Quantity	Value
34918 —	Automatic valves (regulating and control type, except nuclear) . . . . .	140	(X)	1,905,315	(X)	1,860,448
	Automated control valves:					
	Pneumatic actuated . . . . .	(NA)	(X)	536,349	(X)	525,328
	Sliding stem valves . . . . .	(NA)	(S)	238,153	(S)	225,264
34918 01	Globe body . . . . .	21	113,076	152,979	120,422	140,697
34918 02	All other types . . . . .	20	(S)	85,174	(S)	84,567
	Rotary valves . . . . .	(NA)	(S)	139,504	(S)	135,616
34918 03	Ball . . . . .	15	(S)	81,967	(S)	73,200
34918 04	Butterfly . . . . .	11	27,107	29,891	29,814	31,939
34918 07	All other rotary valves, including eccentric disc . . . . .	10	18,003	27,646	18,492	30,477
34918 08	All other pneumatic power-operated control valves . . . . .	19	(S)	46,839	(S)	48,740
34918 09	Parts for pneumatic-actuated valves, sold separately . . . . .	25	(X)	111,853	(X)	115,708
	All other actuation, including electric-actuated and electrohydraulic-actuated . . . . .	(NA)	(X)	290,775	(X)	274,269
	Sliding stem valves . . . . .	(NA)	(S)	48,315	(S)	51,665
34918 11	Globe body . . . . .	8	(S)	12,724	(S)	13,046
34918 12	All other types . . . . .	13	(S)	35,591	(S)	38,619
	Rotary valves . . . . .	(NA)	(S)	59,035	(S)	54,278
34918 13	Ball <sup>1</sup> . . . . .	10	(S)	(D)	(S)	(D)
34918 14	Butterfly <sup>1</sup> . . . . .	8	(S)	(D)	(S)	(D)
34918 17	All other rotary valves, including eccentric disc <sup>1</sup> . . . . .	1	(S)	59,035	(S)	54,278
34918 18	All other power-operated (except pneumatic) control valves <sup>2</sup> . . . . .	17	4,223	158,328	3,225	145,022
34918 21	Parts for all other power-operated (except pneumatic) control valves . . . . .	12	(X)	25,097	(X)	23,304
34918 23	Valve actuators, sold separately . . . . .	23	146,879	103,480	138,022	90,916
	Regulator valves:					
34918 25	Remote-sensing direct-actuated temperature regulators <sup>2</sup> . . . . .	20	3,945	84,283	4,056	88,718
34918 30	Self-contained direct-actuated pressure regulators (except instrument type and safety relief valves) <sup>2</sup> . . . . .	34	7,110	219,816	6,977	223,577
34918 35	Pilot (internal and external)-actuated pressure regulators <sup>2</sup> . . . . .	30	219	78,270	199	70,210
34918 41	Self-contained direct-acting precision and instrument-type pneumatic (air and gas) pressure regulators <sup>2</sup> . . . . .	12	526	51,290	575	50,484
34918 45	Flow regulators for gas, vapors, or liquids <sup>2</sup> . . . . .	45	16,916	213,593	17,630	207,405
34918 48	Other regulator valves <sup>2</sup> . . . . .	32	(X)	280,861	(X)	276,679
	Parts for regulator valves, sold separately . . . . .	31	(X)	46,598	(X)	52,862
34919 —	Solenoid-operated valves (except nuclear and fluid power transfer) . . . . .	46	(X)	504,481	(X)	463,777
	Solenoid-operated valves (except nuclear and fluid power transfer valves):					
	Commercial/industrial types:					
34919 56	Two-way <sup>2</sup> . . . . .	35	6,669	248,237	5,908	216,851
34919 58	Three-way <sup>2</sup> . . . . .	16	1,182	35,797	1,188	31,713
34919 59	Other <sup>2 3</sup> . . . . .	14	(D)	(D)	(D)	(D)
34919 61	Household appliance type <sup>2 3</sup> . . . . .	3	16,561	179,087	17,171	166,959
34919 79	Parts, components, and operators for solenoid-operated valves (except nuclear and fluid power transfer valves, sold separately) . . . . .	21	(X)	41,360	(X)	48,254
38121 —	Aeronautical, nautical, and navigational instruments (except aircraft engine instruments) . . . . .	88	(X)	2,350,113	(X)	2,124,535
	Flight and navigation sensors, transmitters, and displays:					
38121 01	Compasses (magnetic and gyroscopic) . . . . .	15	(X)	240,882	(X)	231,534
38121 08	Altimeters (except radio and radar altimeters) . . . . .	10	(X)	27,536	(X)	23,281
38121 10	Airspeed indicators, including machmeters and air data computers . . . . .	14	(X)	322,429	(X)	298,034
38121 12	Acceleration indicators and systems components . . . . .	9	(D)	(D)	(D)	(D)
38121 13	Rate-of-climb indicators <sup>4</sup> . . . . .	5	(S)	(D)	(S)	(D)
38121 15	Angle-of-attack indicators <sup>4</sup> . . . . .	9	(S)	21,002	(S)	18,047

See footnotes at end of table.

Table 23. Quantity and Value of Shipments of Selected Instruments and Related Products: 1996 and 1995—Con.

[Quantity in number of units. Value in thousands of dollars]

Product code	Product description	Number of companies	1996		1995	
			Quantity	Value	Quantity	Value
38121 —	Aeronautical, nautical, and navigational instruments (except aircraft engine instruments)—Con. Flight and navigation sensors, transmitters, and displays—Con.					
38121 18	Artificial horizon flight instruments . . . . .	6	6,550	19,133	6,759	18,320
38121 20	Other aerospace and navigational instruments . . . . .	29	(X)	(D)	(X)	(D)
	Gyroscopes, sold separately:					
38121 21	Vertical . . . . .	6	3,339	15,527	<sup>2</sup> 2,884	<sup>1</sup> 11,359
38121 23	Directional . . . . .	6	5,882	9,461	<sup>5</sup> 5,998	<sup>1</sup> 10,825
38121 25	Free, torqued and untorqued <sup>5</sup> . . . . .	2	(X)	(D)	(X)	(D)
38121 26	Rate, inertial grade <sup>5</sup> . . . . .	3	(X)	114,478	(X)	<sup>7</sup> 75,974
38121 28	Rate, noninertial grade . . . . .	5	(X)	57,014	(X)	68,507
	Airframe equipment instruments:					
38121 61	Position indicators (mechanical, as for landing gear, cowl flaps, stabilizers, etc.) . . . . .	14	(X)	17,528	(X)	18,511
38121 63	Hydraulic system (both electrical and mechanical measuring means, as for liquid level and temperature and pressure indicators) . . . . .	12	(X)	30,117	(X)	22,729
38121 64	Cabin environmental measuring and control instruments (air-conditioning and heating, cabin pressure, oxygen, etc.) . . . . .	12	(X)	65,693	(X)	54,702
38121 80	Other aerospace flight instruments . . . . .	23	(X)	584,727	(X)	533,579
38121 85	Nautical instruments (all types, including temperature, speed, pitch, and roll instruments and system components, etc.) . . . . .	13	299,986	68,144	<sup>1</sup> 305,732	<sup>1</sup> 63,969
38121 89	Parts and components for aeronautical, nautical, and navigational instruments (except aircraft engine instruments, sold separately) . . . . .	26	(X)	74,707	(X)	<sup>1</sup> 90,773
38122 —	Search and detection systems and navigation and guidance systems and equipment . . . . .	227	(X)	23,855,911	(X)	24,697,421
38122 11	Light reconnaissance and surveillance electronic systems and equipment (infrared, ultraviolet, and visible light) . . . . .	45	(X)	2,260,782	(X)	2,450,281
38122 13	IFF equipment . . . . .	8	(X)	108,226	(X)	111,317
38122 15	Proximity fuses . . . . .	4	(X)	<sup>a</sup> 111,462	(X)	139,522
	Radar systems and equipment:					
	Search, detection, and acquisition radar systems and equipment (BMEWS, airborne and other early warning radar, air traffic control radar, air defense and fighter control radar, ship radar, harbor control radar, meteorological radar, etc.):					
38122 17	Airborne and missile/space radar . . . . .	22	(X)	1,524,464	(X)	1,839,475
38122 19	Ship (marine) radar <sup>6</sup> . . . . .	15	(X)	(D)	(X)	(D)
38122 21	Ground radar <sup>6</sup> . . . . .	21	(X)	956,788	(X)	1,103,073
	Tracking radar systems and equipment (fire control, bombing, bombing navigational radar, aircraft, and missile tracking radar, etc.):					
38122 23	Airborne and missile/space radar . . . . .	13	(X)	819,583	(X)	1,013,743
38122 25	Ship (marine) radar . . . . .	15	(X)	<sup>a</sup> 123,197	(X)	<sup>1</sup> 119,635
38122 27	Ground radar . . . . .	19	(X)	<sup>a</sup> 1,226,319	(X)	1,487,570
	Instrumentation radar systems and equipment (altimeters, highway speed control radar, missile and space satellite tracking range radar, GCA and other precision approach radar, etc.):					
38122 29	Airborne, missile/space, and ship (marine) radar . . . . .	11	(X)	85,081	(X)	88,178
38122 31	Ground radar . . . . .	8	(X)	119,941	(X)	127,893
38122 33	Electronic checkout, monitoring, evaluation, and other electronic support equipment for radar systems . . . . .	15	(X)	134,696	(X)	153,267

See footnotes at end of table.



Table 23. **Quantity and Value of Shipments of Selected Instruments and Related Products: 1996 and 1995—Con.**

[Quantity in number of units. Value in thousands of dollars]

Product code	Product description	Number of companies	1996		1995	
			Quantity	Value	Quantity	Value
38122 —	Search and detection systems and navigation and guidance systems and equipment—Con. Sonar search, detection, tracking, and communication systems and equipment, including ASW (sonar telephone communication equipment, depth finding, fire control, fusing, guidance, hydrophones, mapping, sonabuys, navigation, sonar fish finders, sonar range instrumentation, and other):					
38122 35	Surface ship applications (destroyers, destroyer escort, etc.)	25	(X)	<sup>a</sup> 306,778	(X)	<sup>r</sup> 291,231
38122 37	Submarine applications	19	(X)	<sup>b</sup> 465,105	(X)	606,600
38122 39	Airborne	15	(X)	165,640	(X)	224,312
38122 41	Electronic checkout, monitoring, evaluation, and other electronic support equipment for sonar systems and submerged fixed systems	10	(X)	168,090	(X)	143,504
38122 43	Specialized command and control data processing and display equipment, sold separately from complete systems	22	(X)	<sup>a</sup> 880,523	(X)	1,098,242
38122 45	Search, detection, identification, and tracking systems and equipment, n.e.c. Electronic warfare systems and equipment: Countermeasures equipment:	31	(X)	<sup>b</sup> 1,489,520	(X)	<sup>r</sup> 1,410,080
38122 47	Jamming equipment, communications, and radar	27	(X)	<sup>a</sup> 1,113,285	(X)	1,139,762
38122 49	Underwater countermeasures equipment <sup>7</sup>	8	(X)	(D)	(X)	(D)
38122 51	Other active countermeasures equipment, excluding passive materials such as chaff, window, needles, and rope <sup>7</sup>	17	(X)	<sup>b</sup> 498,586	(X)	488,246
38122 53	Specialized electronic and communication intelligence equipment, including specially designed DF equipment, signal reduction and processing equipment, and signal analyzers and display equipment. Missile and space vehicle systems and equipment (beam riders, command guidance, inertial systems, infrared homing systems, radar systems, stellar trackers, television systems, combination systems, etc.):	33	(X)	<sup>a</sup> 1,916,820	(X)	1,847,278
38122 55	Missile-borne and space-vehicle-borne equipment	40	(X)	4,236,438	(X)	3,832,991
38122 57	Nonmissile and space vehicle guidance equipment (ground, ship, or airborne command guidance systems, etc.)	11	(X)	524,404	(X)	485,387
38122 59	Electronic checkout, launching, and other missile and space vehicle support systems (ground, ship, and air). Navigation systems and equipment, navigational aids for aircraft, ship, and ground navigation (autopilots, beacons, transponders, collision warning devices, DECCA, DME, ILS, Doppler navigation systems, inertial navigation systems, optical/laser LORAN, radio compasses and direction finders, SHORAN, TACAN, VOR, VORTAC equipment, etc.): Airborne navigational systems:	19	(X)	197,999	(X)	<sup>r</sup> 194,692
38122 61	Radio navigation receivers and displays, including OMNI, radio magnetic, glide slope/localizer, and DME	21	(X)	558,122	(X)	474,975
38122 63	Airborne integrated data systems/flight recorders	11	(X)	<sup>a</sup> 126,044	(X)	<sup>r</sup> 145,409
38122 65	Distance measuring equipment (DME)	5	(X)	(D)	(X)	(D)
38122 67	Flight directors/situation display	7	(X)	270,384	(X)	<sup>r</sup> 259,777
38122 69	Heads-up display (HUD) systems	8	(X)	<sup>b</sup> 113,081	(X)	119,854
38122 71	Inertial navigation systems	9	(X)	<sup>a</sup> 348,371	(X)	<sup>r</sup> 323,341
38122 73	Proximity warning/collision avoidance equipment	5	(X)	<sup>b</sup> 172,773	(X)	<sup>r</sup> 177,262
38122 75	Complete automatic pilots	6	(X)	291,269	(X)	<sup>r</sup> 277,678
38122 77	Other airborne navigational systems	26	(X)	<sup>b</sup> 1,084,530	(X)	<sup>r</sup> 996,003
38122 79	Surface (ship and ground) navigational systems	34	(X)	441,573	(X)	510,506
38122 81	Underwater navigational systems	7	(X)	(D)	(X)	(D)
38122 83	Electronic checkout, monitoring, evaluation, and other electronic support equipment for navigational systems and equipment	35	(X)	714,595	(X)	697,063

See footnotes at end of table.

Table 23. Quantity and Value of Shipments of Selected Instruments and Related Products: 1996 and 1995—Con.

[Quantity in number of units. Value in thousands of dollars]

Product code	Product description	Number of companies	1996		1995	
			Quantity	Value	Quantity	Value
38210 —	Laboratory apparatus and laboratory furniture .....	163	(X)	1,944,603	(X)	1,836,922
	Laboratory balances and scales:					
38210 11	Sensitivity of 5 centigrams or better <sup>8</sup> .....	9	(D)	(D)	(D)	(D)
38210 13	Sensitivity of less than 5 centigrams <sup>8</sup> .....	8	85,582	45,323	69,372	'39,339
38210 15	Laboratory furnaces and ovens .....	21	(X)	31,208	(X)	28,918
	Laboratory centrifuges:					
38210 17	Table-top type <sup>9</sup> .....	14	(D)	(D)	(D)	(D)
38210 19	Floor type <sup>9</sup> .....	6	32,908	135,820	29,435	137,446
38210 27	Laboratory evaporation and distillation apparatus .....	15	(X)	21,686	(X)	'21,441
38210 28	Laboratory sterilizers and autoclaves .....	11	(X)	118,768	(X)	142,176
38210 29	Laboratory burners and hotplates .....	14	(X)	7,460	(X)	'7,744
38210 31	Laboratory granulators, mills, and other particle size reduction apparatus .....	6	(X)	1,490	(X)	'1,500
38210 33	Laboratory dryers .....	9	(X)	7,619	(X)	8,852
38210 35	Laboratory blenders, mixers, shakers, dispensers, fraction collectors, and other liquid sample preparation apparatus .....	31	(X)	121,105	(X)	118,502
38210 36	Laboratory incubators .....	13	21,910	47,323	'18,452	41,400
38210 37	Environmental test chambers .....	19	(S)	76,897	(S)	'60,935
38210 38	Laboratory freezers .....	7	9,656	43,772	'8,573	38,953
38210 42	Microtomes .....	4	487	6,081	'439	'5,595
38210 81	Laboratory furniture, including cabinets, cases, benches, tables, stools, and reagent shelves .....	25	(X)	282,386	(X)	282,870
38210 88	Parts and components for laboratory furniture, sold separately .....	7	(X)	4,920	(X)	4,623
38210 98	All other laboratory and scientific apparatus not specified above, including wet and dry baths, and melting point apparatus; excluding analytical instruments .....	83	(X)	707,777	(X)	649,004
38210 99	Components, parts and accessories for laboratory and scientific apparatus, sold separately .....	56	(X)	284,968	(X)	247,624
38220 —	Controls for monitoring residential and commercial environments and appliance regulating controls .....	107	(X)	2,619,068	(X)	2,533,431
	Automatic controls of the type principally used as components of air-conditioning, refrigeration, and comfort heating, including pneumatic controls:					
	Temperature responsive (thermostats):					
38220 21	Electric <sup>2</sup> .....	35	40,456	358,667	37,408	336,222
38220 22	Pneumatic <sup>2</sup> .....	5	3,238	44,849	'3,258	'43,516
38220 25	Pressure responsive (pressurestats) <sup>2</sup> .....	11	4,826	45,415	5,521	48,574
38220 30	Hydronic responsive <sup>2</sup> .....	5	2,169	46,570	2,180	44,249
38220 35	Humidity responsive (humidistats) <sup>2 10</sup> .....	6	(D)	(D)	(D)	(D)
38220 40	Light responsive <sup>2 10</sup> .....	3	6,812	24,023	6,625	23,711
38220 50	Liquid level <sup>2</sup> .....	8	(S)	15,886	(S)	'14,621
38220 60	Igniters <sup>2 11</sup> .....	8	(D)	(D)	(D)	(D)
38220 65	Inherent motor protectors <sup>2 11</sup> .....	3	633,887	345,961	582,098	319,082
38220 66	Microprocessor-based load programmers for buildings: energy control <sup>2</sup> .....	13	521	72,576	420	70,623
38220 70	Computerized energy control systems for buildings .....	11	(S)	410,201	(S)	'405,735
38220 74	Other .....	21	(X)	431,296	(X)	'411,486
	Controls for major appliances such as domestic laundry and cooking appliances, refrigerators and freezers, vending machines, and air-conditioners:					
38220 75	Temperature responsive <sup>2</sup> .....	19	239,984	320,811	220,787	334,180
38220 81	All other controls for appliances <sup>2</sup> .....	14	27,467	256,187	30,498	267,723
38220 98	Parts and components for controls monitoring residential and commercial environments and for appliance regulating controls, sold separately .....	28	(X)	246,626	(X)	213,709

See footnotes at end of table.

Table 23. **Quantity and Value of Shipments of Selected Instruments and Related Products: 1996 and 1995—Con.**

[Quantity in number of units. Value in thousands of dollars]

Product code	Product description	Number of companies	1996		1995	
			Quantity	Value	Quantity	Value
38230 —	Process control instruments . . . . .	532	(X)	6,759,016	(X)	'6,438,511
	General-purpose control system instruments (commonly called receiver-type), operating from standardized transmission signals (electrical types ac or dc milliampere, millivolt, or telemetering signals; pneumatic types, 3 to 15 and 3 to 27 p.s.i. signals):					
	Electronic systems—unified architecture type:					
38230 35	Controllers (recording, indicating, or blind) . . . . .	37	174,564	167,603	'181,638	'177,003
38230 36	Recorders, with or without self-contained set-point stations . . . . .	19	(S)	77,432	(S)	'78,006
38230 37	Indicators, with or without self-contained set-point stations . . . . .	25	73,298	27,281	73,983	27,021
38230 38	Auxiliary stations and analog computing devices associated with the above, including manual loaders, auto-to-manual stations, ratio stations, adders, multipliers, and integrators . . . . .	15	(S)	86,129	(S)	78,053
38230 07	Electronic systems—nonunified architecture type . . . . .	69	(X)	1,509,026	(X)	'1,432,327
38230 12	Industrial multifunction process computers . . . . .	74	(X)	392,232	(X)	'403,468
	Pneumatic systems, including all system-type control, display, and computing instruments actuated from standardized pneumatic transmission signals:					
38230 39	Controllers (recording, indicating, or blind) . . . . .	14	123,674	61,834	118,140	'53,069
38230 40	Recorders, with or without self-contained set-point stations <sup>12</sup> . . . . .	3	(S)	(D)	(S)	(D)
38230 41	Indicators, with or without self-contained set-point stations <sup>12</sup> . . . . .	5	(S)	12,259	(S)	11,405
38230 42	Auxiliary stations and analog computing devices associated with the above, including manual loaders, auto-to-manual stations, ratio stations, adders, multipliers, and integrators . . . . .	5	<sup>b</sup> 58,697	<sup>b</sup> 15,151	<sup>b</sup> 68,974	<sup>b</sup> 20,924
38230 43	Receiver-type gauges, analog and digital . . . . .	9	(S)	7,416	(S)	7,956
38230 44	Annunciators, industrial; electromechanical and solid-state types . . . . .	11	23,254	22,395	'23,053	23,723
	Temperature measuring instruments, excluding general-purpose, receiver-type instruments:					
	Electrical and electronic measuring types (thermocouple, resistance temperature detector, radiation, optical, thermistor, and other electrical sensors):					
38230 45	Direct-deflecting types (controllers for all types of electrical temperature sensors) . . . . .	7	359,035	6,107	314,012	'5,209
38230 46	Direct-deflecting types (indicators and recorders for all types of electrical temperature sensors) . . . . .	11	(S)	5,771	(S)	5,032
38230 47	Electromechanical self-balancing types (electric or pneumatic controllers for all types of electrical temperature sensors) <sup>13</sup> . . . . .	2	(S)	(D)	(S)	(D)
38230 48	Electromechanical self-balancing types (indicators, recorders, and integrators for all types of electrical temperature sensors) <sup>13</sup> . . . . .	3	(S)	6,483	(S)	'9,819
38230 49	Electronic controllers for all types of electrical temperature sensors . . . . .	24	477,434	93,478	488,774	93,735
38230 50	Digital indicators for all types of electrical temperature sensors, excluding data loggers . . . . .	37	98,045	30,165	'94,589	'30,964
	Transmitters, producing standardized electric or pneumatic analog transmission signals for all types of electrical temperature sensors:					
38230 54	Electric . . . . .	24	172,443	53,324	153,295	44,238
38230 55	Pneumatic . . . . .	4	539	411	'603	471
	Mechanical measuring types, filled systems (liquid filled, vapor pressure, gas filled, and mercury filled types):					
38230 52	Indicating or recording controllers . . . . .	10	230,719	41,605	271,958	43,318
38230 53	Recorders, noncontrol . . . . .	12	325,213	15,128	'310,857	'17,175
38230 56	Indicators only, excluding indoor-outdoor and other household or appliance type thermometers . . . . .	15	487,159	14,753	468,823	15,651
38230 57	Transmitters producing standardized electric or pneumatic analog transmission signals . . . . .	13	46,434	12,415	'40,594	'10,489

See footnotes at end of table.

Table 23. Quantity and Value of Shipments of Selected Instruments and Related Products: 1996 and 1995—Con.

[Quantity in number of units. Value in thousands of dollars]

Product code	Product description	Number of companies	1996		1995	
			Quantity	Value	Quantity	Value
38230 —	Process control instruments—Con.					
38230 59	Primary temperature sensors, excluding aircraft types:					
38230 60	Thermocouples and thermocouple lead wire.....	65	(X)	215,495	(X)	210,580
	All other types (resistance temperature detectors, radiation and optical sensors, thermistors, etc.).....	44	(X)	95,863	(X)	107,905
	Pressure (gauge, absolute vacuum) and draft measuring instruments, excluding general-purpose, receiver-type instruments:					
38230 61	Indicating or recording controllers.....	16		120,387		43,846
38230 62	Recorders, noncontrol.....	7		14,208		5,569
	Indicators only, excluding receiver-type gauges:					
38230 20	3-inch diameter and over <sup>2</sup> .....	22		3,813		2,892
38230 21	Under 3-inch diameter <sup>2</sup> .....	19	(S)	109,364	(S)	95,082
	Transmitters producing standardized analog transmission signals:					
38230 24	Transmitters producing standardized electronic analog transmission signals <sup>2</sup> .....	32		6,502		6,114
38230 25	Transmitters producing standardized pneumatic analog transmission signals.....	6		32,150		25,432
	Flow and liquid level measuring instruments, excluding general-purpose, receiver-type instruments:					
	Differential pressure types:					
38230 65	Indicating or recording controllers.....	11		44,875		44,211
38230 66	Recorders, noncontrol; and indicators, noncontrol....	15		52,888		52,783
	Transmitters producing standardized analog transmission signals:					
38230 27	Transmitters producing standardized electronic analog transmission signals.....	23		258,463		241,659
38230 28	Transmitters producing standardized pneumatic analog transmission signals.....	7		10,268		10,510
38230 29	Primary pressure sensors (load cells, strain gauges, etc.).....	8		63,452		66,118
38230 68	Primary flow elements, including orifice plates, venturi tubes, flow tubes, flow nozzles, and pitot tubes.....	17		351,976		383,784
	Electromagnetic flowmeters:					
38230 03	Primary device (magnetic flow tube).....	14		63,530		53,895
38230 01	Secondary device (magnetic transmitter, recorder, indicator, or controller that receives signal directly from primary device).....	13		46,689		44,613
38230 04	Capacitance, ultrasonic, and other electronic types, including magnetic resonance, vortex-precession, and vortex-shedding type elements.....	36		190,650		187,317
38230 71	Variable area-controlling, recording, indicating, and transmitting instruments and associated primary flow elements <sup>2</sup> .....	16		631		626
38230 72	Float and displacement (controlling, recording, indicating, and transmitting instruments and associated primary flow elements) <sup>2</sup> .....	25		1,675		1,691
38230 81	Turbine and propeller: controlling, recording, indicating, and transmitting instruments and associated primary flow elements.....	10		80,471		81,749
38230 82	Mass flow (controlling, thermal): controlling, recording, indicating, and transmitting instruments and associated primary flow elements.....	13		58,009		53,154
38230 83	Other types: controlling, recording, indicating, and transmitting instruments and associated primary flow elements.....	13		137,042		134,737
38230 74	Humidity instruments (controlling, recording, indicating, and transmitting, and associated primary humidity elements, excluding home and general-purpose type)...	13		44,841		44,888

See footnotes at end of table.

Table 23. **Quantity and Value of Shipments of Selected Instruments and Related Products: 1996 and 1995—Con.**

[Quantity in number of units. Value in thousands of dollars]

Product code	Product description	Number of companies	1996		1995	
			Quantity	Value	Quantity	Value
38230 —	Process control instruments—Con.					
	Continuous process instruments for on-stream gas and liquid analysis, including indicators, recorders, controllers, and analysis electrodes and cells; excluding laboratory analysis types:					
38230 75	Chromatographic analyzers . . . . .	13	5,046	84,408	4,813	73,681
38230 76	Infrared analyzers . . . . .	12	8,616	29,096	10,772	36,431
38230 77	Oxygen analyzers . . . . .	20	28,788	64,948	25,334	57,049
38230 78	Other gas analyzers . . . . .	29	56,566	141,180	52,224	126,653
38230 79	Ph analyzers . . . . .	16	73,673	42,819	68,543	38,669
38230 80	Other liquid analyzers . . . . .	23	83,534	79,111	74,842	66,238
	Instruments for all process variables not listed above (speed, weight, position, sequence, density, specific gravity, mechanical load, electrical load, and millivolts):					
	Electrical and electronic measuring types:					
38230 06	Direct-deflecting type controllers, indicators, and recorders . . . . .	5	3,041	9,327	3,531	9,311
38230 08	Electromechanical self-balancing electric or pneumatic controllers, indicators, recorders, and integrators . . . . .	4	(S)	2,449	(S)	2,774
38230 85	Digital indicators . . . . .	18	100,314	32,716	102,309	38,383
38230 86	Transmitters producing standardized electric or pneumatic analog transmission signals . . . . .	11	28,539	29,874	29,614	31,564
	Mechanical measuring types:					
38230 84	Indicating or recording controllers and recorders, noncontrol . . . . .	6	12,119	4,332	16,366	4,330
38230 89	Indicators only . . . . .	6	85,958	15,001	90,088	15,507
38230 90	Transmitters producing standardized electric or pneumatic analog transmission signals . . . . .	17	268,360	57,828	304,527	64,558
	All other industrial process instruments:					
38230 91	Other temperature instruments . . . . .	28	(X)	128,925	(X)	136,501
38230 92	Other flow and liquid level instruments . . . . .	32	(X)	176,389	(X)	145,080
38230 93	Other continuous process instruments . . . . .	36	(X)	350,774	(X)	311,049
38230 94	Other industrial type instruments . . . . .	61	(X)	499,229	(X)	468,725
	Parts, supplies, accessories, other primary sensors, n.e.c., panelboards, and other equipment associated with process control instruments:					
38230 95	Primarily designed for temperature instruments . . . . .	18	(X)	30,590	(X)	30,640
38230 96	Primarily designed for flow and liquid level instruments . . . . .	32	(X)	84,168	(X)	76,125
38230 97	Primarily designed for continuous process instruments . . . . .	30	(X)	149,465	(X)	110,371
38230 99	Primarily designed for industrial type instruments . . . . .	35	(X)	98,202	(X)	104,928
38242 —	Integrating and totalizing meters for gas and liquids . . . . .	41	(X)	963,121	(X)	915,185
	Gas meters, consumption registering:					
	Diaphragm type; positive displacements; aluminum, iron, and tin case:					
38242 22	Residential size (up to 400 cu. ft/hr of 0.64 specific gravity gas, at 0.5 inches water drop) <sup>2</sup> . . . . .	5	2,319	110,231	2,374	113,329
38242 24	Other sizes, including commercial and industrial . . . . .	6	138,931	41,718	127,781	38,369
38242 28	Turbine type (all sizes) <sup>14</sup> . . . . .	8	(D)	(D)	(D)	(D)
38242 29	Other gas meters, consumption registering <sup>14</sup> . . . . .	2	45,033	57,867	46,317	59,433
	Liquid meters, positive displacement with registers and counters:					
	Water meters, consumption registering:					
38242 33	Small meters, up to and including 1 inch . . . . .	9	4,392	206,478	4,327	195,188
38242 35	Intermediate meters, over 1 inch, up to and including 2 inches . . . . .	11	(S)	39,388	(S)	34,731
38242 37	Large meters, over 2 inches . . . . .	10	(S)	69,245	(S)	62,452
38242 41	Liquid fuel dispensing meters, excluding service station dispensing pumps <sup>15</sup> . . . . .	7	(D)	(D)	(D)	(D)
38242 98	Other liquid meters; industrial bulk plants, pipeline, batching, and treatment facilities <sup>15</sup> . . . . .	14	778,219	243,243	784,026	227,187
38242 99	Parts, components, and accessories for gas and liquid meters, sold separately . . . . .	32	(X)	194,951	(X)	184,496

See footnotes at end of table.

Table 23. Quantity and Value of Shipments of Selected Instruments and Related Products: 1996 and 1995—Con.

[Quantity in number of units. Value in thousands of dollars]

Product code	Product description	Number of companies	1996		1995	
			Quantity	Value	Quantity	Value
38243 —	Counting devices, excluding motor vehicle instruments . . . . .	44	(X)	362,743	(X)	363,802
38243 21	Mechanical input <sup>2</sup> . . . . .	10	2,000	37,854	2,403	40,211
38243 23	Electrical input <sup>2</sup> . . . . .	15	948	29,566	1,191	29,312
38243 25	Electronic input . . . . .	16	777,365	54,613	728,095	59,918
38243 85	All other counting devices not specified above, including toll meters, fare collection equipment (systems), and parking lot systems, but excluding parking meters. . . . .	13	(X)	234,185	(X)	226,580
38243 88	Components and parts for counting devices (except parking meters, sold separately) . . . . .	6	(X)	6,525	(X)	7,781
38244 —	Motor vehicle instruments . . . . .	33	(X)	2,205,293	(X)	2,193,099
	Speedometers (speedometers, including odometers, are classified as speedometers) . . . . .	10	(X)	24,603	(X)	23,282
38244 21	Tachometers . . . . .	8	(X)	22,120	(X)	23,343
38244 31	Odometers (speedometers, including odometers, are classified as speedometers) . . . . .	5	(X)	(D)	(X)	(D)
38244 41	Fuel level gauges <sup>16</sup> . . . . .	6	(X)	(D)	(X)	(D)
38244 45	Water temperature gauges <sup>16</sup> . . . . .	9	(X)	38,597	(X)	40,321
38244 51	Ammeters . . . . .	8	(X)	(D)	(X)	(D)
38244 55	Oil pressure gauges . . . . .	5	(X)	6,825	(X)	3,840
38244 60	Instrument panels, including cluster modules . . . . .	13	(X)	2,035,983	(X)	2,021,926
38244 99	Other motor vehicle instruments . . . . .	19	(X)	58,064	(X)	62,070
38251 —	Integrating instruments, electrical . . . . .	20	(X)	432,211	(X)	444,957
	Ac watt hour meters:					
38251 12	Single phase <sup>2</sup> . . . . .	7	4,827	126,964	4,673	116,727
38251 15	Polyphase . . . . .	8	(S)	32,390	(S)	36,882
38251 35	Demand meters (kW and kVA), combined watt-hour and demand meters (single phase and polyphase), and combined watt-hour and time switch meters <sup>17</sup> . . . . .	10	(X)	(D)	(X)	124,132
38251 51	Other electrical integrating meters, including dc watt-hour meters, ampere-hour meters, and other miscellaneous integrating instruments not included in the above classifications <sup>17</sup> . . . . .	7	(X)	180,833	(X)	69,795
38251 61	Parts and accessories for electric integrating meters, including meter mountings and registers, sold separately . . . . .	9	(X)	92,024	(X)	97,421
38252 —	Test equipment for testing electrical, radio and communication circuits, and motors . . . . .	378	(X)	10,311,171	(X)	9,254,992
	Voltage, current, and resistance measuring equipment (except multimeters):					
	Electronic:					
38252 20	Digital . . . . .	28	(X)	345,272	(X)	294,494
38252 21	Analog . . . . .	29	(X)	43,831	(X)	29,044
38252 22	Electrical, excluding panel meters . . . . .	15	(X)	54,248	(X)	43,156
	Multimeters:					
38252 23	Electronic, digital and analog <sup>18</sup> . . . . .	13	(X)	(D)	(X)	(D)
38252 30	Electrical <sup>18</sup> . . . . .	5	(X)	141,290	(X)	135,607
	Power and energy measuring equipment:					
	Electronic:					
38252 25	Analog . . . . .	9	(X)	6,000	(X)	6,200
38252 26	Digital . . . . .	16	(X)	71,409	(X)	88,316
38252 27	Electrical power measuring equipment, excluding electrical integrating instruments, sold separately . . . . .	4	(X)	(D)	(X)	(D)
	Frequency counters, timers, and other frequency and time measuring equipment, excluding standards:					
38252 31	Universal counters with time interval measuring capability <sup>19</sup> . . . . .	9	(X)	(D)	(X)	(D)
38252 33	Other frequency counters <sup>19</sup> . . . . .	7	(X)	20,183	(X)	23,438
38252 34	Frequency meters <sup>20</sup> . . . . .	6	(X)	(D)	(X)	(D)
38252 39	Other frequency counting and time measuring equipment <sup>20</sup> . . . . .	9	(X)	91,761	(X)	87,390
	Waveform measuring and/or analyzing equipment:					
38252 13	Oscilloscopes and plug-in accessories <sup>21</sup> . . . . .	8	(X)	(D)	(X)	(D)
38252 18	Spectrum analyzers . . . . .	7	(X)	87,921	(X)	87,836
38252 16	Other waveform measuring and analyzing equipment <sup>21</sup> . . . . .	21	(X)	1,113,483	(X)	884,405

See footnotes at end of table.

Table 23. **Quantity and Value of Shipments of Selected Instruments and Related Products: 1996 and 1995—Con.**

[Quantity in number of units. Value in thousands of dollars]

Product code	Product description	Number of companies	1996		1995	
			Quantity	Value	Quantity	Value
38252 —	Test equipment for testing electrical, radio, and communication circuits, and motors—Con.					
	Signal generating equipment:					
38252 56	Audio . . . . .	14	(X)	17,205	(X)	14,056
38252 58	RF (over 20 KHz to 890 MHz) <sup>22</sup> . . . . .	13	(X)	(D)	(X)	(D)
38252 59	Microwave (890 MHz and above) <sup>22</sup> . . . . .	12	(X)	488,443	(X)	448,199
	Field strength and intensity measuring equipment, including RFI measuring equipment:					
38252 91	Electronic . . . . .	13	(X)	(D)	(X)	(D)
38252 92	Electrical field measuring equipment. . . . .	4	(X)	(D)	(X)	(D)
	Impedance and standing wave ratio measuring equipment (transfer function measuring equipment):					
38252 93	Electronic impedance and related measuring equipment. . . . .	10	(X)	20,979	(X)	21,540
38252 94	Standing wave measuring equipment (slotted lines, sliding shorts, reflectometers, and other SWR equipment) . . . . .	5	(X)	8,337	(X)	7,295
38252 97	X-Y plotters (recorders), electronic . . . . .	4	(X)	3,795	(X)	3,985
	Automatic test and measuring equipment:					
38252 44	Combination and/or group test sets . . . . .	41	(X)	1,647,338	(X)	1,357,555
	Component part test sets:					
38252 45	Electron tube test equipment . . . . .	3	(X)	(D)	(X)	(D)
	Semiconductor component test equipment:					
38252 61	Memory . . . . .	18	(X)	207,606	(X)	238,777
38252 63	Linear . . . . .	12	(X)	215,287	(X)	221,849
38252 65	Microprocessor . . . . .	11	(X)	623,078	(X)	558,881
38252 67	Other semiconductor component test equipment . . . . .	44	(X)	1,129,831	(X)	1,039,513
38252 69	Circuit board loaded test equipment . . . . .	19	(X)	309,262	(X)	267,576
38252 47	Other component part test sets and equipment . . . . .	23	(X)	353,034	(X)	494,638
38252 48	Equipment and subassembly test equipment, n.e.c., including disc drive testers, and power supply testers, etc. . . . .	23	(X)	234,155	(X)	202,559
	Standards and calibration equipment for test measuring equipment, including laboratory types (metered benchtop, rack mountable, or plug-in equipment):					
38252 72	Electronic <sup>23</sup> . . . . .	33	(X)	(D)	(X)	132,875
38252 74	Electrical <sup>23</sup> . . . . .	6	(X)	231,722	(X)	95,944
	Analyzers for testing characteristics of internal-combustion engines, excluding aircraft:					
38252 37	Portable <sup>24</sup> . . . . .	6	(X)	(D)	(X)	(D)
38252 38	Other <sup>24</sup> . . . . .	6	(X)	244,675	(X)	239,809
	Communications test equipment, n.e.c.:					
38252 81	Network analyzers . . . . .	19	(X)	531,068	(X)	455,141
38252 83	Cable backplane and other continuity testers . . . . .	12	(X)	52,260	(X)	43,396
38252 85	Fiber optics test equipment (OTDR, optical S/N meters, etc.) . . . . .	8	(X)	104,527	(X)	102,504
38252 87	Other communications test, monitoring, and control equipment (except microwave) . . . . .	39	(X)	498,690	(X)	403,034
38252 52	Microwave test equipment, n.e.c. (1,300 MHz and above) . . . . .	9	(X)	29,825	(X)	29,423
	Logic test, development, and analysis equipment:					
38252 01	Logic analyzers, and similar logic state, timing, and signature analyzers <sup>25</sup> . . . . .	5	(X)	(D)	(X)	(D)
38252 03	Microprocessor development systems <sup>25</sup> . . . . .	7	(X)	241,954	(X)	201,230
38252 05	Pulse, function, and data generators and similar metered frequency synthesizers . . . . .	12	(X)	121,766	(X)	95,863
38252 08	Other field service test and measurement equipment, logic probes, clips, and pulsers . . . . .	8	(X)	34,487	(X)	31,089
38252 02	Other measuring and checking instruments for testing electrical, radio, and communication circuits, and motors <sup>26</sup> . . . . .	29	(X)	(D)	(X)	(D)
38252 19	Other analyzing instruments for checking electrical quantities <sup>26</sup> . . . . .	11	(X)	439,871	(X)	439,722
38252 99	Parts and components for test equipment for testing electrical, radio, and communication circuits, and motors, sold separately . . . . .	42	(X)	223,467	(X)	193,799

See footnotes at end of table.

Table 23. Quantity and Value of Shipments of Selected Instruments and Related Products: 1996 and 1995—Con.

[Quantity in number of units. Value in thousands of dollars]

Product code	Product description	Number of companies	1996		1995	
			Quantity	Value	Quantity	Value
38253 — 38253 08	Instruments to measure electricity . . . . .	90	(X)	554,461	(X)	554,876
38253 10	Digital panel meters (DPMs) between 0.05 percent and 1 percent, plus or minus one-digit accuracy, excluding precision DVMS and electronic counters . . . . .	24	664,543	100,848	572,500	88,109
38253 12	Analog solid state panel meters (generally of plus or minus 2-percent accuracy) with LED, LCD, or neon gas discharge display . . . . .	7	32,031	4,470	34,283	5,239
38253 13	Panel types other than ruggedized or sealed (generally of 2-percent accuracy): Ac, including moving iron vane and dynamometer types . . . . .	9	284,677	6,421	302,679	6,758
38253 11	Dc, including rectifier- and self-contained thermocouple types <sup>2</sup> . . . . .	13	1,046	27,064	1,149	26,588
38253 14	Panel types ruggedized or sealed (generally of 2-percent accuracy) . . . . .	8	62,565	9,419	146,223	7,666
38253 19	Panel types with control or signal initiating means, including instrument relays . . . . .	6	89,960	6,843	105,965	7,718
38253 23	All other panel type instruments, including ammeters and voltmeters for motor vehicles <sup>2</sup> . . . . .	13	4,443	43,314	5,400	56,811
38253 25	Switchboard instruments that are generally of 1-percent accuracy: Ac, including moving iron vane and dynamometer types <sup>27</sup> . . . . .	2	(D)	(D)	(D)	(D)
38253 27	Dc, including rectifier and thermocouple types <sup>27</sup> . . . . .	4	28,900	3,259	28,807	3,400
38253 24	Elapsed time meters (with or without reset) <sup>2</sup> . . . . .	9	1,015	32,902	1,032	33,419
38253 50	Portable instruments that are generally capable of accuracies within plus or minus 2 percent of full scale indication, and can be enclosed in a case so that they can be moved and used at various locations, and that are an end product . . . . .	16	369,201	36,603	388,815	36,919
38253 60	Electrical recording instruments (portable and for panel mounting): Direct deflecting (direct acting) (except temperature calibrated instruments) . . . . .	4	18,071	3,576	19,985	3,502
38253 72	Oscillographic recorders, pen or stylus, and light beam type <sup>28</sup> . . . . .	6	(X)	(D)	(X)	(D)
38253 74	Other electrical recording instruments <sup>28</sup> . . . . .	22	(X)	187,918	(X)	189,948
38253 75	Parts and accessories for indicating and recording instruments: Transducers for volts, amperes, watts, vars, frequency, temperature, and power factor . . . . .	19	(X)	44,948	(X)	43,076
38253 76	Tachometer generators (except aerospace types) <sup>29</sup> . . . . .	4	(X)	(D)	(X)	(D)
38260 —	Other, including instrument shunts <sup>29</sup> . . . . .	16	(X)	46,876	(X)	45,723
38260 01	Analytical and scientific instruments (except optical) . . . . .	267	(X)	6,093,154	(X)	5,737,177
38260 03	Electrochemical instruments: Ph electrodes and meters . . . . .	16	(X)	63,247	(X)	49,373
38260 04	Ion selective electrodes and meters . . . . .	12	(X)	37,023	(X)	133,677
38260 05	Electrophoresis instruments . . . . .	17	(X)	84,637	(X)	90,262
38260 07	Other (except process type), including photometers . . . . .	12	(X)	13,783	(X)	17,024
38260 08	Chromatographic instruments: Gas <sup>30</sup> . . . . .	17	(S)	(D)	(S)	(D)
38260 09	Liquid . . . . .	25	(S)	480,272	(S)	1429,884
38260 24	Other, including paper, gel, and thin layer <sup>30</sup> . . . . .	3	(X)	274,100	(X)	281,066
38260 25	Spectrophotometric instruments: Atomic absorption <sup>31</sup> . . . . .	4	(X)	(D)	(X)	(D)
38260 27	Optical emission, including spark, arc, and glow, spectrographs, and all other (except ICP) <sup>31</sup> . . . . .	8	(X)	(D)	(X)	(D)
	Optical emission, including laser excited source, which includes laser microprobe source emission, laser source Raman, and laser microprobe source Raman spectrometers <sup>31</sup> . . . . .	4	(X)	(D)	(X)	(D)

See footnotes at end of table.



Table 23. **Quantity and Value of Shipments of Selected Instruments and Related Products: 1996 and 1995—Con.**

[Quantity in number of units. Value in thousands of dollars]

Product code	Product description	Number of companies	1996		1995	
			Quantity	Value	Quantity	Value
38260 —	Analytical and scientific instruments (except optical)—Con.					
	Spectrophotometric instruments—Con.					
38260 28	Optical emission with inductively coupled plasma, ICP <sup>31</sup> .....	4	(X)	250,703	(X)	238,759
38260 30	Infrared, including Fourier transfer methods .....	17	(X)	287,331	(X)	257,093
38260 31	Ultraviolet, visible and colorimeters .....	22	(X)	190,177	(X)	181,134
38260 33	Fluorescent instruments, including fluorometers (except chemicals) .....	14	(X)	41,072	(X)	34,497
38260 35	Color measuring devices .....	8	(X)	86,382	(X)	88,211
38260 36	Other, including vacuum ultraviolet, Raman, light scattering reflectors, helium glow, and light measuring .....	13	(X)	25,091	(X)	31,313
38260 37	Thermal analysis instruments, including thermogravimetric analyzers (TGA), quantitative thermal analyzers (QTA) and differential thermal analyzers (DTA) .....	9	(X)	141,154	(X)	138,751
38260 38	Nuclear magnetic resonance spectrometers, including electron paramagnetic spin types (EP) <sup>32</sup> .....	3	(D)	(D)	(D)	(D)
38260 39	Microscopes, scanning type, including electron and proton .....	7	865	115,724	752	97,381
38260 53	Particle beam excitation instruments, including electron microprobes, augers, energy ion spectroscopes, secondary ion mass spectrometers (SIMS), and ion microprobes <sup>32</sup> .....	4	471	127,674	440	105,053
38260 55	Photon excitation analyzers, including: X-ray fluorescence, simultaneous; X-ray fluorescence, sequential; X-ray fluorescence, sequential with diffraction; X-ray fluorescence, diffraction; X-ray diffraction; and energy dispersive systems (EDSs) .....	13	3,203	87,409	3,142	84,087
38260 61	Mass spectroscopy instrumentation .....	19	(X)	357,612	(X)	329,896
	Clinical laboratory instrumentation, including instruments used in the clinical laboratory for measuring, analyzing, and processing clinical specimens .....	(NA)	(X)	1,128,399	(X)	1,040,816
38260 71	Chemistry (measure and identify substances, e.g., metabolites, enzymes, and drugs) .....	11	10,867	200,497	14,876	268,440
38260 72	Hematology (measure and identify substances or cells contained in blood or substances influencing the development and clotting of blood, e.g., cell counting coagulation factors) .....	8	13,412	291,865	10,575	244,175
38260 73	Microbiology (enumerate or identify pathogenic organisms or measure their susceptibility to antimicrobial agents) <sup>33</sup> .....	4	(S)	(D)	(S)	(D)
38260 74	Histology (process tissue and cells, e.g., tissue processors and cell stainers) <sup>33</sup> .....	3	(S)	(D)	(S)	(D)
38260 75	Blood bank and immunology (process blood and specimens for testing; measure and identify, using immunoassay, substances in clinical specimens) <sup>33</sup> .....	6	(S)	493,748	(S)	398,342
38260 76	Other clinical laboratory instrumentation not specified above .....	12	82,715	142,289	71,174	129,859
38260 78	Organic elemental analysis instruments, including carbon, hydrogen, nitrogen, oxygen, and sulphur .....	15	14,471	80,224	17,889	84,175
38260 92	Amino acid, protein, and/or peptide analyzers, including chromatographic type .....	6	848	51,734	797	45,489
38260 93	Gas detectors <sup>34</sup> .....	21	(D)	(D)	(D)	(D)
38260 94	Other analytical and scientific instruments, n.e.c., including molecular weight, monochrometers (analytical type), nephelometers (except meteorological), osmometers, particle size analyzers, photo multipliers, surface area analyzers, turbidometers, and breatholyzers <sup>34</sup> .....	103	(X)	859,974	(X)	792,617
38260 98	Parts, components, and accessories for analytical and scientific instruments, sold separately, including photo tubes, thermal conductivity sensors, and thermopiles .....	117	(X)	1,309,432	(X)	1,286,619

See footnotes at end of table.

Table 23. Quantity and Value of Shipments of Selected Instruments and Related Products: 1996 and 1995—Con.

[Quantity in number of units. Value in thousands of dollars]

Product code	Product description	Number of companies	1996		1995	
			Quantity	Value	Quantity	Value
38271 —	Sighting, tracking, and fire control equipment, optical type ..	41	(X)	616,244	(X)	655,447
38271 01	Made from lenses, prisms, etc., produced in the same plant.....	13	(X)	146,349	(X)	150,550
38271 02	Made from purchased lenses, prisms, etc. ....	23	(X)	433,759	(X)	475,508
38271 99	Parts and accessories .....	14	(X)	36,136	(X)	29,389
38274 —	Optical instruments and lenses .....	162	(X)	1,762,021	(X)	1,579,080
38274 01	Binoculars, prismatic and nonprismatic, and terrestrial and celestial telescopes .....	10	(X)	95,918	(X)	86,818
38274 03	Other astronomical instruments, excluding radio astronomy <sup>35</sup> .....	4	(X)	(D)	(X)	(D)
38274 09	Parts and accessories, including mountings, for binoculars, optical telescopes and other astronomical equipment <sup>35</sup> .....	10	(X)	19,630	(X)	21,942
38274 12	Optical test and inspection equipment, including standard sources, modulators, optical comparators, and interferometers (except optical microscopes) .....	38	(X)	160,942	(X)	144,554
38274 15	Optical microscopes .....	10	(X)	41,107	(X)	34,866
38274 17	Optical components: Filters, including parts and accessories thereof .....	33	(X)	81,145	(X)	83,793
38274 21	Lenses (except ophthalmic focus lenses): Unmounted lenses .....	39	(X)	127,446	(X)	125,544
38274 22	Mounted lenses: Photographic lenses .....	5	(X)	1,124	(X)	1,283
38274 23	Other mounted lenses .....	20	(X)	266,261	(X)	223,226
38274 29	Other (prisms, mirrors, etc.) .....	47	(X)	155,518	(X)	131,148
38274 59	Other optical instruments, including optical alignment and display instruments; excluding analytical instruments and binoculars and astronomical instruments listed above, and sighting and fire control equipment .....	44	(X)	638,870	(X)	572,400
38274 39	Parts and accessories for other optical microscopes .....	10	(X)	22,178	(X)	15,673
38274 49	Parts and accessories for other optical instruments .....	21	(X)	151,882	(X)	137,833
38291 —	Aircraft engine instruments (except flight) .....	39	(X)	446,976	(X)	429,744
38291 45	Temperature sensors, transmitters, and displays .....	22	(X)	121,412	(X)	106,128
38291 46	Pressure ratio sensors, displays, and controls <sup>36</sup> .....	6	(X)	(D)	(X)	(D)
38291 47	Pressure and vacuum sensors, transmitters, and displays <sup>36</sup> .....	11	(X)	78,119	(X)	72,097
38291 58	Fuel and oil flow rate sensors, transmitters, and displays, including mixture controls .....	9	(X)	25,681	(X)	27,458
38291 60	Fuel and oil quantity sensors, transmitters, and displays, including densitometers .....	9	(X)	87,225	(X)	84,454
38291 62	Tachometer generators and indicators .....	10	(X)	7,705	(X)	10,806
38291 98	All other not specified above .....	17	(X)	114,895	(X)	120,738
38291 99	Parts and components for aircraft engine instruments, (except flight), sold separately .....	8	(X)	11,939	(X)	8,063
38292 —	Physical properties testing and inspection equipment and kinematic testing and measuring equipment .....	163	(X)	1,377,593	(X)	1,374,365
38292 32	Physical properties testing equipment, including hardness, tensile, stress, strain, abrasion, strength, torsion, wear, and similar testing equipment; including components and parts, sold separately: For testing of metals .....	27	(X)	339,083	(X)	315,359
38292 34	Other .....	52	(X)	264,456	(X)	266,838
38292 39	Parts for physical properties testing equipment, sold separately .....	29	(X)	22,752	(X)	26,246

See footnotes at end of table.

Table 23. **Quantity and Value of Shipments of Selected Instruments and Related Products: 1996 and 1995—Con.**

[Quantity in number of units. Value in thousands of dollars]

Product code	Product description	Number of companies	1996		1995	
			Quantity	Value	Quantity	Value
38292 —	Physical properties testing and inspection equipment and kinematic testing and measuring equipment—Con.					
	Physical properties inspection equipment, including flaw detection, thickness measuring, and similar inspection equipment; including components and parts, sold separately:					
38292 52	For testing of metals.....	25	(X)	204,481	(X)	190,618
38292 54	Measuring and checking flow of fluids.....	12	(X)	54,574	(X)	48,482
38292 56	Other.....	37	(X)	222,708	(X)	271,517
38292 58	Parts for physical properties inspection equipment, sold separately.....	19	(X)	52,021	(X)	53,099
38292 90	Kinematic testing and measuring equipment, including vibration, acceleration, and other motion testing equipment.....	33	(X)	212,533	(X)	196,517
38292 98	Parts for kinematic testing and measuring equipment, sold separately.....	7	(X)	4,985	(X)	5,689
38294 —	Nuclear radiation detection and monitoring instruments.....	56	(X)	502,749	(X)	501,226
38294 02	Radiation detecting elements, including ion chambers.....	20		172,805	†181,198	†75,636
38294 04	Solid state detectors.....	7		22,298	20,556	37,242
38294 06	Nuclear monitoring instruments, including environmental, personal dosimetry, and medical monitors, both stationary and portable types.....	16	(X)	122,238	(X)	†123,858
38294 09	Sample and flow counting systems, manual and automatic.....	9	(X)	21,136	(X)	26,454
38294 19	Scalers <sup>37</sup> .....	7	(D)	(D)	(D)	(D)
38294 21	Special amplifiers for nuclear applications <sup>37</sup> .....	4		10,009	5,890	9,834
	Pulse analyzers, including nuclear spectrometers:					
38294 22	Single channel pulse height analyzers <sup>38</sup> .....	6	(S)	(D)	(S)	(D)
38294 23	Multichannel pulse height analyzers <sup>38</sup> .....	4	(S)	8,090	(S)	8,419
38294 25	Count rate meters.....	10		7,410	3,786	8,350
38294 29	Measurement and control devices using beta, gamma, or neutron gauge technology.....	12	(X)	100,752	(X)	96,788
38294 30	Nuclear power supplies <sup>39</sup> .....	6	(X)	(D)	(X)	(D)
38294 32	Neutron and photon activation analysis systems.....	5	(X)	2,081	(X)	3,096
38294 34	Nuclear instrument modules, n.e.c. <sup>39</sup> .....	11	(X)	35,258	(X)	43,895
38294 39	Other nuclear radiation detection and monitoring instruments.....	14	(X)	66,867	(X)	†51,997
38294 98	Parts and components for nuclear radiation detection and monitoring instruments, sold separately.....	15	(X)	27,535	(X)	23,399
38295 —	Commercial, geophysical, meteorological, and general-purpose instruments.....	163	(X)	1,385,460	(X)	1,373,248
38295 20	Barometers and barographs, aneroid and mercurial types, including recorders, wall, pendant, meteorological, hygrometers, and barometer-thermometer-humidity combinations.....	15	(X)	11,083	(X)	†10,350
38295 21	Hydrometers, glass, all types, including thermohydrometers <sup>2</sup> .....	7		277	6,683	†264
	Liquid-in-glass thermometers:					
38295 22	Engraved (etched) stem, thermoregulators, deep-sea reversing, laboratory, encased glass, ASTM standards, pocket case, and max-min registering (except clinical thermometers).....	14	(X)	7,678	(X)	†9,581
38295 23	Threaded and flanged types, fixed and adjustable angle, inline and duct installations, for process, food, air-conditioning, and refrigeration installations <sup>2</sup> .....	11		508	8,266	530
38295 24	Household and commercial thermometers such as wall, outdoor, domestic science, cupcase, filled systems, and indoor-outdoor <sup>2 40</sup> .....	11	(D)	(D)	(D)	(D)
38295 34	Clinical (fever) thermometers, including digital <sup>2 40</sup> .....	1		7,316	12,432	8,411

See footnotes at end of table.

Table 23. Quantity and Value of Shipments of Selected Instruments and Related Products: 1996 and 1995—Con.

[Quantity in number of units. Value in thousands of dollars]

Product code	Product description	Number of companies	1996		1995	
			Quantity	Value	Quantity	Value
38295 —	Commercial, geophysical, meteorological, and general-purpose instruments—Con. Bimetal thermometers:					
38295 25	Threaded and flanged types, for pipeline and duct installations, including general and pocket test <sup>2</sup> . . . . .	18	1,280	32,781	1,328	31,929
38295 26	Domestic science, commercial general test, indoor, outdoor, desk models, oven, and refrigerator <sup>2</sup> . . . . .	12	6,693	22,255	7,035	24,657
38295 28	Humidity indicating and recording instruments such as bi-hygroscopic and hygroscopic element, indicators, psychrometers, wet and dry bulb, hygrographs, and indicating hygrometers . . . . .	16	(X)	10,853	(X)	10,979
38295 29	Other thermometers (infrared, meteorological, commercial, and industrial) . . . . .	19	(X)	56,581	(X)	<sup>1</sup> 45,392
38295 51	Meteorological electronics equipment and radio astronomy equipment (automatic weather stations and weather tracking equipment, ceilometers, transitometers, space satellite meteorological systems, and specialized meteorological telemetering equipment) . . . . .	21	(X)	240,939	(X)	229,762
38295 31	Other meteorological instruments, including speed and direction instruments, rain gauges, thermographs, and parts, sold separately . . . . .	18	(X)	38,238	(X)	36,549
38295 40	Seismic instruments . . . . .	12	(X)	<sup>b</sup> 268,659	(X)	<sup>1</sup> 280,708
38295 45	All other geophysical instruments and equipment . . . . .	22	(X)	207,881	(X)	<sup>1</sup> 210,179
38295 33	Other commercial and industrial instruments (except aircraft), including compasses, altimeters, test equipment for hydraulic and pneumatic systems and controls, and environmental gas detectors, sold separately . . . . .	50	(X)	442,942	(X)	433,182
38295 39	Parts and accessories for meteorological and commercial and industrial instruments . . . . .	20	(X)	18,189	(X)	<sup>1</sup> 18,582
38296 —	Surveying and drafting instruments and associated equipment . . . . .	32	(X)	397,581	(X)	355,899
38296 11	Surveying instruments, including alidades, transits, plumb bobs, sextants, theodolites, surveyors, compasses, surveyor's levels, and tapes . . . . .	16	(X)	322,798	(X)	286,524
38296 19	Parts and components for surveying instruments, sold separately . . . . .	5	(X)	(D)	(X)	(D)
38296 21	Drafting instruments and machines, manual and automatic, drafting tables, plotting instruments, slide rules, T-squares, drafting templates, rules, etc. . . . .	15	(X)	62,449	(X)	60,789
38296 29	Parts and components for drafting instruments and machines, sold separately . . . . .	1	(X)	(D)	(X)	(D)
38296 31	Photogrammetric and geodetic equipment, excluding cameras . . . . .	1	(X)	(D)	(X)	(D)
38296 39	Parts and components for photogrammetric and geodetic equipment, sold separately . . . . .	2	(X)	(D)	(X)	(D)

D Withheld to avoid disclosing data for individual companies. NA Not available. n.e.c. Not elsewhere classified. <sup>1</sup>Revised by 5 percent or more from previously published data. S Does did not meet publication standards. X Not applicable.

<sup>1</sup>"Value" for product codes 34918 13 and 34918 14 are combined with product code 34918 17 to avoid disclosing data for individual companies.

<sup>2</sup>Quantity for this product code is in thousands of units.

<sup>3</sup>Product codes 34919 59 and 34919 61 are combined to avoid disclosing data for individual companies.

<sup>4</sup>"Value" for product codes 38121 13 and 38121 15 are combined to avoid disclosing data for individual companies.

<sup>5</sup>"Value" for product codes 38121 25 and 38121 26 are combined to avoid disclosing data for individual companies.

<sup>6</sup>"Value" for product codes 38122 19 and 38122 21 are combined to avoid disclosing data for individual companies.

<sup>7</sup>"Value" for product codes 38122 49 and 38122 51 are combined to avoid disclosing data for individual companies.

<sup>8</sup>Product codes 38210 11 and 38210 13 are combined to avoid disclosing data for individual companies.

<sup>9</sup>Product codes 38210 17 and 38210 19 are combined to avoid disclosing data for individual companies.

<sup>10</sup>Product codes 38220 35 and 38220 40 are combined to avoid disclosing data for individual companies.

<sup>11</sup>Product codes 38220 60 and 38220 65 are combined to avoid disclosing data for individual companies.

<sup>12</sup>"Value" for product codes 38230 40 and 38230 41 are combined to avoid disclosing data for individual companies.

<sup>13</sup>"Value" for product codes 38230 47 and 38230 48 are combined to avoid disclosing data for individual companies.

Table 23. **Quantity and Value of Shipments of Selected Instruments and Related Products: 1995 and 1994—Con.**

- <sup>14</sup>Product codes 38242 28 and 38242 29 are combined to avoid disclosing data for individual companies.
- <sup>15</sup>Product codes 38242 41 and 38242 98 are combined to avoid disclosing data for individual companies.
- <sup>16</sup>“Value” for product codes 38244 41 and 38244 45 are combined to avoid disclosing data for individual companies.
- <sup>17</sup>In 1996, “Value” for product codes 38251 35 and 38251 51 are combined to avoid disclosing data for individual companies.
- <sup>18</sup>“Value” for product codes 38252 23 and 38252 30 are combined to avoid disclosing data for individual companies.
- <sup>19</sup>“Value” for product codes 38252 31 and 38252 33 are combined to avoid disclosing data for individual companies.
- <sup>20</sup>“Value” for product codes 38252 34 and 38252 39 are combined to avoid disclosing data for individual companies.
- <sup>21</sup>“Value” for product codes 38252 13 and 38252 16 are combined to avoid disclosing data for individual companies.
- <sup>22</sup>“Value” for product codes 38252 58 and 38252 59 are combined to avoid disclosing data for individual companies.
- <sup>23</sup>“Value” for product codes 38252 72 and 38252 74 are combined to avoid disclosing data for individual companies.
- <sup>24</sup>“Value” for product codes 38252 37 and 38252 38 are combined to avoid disclosing data for individual companies.
- <sup>25</sup>“Value” for product codes 38252 01 and 38252 03 are combined to avoid disclosing data for individual companies.
- <sup>26</sup>“Value” for product codes 38252 02 and 38252 19 are combined to avoid disclosing data for individual companies.
- <sup>27</sup>Product codes 38253 23 and 38253 25 are combined to avoid disclosing data for individual companies.
- <sup>28</sup>“Value” for product codes 38253 60 and 38253 72 are combined to avoid disclosing data for individual companies.
- <sup>29</sup>“Value” for product codes 38253 75 and 38253 76 are combined to avoid disclosing data for individual companies.
- <sup>30</sup>“Value” for product codes 38260 07 and 38260 09 are combined to avoid disclosing data for individual companies.
- <sup>31</sup>“Value” for product codes 38260 24, 38260 25, 38260 27, and 38260 28 are combined to avoid disclosing data for individual companies.
- <sup>32</sup>Product codes 38260 38 and 38260 53 are combined to avoid disclosing data for individual companies.
- <sup>33</sup>“Value” for product codes 38260 73, 38260 74 and 38260 74 are combined to avoid disclosing data for individual companies.
- <sup>34</sup>Product codes 38260 93 and 38260 94 are combined to avoid disclosing data for individual companies.
- <sup>35</sup>“Value” for product codes 38274 03 and 38274 09 are combined to avoid disclosing data for individual companies.
- <sup>36</sup>“Value” for product codes 38291 46 and 38291 47 are combined to avoid disclosing data for individual companies.
- <sup>37</sup>Product codes 38294 19 and 38294 21 are combined to avoid disclosing data for individual companies.
- <sup>38</sup>“Value” for product codes 38294 22 and 38294 23 are combined to avoid disclosing data for individual companies.
- <sup>39</sup>“Value” for product codes 38294 30 and 38294 34 are combined to avoid disclosing data for individual companies.
- <sup>40</sup>Product codes 38295 24 and 38295 34 are combined to avoid disclosing data for individual companies.

Note: Percent of estimation of each item is indicated as follows: <sup>a</sup>10 to 25 percent of this item has been estimated. <sup>b</sup>Over 25 percent of this item has been estimated.

Table 24. Shipments, Imports and Exports of Selected Instruments and Related Products: 1996

[Value in thousands of dollars]

Product code	Product description	Manufacturers' shipments (value of f.o.b. plant)	Exports of domestic merchandise (value at port) <sup>1</sup>	Imports for consumption (value) <sup>2</sup>
34918 01-04, 07-09	Pneumatic actuated automatic valves . . . . .	536,349	49,002	53,098
34918 11-14, 17-18, 21, 23	All other control valves, including electric and electrohydraulic . . . . .	394,255	306,555	367,542
34918 25, 30, 35, 41, 45, 48	Self-generating power-actuated regulator valves . . . . .	974,711	107,055	214,630
34919 56, 58-59, 61, 79	Solenoid-operated valves (except nuclear and fluid transfer) . . . . .	504,481	134,982	395,508
38121 01	Compasses (magnetic and gyroscopic) . . . . .	240,882	46,242	28,463
38121 08, 10, 12-13, 15, 18, 20-21, 23, 25-26, 28, 61, 63-64, 80, 85, 89, 38122 11, 13, 15	Search, detection, aeronautical, nautical, and navigational and guidance systems, equipment, and instruments, n.e.c. (except aircraft engine instruments) . . . . .	4,589,701	632,185	250,078
38122 17, 19, 21, 23, 25, 27, 29, 31, 33	Radar systems and equipment . . . . .	4,990,069	296,810	57,399
38122 61	Radio navigational aid receivers and displays . . . . .	558,122	299,872	186,352
38122 75	Automatic pilots . . . . .	291,269	45,901	14,434
38122 35, 37, 39, 41, 43, 45, 47, 49, 51, 53, 55, 57, 59, 63, 65, 67, 69, 71, 73, 77, 79, 81, 83	Sonar search, detection, tracking, and communication systems and equipment, including ASW (sonar telephone, communication equipment, depth finding, fire control, fusing guidance, hydrophones, mapping, sonabuys, navigation, sonar fish finders, sonar range instrumentation, etc.) . . . . .	15,535,981	85,143	63,752
38220 21-22, 75	Temperature responsive automatic controls (thermostats) . . . . .	724,327	115,631	214,837
38220 25, 30, 35, 40, 50, 60, 65-66, 74, 81	Pressure responsive automatic, hydraulic automatic, pneumatic automatic, and automatic controls, n.e.c. . . . .	1,237,914	923,689	840,004
38220 98	Parts and components for automatic controls, sold separately . . . . .	246,626	(NA)	(NA)
38230 00	Process control instruments . . . . .	6,759,016	440,908	481,461
38242 22, 24, 28, 29	Gas meters, consumption registering (except parts) . . . . .	209,816	24,952	5,076
38242 33, 35, 37, 41, 98	Liquid meters (except parts) . . . . .	558,354	60,992	3,116
38242 99	Parts, components, and accessories for gas and liquid meters, sold separately . . . . .	194,951	78,811	32,495
38243 21, 23, 25, 85, 38244 00, 38253 00, 38291 00	Counting devices, n.e.c., including taxi meters and parts, parking meters and parts, and motor vehicle instruments . . . . .	3,560,348	334,660	826,673
38251 00	Electricity meters . . . . .	432,211	44,946	5,502
38252 20-22	Voltage, current, and resistance measuring equipment (except multimeters) . . . . .	443,351	289,713	159,152
38252 25-27	Power and energy testing equipment . . . . .	(D)	(NA)	(NA)
38252 37-38	Analyzers for testing characteristics of internal-combustion engines (except aircraft) . . . . .	244,675	200,823	93,339
38252 56, 58, 59	Signal generating equipment . . . . .	505,648	104,984	38,097
38252 01-03, 05, 12-13, 16, 18, 23, 30-31, 33-34, 39, 44-45, 47-48, 52, 61, 63, 65, 67, 69, 72, 74, 81, 83, 85, 87, 91-94	Test equipment for testing multimeters, electrical, radio, and communication circuits, and motors, n.e.c. . . . .	8,421,601	943,669	291,502
38210 00, 38260 00	Laboratory, analytical, and scientific instruments . . . . .	8,037,757	(NA)	(NA)

See footnotes at end of table.

Table 24. Shipments, Imports and Exports of Selected Instruments and Related Products: 1996—Con.

[Value in thousands of dollars]

Product code	Product description	Manufacturers' shipments (value of f.o.b. plant)	Exports of domestic merchandise (value at port) <sup>1</sup>	Imports for consumption (value) <sup>2</sup>
38271 00	Sighting, tracking, and fire-control equipment, optical type . . . . .	616,244	29,452	72,753
38274 01, 03, 09	Binoculars and astronomical instruments and parts and accessories . . . . .	115,548	74,718	232,724
38274 12, 17, 21-23, 29, 39, 49, 59	Optical instruments and lenses, n.e.c. . . . .	1,605,366	290,579	28,643
38274 15	Microscopes, optical . . . . .	41,407	(NA)	(NA)
38292 00	Physical properties testing and inspection equipment, and kinematic testing and measuring equipment . . . . .	1,377,593	608,280	70,545
38294 00	Nuclear radiation detection and monitoring instruments, and equipment . . . . .	502,749	285,960	35,152
38295 34	Liquid-in-glass thermometers, clinical <sup>3</sup> . . . . .	(D)	2,763	3,162
38295 22-24	Liquid-in-glass thermometers, n.e.c. <sup>3</sup> . . . . .	28,376	11,434	11,533
38295 25-26, 29	Thermometers (except liquid-in-glass type) . . . . .	111,617	8,233	(NA)
38295 45	Geophysical instruments and equipment . . . . .	207,881	160,098	43,307
38295 40	Seismic instruments . . . . .	268,659	13,320	12,450
38295 20, 28, 51, 31	Commercial, geophysical, meteorological, and general-purpose instruments, n.e.c. . . . .	301,113	137,322	78,718
38296 11, 19	Surveying instruments (except photogrammetrical and geodetic equipment) . . . . .	(D)	66,450	67,415
38296 21	Drafting instruments and machines, manual and automatic . . . . .	62,449	38,722	195,353

D Withheld to avoid disclosing data for individual companies. NA Not available. n.e.c. Not elsewhere classified.

<sup>1</sup>Source: Bureau of the Census report, EM 545, *U.S. Exports*.<sup>2</sup>Source: Bureau of the Census report, IM 145, *U.S. Imports for Consumption*.<sup>3</sup>Manufacturers' shipments have been combined for product codes 38295 34 and 38295 22, 23, and 24 to avoid disclosing data for individual companies.**HISTORICAL NOTE**

Data on selected instruments and related products have been collected by the Bureau of the Census since 1961. Historical data may be obtained from Current Industrial Reports available at your local Federal Depository Library.

Historical data are also available on microfiche; contact Customer Services, 301-457-4100.

**CONTACT FOR DATA USERS**

For additional information about these data, contact Indrek Grabbi, 301-457-4772.

## ELECTROMEDICAL EQUIPMENT AND IRRADIATION EQUIPMENT (INCLUDING X-RAY) (MA38R)

### INTRODUCTION

These data cover manufacturers of electromedical and irradiation equipment (including X-ray), except very small firms (generally less than 20 employees) for which 1992 Census of Manufactures data were derived from administrative records of other government agencies.

The statistics were collected by mail on Bureau of the Census annual Form MA38R, Electromedical Equipment and Irradiation Equipment (Including X-ray). The survey panel includes all known producers of these products, except the very small firms excluded from the scope of the survey. Approximately 271 companies are included. No estimate is derived for the small firms excluded from the survey.

### SUMMARY OF FINDINGS

During 1996, the total value of shipments of electromedical and irradiation equipment increased by 11.29 percent to

\$10.9 billion, from the 1995 level of \$9.8 billion. X-ray and other irradiation equipment increased 3.9 percent from its 1995 level. Electromedical equipment increased 14.1 percent to \$8.1 billion, from the 1995 level of \$7.1 billion.

### EXPLANATION OF TERMS

**Research and development.** Dollar shipments reflect income from development, design, and engineering services performed by the reporting plant in connection with the manufacture of the products shipped, whether included in a single production contract, or contracted for separately, but intended as preparation for the manufacture of the specific products.

Table 25. Value of Shipments of Electromedical and Irradiation Equipment by Class of Product: 1991 to 1996

[Value in millions of dollars]

Product code	Product description	1996	1995	1994	1993	1992	1991
38440	X-ray and other irradiation equipment. . . . .	2,802.3	2,698.1	2,458.2	2,480.0	2,270.2	2,205.2
38450	Electromedical equipment. . . . .	8,132.7	7,124.8	6,752.1	6,222.0	6,273.1	5,673.8



Table 26. Quantity and Value of Shipments of Electromedical and Irradiation Equipment: 1996 and 1995

[Quantity in number of units. Value in thousands of dollars]

Product code	Product description	Number of companies	1996		1995	
			Quantity	Value	Quantity	Value
	Electromedical and irradiation equipment.....	271	(X)	10,934,932	(X)	9,822,953
	Medical diagnostic equipment:					
	X-ray equipment:					
38440 02	Digital radiography equipment .....	5	7,500	132,755	(D)	71,579
38440 03	Computerized axial tomography (CT or CAT scan) <sup>1</sup> .....	7	4,159	529,300	(D)	(D)
38440 09	Dental and conventional .....	12	21,158	470,990	20,605	447,022
38440 11	All other medical diagnostic X-ray equipment <sup>1</sup> .....	15	(X)	315,941	(X)	854,323
38440 06	Nuclear medicine equipment (all equipment used for nuclear in vivo studies) .....	8	1,155	307,263	1,116	337,244
38450 18	Magnetic resonance imaging (MRI) equipment..	6	(D)	(D)	(D)	(D)
38450 17	Ultrasound scanning devices .....	12	9,111	909,001	9,313	781,986
38450 11	Electrocardiograph (EKG) .....	14	46,055	203,518	49,621	228,743
38450 13	Electroencephalograph (EEG) and electromyograph (EMG) <sup>2</sup> .....	6	(D)	(D)	(D)	(D)
38450 21	Audiological equipment .....	6	(X)	11,099	(X)	11,403
38450 23	Endoscopic equipment (bronchoscope, cystoscope, proctosigmoidoscope, colonoscope, etc.) .....	5	(D)	(D)	(D)	(D)
38450 25	Respiratory analysis equipment .....	6	5,639	48,541	4,792	46,009
38450 29	All other medical diagnostic equipment <sup>2</sup> .....	25	(X)	198,621	(X)	156,326
	Patient monitoring equipment:					
38450 51	Intensive care/coronary care units, including component modules such as temperature, blood pressure, and pulse .....	23	(X)	572,021	(X)	535,595
38450 53	Prenatal monitoring <sup>3</sup> .....	6	(X)	(D)	(X)	(D)
38450 55	Respiratory monitoring <sup>3</sup> .....	6	(X)	96,131	(X)	101,637
38450 57	All other patient monitoring .....	33	(X)	587,402	(X)	513,854
	Medical therapy equipment:					
38450 43	Ultrasound therapy .....	7	(X)	11,387	(X)	8,528
38450 31	Pacemakers .....	10	204,764	854,700	203,757	639,343
38450 33	Defibrillators .....	11	48,765	527,756	45,288	440,238
38450 39	Dialyzers, including machines and equipment.	4	(X)	277,672	(X)	301,749
38450 41	Medical laser equipment .....	18	(X)	559,526	(X)	455,058
38440 32	Radiation therapy (linear accelerators, X-ray, cobalt 60, brachetherapy) <sup>4</sup> .....	8	(X)	(D)	(X)	(D)
38450 49	All other medical therapy equipment .....	34	(X)	621,390	(X)	635,199
	All other irradiation and electromedical equipment:					
38440 13	Industrial and scientific X-ray equipment .....	18	2,182	154,153	1,667	125,814
38440 21	X-ray tubes, sold separately .....	11	45,870	421,703	50,139	364,665
38440 23	Other nonmedical irradiation equipment, including gamma- and beta-ray equipment, n.e.c. .....	5	(X)	20,024	(X)	17,392
38440 27	Parts and accessories for X-ray equipment and other nonmedical irradiation equipment, n.e.c. <sup>4</sup> .....	26	(X)	450,152	(X)	480,074
	Surgical systems:					
38450 35	Electrosurgical equipment .....	14	(X)	343,786	(X)	327,144
38450 71	Heart-lung machines, excluding iron lungs <sup>5</sup> .....	3	(D)	(D)	(D)	(D)
38450 73	Blood flow systems <sup>5</sup> .....	8	(X)	320,307	(X)	291,729
38450 75	All other surgical support systems .....	13	(X)	333,124	(X)	318,454
38450 83	Other electromedical equipment (except diagnostic and therapeutic), n.e.c. ....	11	(X)	38,081	(X)	35,202
38450 89	Electromedical parts and accessories, including diagnostic and therapeutic, n.e.c. ...	42	(X)	769,373	(X)	649,994

D Withheld to avoid disclosing data for individual companies. n.e.c. Not elsewhere classified. <sup>†</sup>Revised by 5 percent or more from previously published data. X Not applicable.

<sup>1</sup>For 1995, "Value" for product codes 38440 03 and 38440 11 are combined to avoid disclosing data for individual companies.

<sup>2</sup>"Value" for product codes 38450 13 and 38450 29 is combined to avoid disclosing data for individual companies.

<sup>3</sup>"Value" for product codes 38450 53 and 38450 55 is combined to avoid disclosing data for individual companies.

<sup>4</sup>"Value" for product code 38440 32 is combined with product code 38440 27 to avoid disclosing data for individual companies.

<sup>5</sup>"Value" for product code 38450 71 is combined with product code 38450 73 to avoid disclosing data for individual companies.

Table 27. Shipments, Exports, and Imports of Electromedical and Irradiation Equipment: 1996

[Value in thousands of dollars]

Product code	Product description	Manufacturers' shipments (value f.o.b. plant)	Exports of domestic merchandise (value at port) <sup>1</sup>	Imports for consumption (value) <sup>2, 3</sup>
38440 03	Computerized axial tomography (CT or CAT SCAN) . . . . .	529,300	17,016	71,775
38440 02, 09, 11, 06, 32	Medical X-ray and nuclear equipment diagnostic and therapeutic <sup>4</sup> . . . . .	1,226,949	550,057	575,255
38440 13	Industrial and scientific X-ray equipment . . . . .	154,153	118,522	80,052
38440 21	X-ray tubes sold separately . . . . .	421,703	146,802	95,414
38440 27	Parts and accessories for X-ray equipment and other nonmedical irradiation equipment, n.e.c. <sup>5</sup> . . . . .	450,152	303,405	260,073
38440 23	Nonmedical irradiation equipment, including gamma- and beta-ray equipment, n.e.c. . . . .	20,024	21,839	8,697
38450 11	Electrocardiograph (EKG), diagnostic . . . . .	203,518	54,545	19,172
38450 13	Electroencephalographs (EEG's) and electromyographs (EMG) . . . . .	(D)	(D)	6,551
38450 17	Ultrasound scanning devices, diagnostic . . . . .	909,001	359,773	69,459
38450 18	Magnetic resonance imaging equipment (MRI) . . . . .	(D)	(D)	9,727
38450 31	Pacemakers, therapeutic . . . . .	854,700	223,988	15,252
38450 21, 23, 25, 29	Diagnostic electromedical equipment, n.e.c. . . . .	(D)	(D)	488,124
38450 33, 41, 49	Therapeutic electromedical equipment, n.e.c. . . . .	1,708,672	204,689	40,173
38450 71, 73, 75, 83	Electromedical equipment and irradiation equipment, including X-ray, n.e.c. . . . .	691,512	276,871	306,519
38450 39	Dialyzers, machines and equipment . . . . .	277,672	77,312	40,576
38450 51, 53, 55, 57	Patient monitoring equipment . . . . .	1,255,554	330,824	29,143
38450 43	Therapeutic ultrasound equipment . . . . .	11,387	15,093	2,844
38450 35	Electrosurgical equipment . . . . .	343,786	299,189	53,469
38450 89	Electromedical parts and accessories, including diagnostic and therapeutic, n.e.c. . . . .	769,373	685,527	433,942

D Withheld to avoid disclosing data from individual companies. n.e.c. Not elsewhere classified.

<sup>1</sup>Source: Bureau of the Census report EM 545, *U.S. Exports*.

<sup>2</sup>Source: Bureau of the Census report IM 145, *U.S. Imports for Consumption*.

<sup>3</sup>This value represents c.i.f. plus U.S. import duties.

<sup>4</sup>"Manufacturers' shipments" excludes product codes 38440 32 to avoid disclosing data for individual companies.

<sup>5</sup>"Manufacturers' shipments" includes product code 38440 32 to avoid disclosing data for individual companies.

## HISTORICAL NOTE

Data on selected electronic and associated products have been collected by the Bureau of the Census since 1961 on survey MA36N, Selected Electronics and Associated Products. In 1985, survey MA36N was divided into three annual surveys: MA36P, Communication Equipment, Including Telephone, Telegraph, and Other Electronic Systems and Equipment; MA36Q, Semiconductors, Printed Circuit Boards, and Other Electronic Components; and MA38R, (formerly MA36R), Electromedical Equipment and

Irradiation Equipment (Including X-ray). Historical data may be obtained from Current Industrial Reports available at your local Federal Depository Library. Historical data are also available on microfiche; contact Customer Services, 301-457-4100.

## CONTACT FOR DATA USERS

For additional information about these data, contact Chris Blackburn, 301-457-4817.

## Chapter 8. Consumer Durables

### ELECTRIC HOUSEWARES AND FANS (MA36E)

#### INTRODUCTION

These data cover manufacturers of electric housewares and fans in the United States. These statistics were collected by mail on Bureau of the Census annual Form MA36E, Electric Housewares and Fans. The survey panel includes all known manufacturers of electric housewares and fans, approximately 95 companies.

#### SUMMARY OF FINDINGS

In 1996, manufacturers' shipments of electric fans totaled \$482.6 million, a 2.1-percent decrease from the 1995 value

of shipments of \$493.0 million. The 1996 value of shipments of small household electric appliances totaled \$1.6 billion, a decrease of 13.4 percent from the 1995 total. Shipments of parts and attachments decreased 3.1 percent, from \$99.6 million in 1995 to \$96.5 million in 1996.

#### EXPLANATION OF TERMS

See the Introduction for an explanation of terms.

Table 1. Value of Shipments of Electric Housewares and Fans by Class of Product: 1987 to 1996

[Millions of dollars]

Year	Electric fans (except industrial type)	Small household electric appliances	Parts and attachments for electric housewares and fans
1996 .....	482.6	1,644.1	96.5
1995 .....	493.0	1,897.6	99.6
1994 .....	554.7	2,049.1	119.9
1993 .....	494.1	1,945.0	136.5
1992 .....	511.4	1,985.0	142.7
1991 .....	409.6	1,720.8	98.7
1990 .....	482.0	1,778.7	104.3
1989 .....	531.5	1,914.9	128.1
1988 .....	526.1	2,004.5	106.4
1987 .....	492.5	1,810.3	172.4

Table 2. Quantity and Value of Shipments of Electric Housewares and Fans by Product: 1996 and 1995

[Quantity in number of units. Value in thousands of dollars]

Product code	Product description	Number of companies	1996		1995	
			Quantity	Value	Quantity	Value
36341 — 36341 71	Electric fans (except industrial) . . . . . Window (household) permanent, portable, and roll-abouts . . . . .	17 8	22,497,224 10,675,302	482,628 186,446	'22,312,562 '9,648,736	'493,042 '158,713
36341 91 36341 97	Ceiling (paddle) fans <sup>1</sup> . . . . . All other electric fans (except industrial), including electric range hoods, oven hoods, ventilating, exhaust, desk, and wall bracket fans <sup>1</sup> . . . . .	5 11	(D) 11,821,922	(D) 296,182	'979,614 '11,684,212	'35,722 '298,607
36345 — 36345 11	Small electric household appliances (except fans) . . Electrothermal type . . . . . Broilers . . . . . Coffee makers:	65 50 4	(X) (X) 94,104	1,644,067 1,196,654 3,418	(X) (X) '179,615	'1,897,563 '1,356,127 '9,257
36345 18 36345 19 36345 21 36345 23	Drip type <sup>2</sup> . . . . . Percolator or vacuum type <sup>2</sup> . . . . . Urn type <sup>2</sup> . . . . . Deep fat fryers, excluding covers and controls shipped separately <sup>3</sup> . . . . .	5 3 3 5	(D) (D) 5,656,316 (D)	(D) (D) 116,590 (D)	4,770,390 1,003,628 858,289 '1,182,129	88,956 16,756 27,213 '14,593
36345 24 36345 29	Ovens, including toaster ovens and roasters (with or without broiler attachments) . . . . . Hot plates and disc stoves, 1650 watts and less (except built-in units) . . . . .	8 4	4,070,338 844,086	144,323 12,743	<sup>a</sup> '4,479,874 '895,333	<sup>a</sup> '168,406 '13,839
36345 39 36345 42	Waffle irons, sandwich grills, griddles, and combinations <sup>4</sup> . . . . . Frying pans and skillets, excluding covers and controls shipped separately <sup>4</sup> . . . . . Air space heaters:	7 5	4,176,099 (D)	89,264 (D)	'2,838,243 2,705,042	'60,129 58,846
36345 43 36345 44	Portable room heaters: Fan-forced type . . . . . Other than fan-forced type (convector, radiant, etc.) . . . . .	12 11	2,367,958 927,112	59,363 30,987	2,634,905 '850,095	64,439 '29,921
36345 45 36345 47	For fixed installation, all types: Baseboard, excluding glass panel type . . . . . Other than baseboard, excluding warm air furnaces . . . . .	7 6	907,843 1,054,157	22,766 65,305	1,031,816 <sup>b</sup> '1,140,320	24,441 <sup>a</sup> '64,932
36345 60 36345 86	Electric irons . . . . . Electric bed coverings, including sheets, mattress covers, comforters, and blankets . . . . .	1 3	(D) (D)	(D) (D)	(D) (D)	(D) (D)
36345 87 36345 96 36345 97	Electric heating pads, including foot warmers . . . . . Portable humidifiers, including vaporizers . . . . . Other small electrothermal food processing appliances, including such items as pressure cookers, automatic saucepans, toasters, casseroles, chafing dishes, and crockpots; excluding covers and controls shipped separately <sup>3</sup> . . . . .	5 9 8	830,745 4,850,522 18,044,241	11,190 73,048 285,503	'731,757 5,239,489 '16,948,820	'9,932 76,491 321,729
36345 98	Other small electrothermal household appliances, including such items as immersion heaters, faucet attachments, water heaters, steam radiators, warming trays, food warmers, bottle warmers, hair curlers, curling irons, hair dryers, etc.; excluding covers and controls shipped separately . . . . . Electromechanical type, including cordless . . . . . Household food mixers, including value of standard attachments sold with mixers:	10 24 3 3 4 6	7,269,170 (X) (D) (D) 6,268,750 860,689	109,761 447,413 (D) (D) 241,588 26,187	'7,722,107 (X) (D) (D) 2,591,561 6,344,887 '1,168,040	'124,341 '541,436 (D) (D) 161,445 128,582 '29,045
36345 71 36345 75 36345 76 36345 83	Hand (portable) <sup>5 6</sup> . . . . . Stand type <sup>5 6</sup> . . . . . Blenders (liquefiers) <sup>6</sup> . . . . . Household food processors, including food choppers, slicers, and shredders . . . . .	3 3 4 6	(D) (D) 6,268,750 860,689	(D) (D) 241,588 26,187	(D) (D) 6,344,887 '1,168,040	(D) (D) 128,582 '29,045

See footnotes at end of table.

Table 2. Quantity and Value of Shipments of Electric Housewares and Fans by Product: 1996 and 1995—Con.

[Quantity in number of units. Value in thousands of dollars]

Product code	Product description	Number of companies	1996		1995	
			Quantity	Value	Quantity	Value
36345 —	Small electric household appliances (except fans)—Con.					
36345 84	Electromechanical type, including cordless—Con.					
36345 90	Household food preparation appliances, (except food mixers and food processors), including drink mixers, whippers, juicers, grinders, ice crushers, and coffee grinders. . . .	6	330,429	15,422	<sup>1</sup> 1,003,245	<sup>1</sup> 24,865
36345 95	Portable air purifiers and portable dehumidifiers. . . . .	6	(D)	(D)	(D)	(D)
36349 —	Other small electromechanical appliances, including knives, knife sharpeners, scissors, toothbrushes, vibrators, electric razors, dry shavers, and can openers . . . . .	12	4,799,035	116,692	<sup>1</sup> 7,118,241	<sup>1</sup> 140,817
36349 13	Parts and attachments for small household electric appliances . . . . .	26	(X)	96,526	(X)	99,604
36349 18	Electrothermal in operation (value only) . . . . .	12	(X)	69,891	(X)	69,891
36349 89	Electromechanical in operation (value only) . . . . .	9	(X)	<sup>a</sup> 6,898	(X)	11,455
36349 89	Other (value only) . . . . .	6	(X)	19,737	(X)	<sup>1</sup> 18,258

D Withheld to avoid disclosing data for individual companies. <sup>1</sup>Revised by 5 percent or more from previously published data. X Not applicable.

- <sup>1</sup>Product code 36341 91 is included with product code 36341 97 to avoid disclosing data for individual companies.
- <sup>2</sup>For 1996, product codes 36345 19 and 36345 21 are combined with product code 36345 18 to avoid disclosing data for individual companies.
- <sup>3</sup>For 1996, product code 36345 23 is combined with product code 36345 97 to avoid disclosing data for individual companies.
- <sup>4</sup>For 1996, product code 36345 42 is combined with product code 36345 39 to avoid disclosing data for individual companies.
- <sup>5</sup>For 1995, product code 36345 71 was combined with product code 36345 75 to avoid disclosing data for individual companies.
- <sup>6</sup>For 1996, product codes 36345 75 and 36345 76 are combined with product code 36345 71 to avoid disclosing data for individual companies.

Note: Percent of estimation of each item is indicated as follows: <sup>a</sup>10 to 25 percent of this item has been estimated. <sup>b</sup>Over 25 percent of this item has been estimated.

Table 3. Shipments, Exports, Imports, and Apparent Consumption of Electric Housewares and Fans: 1996

[Quantity in number of units. Value in thousands of dollars]

Product description	Manufacturers' shipments		Exports of domestic merchandise <sup>1 2</sup>		Imports for consumption <sup>1 3 4</sup>	
	Quantity	Value f.o.b. plant	Quantity	Value at port	Quantity	Value
Electric fans (except industrial and electric range hoods and oven hoods) . . . . .	22,497,224	482,628	915,704	42,523	37,614,162	756,880
Coffee makers . . . . .	5,656,316	116,590	990,834	29,376	15,858,199	223,811
Air space heaters, portable and fixed installation types . . . . .	5,257,070	178,421	(NA)	29,634	4,931,960	88,596
Standard household electric irons . . . . .	(D)	(D)	538,829	7,391	15,517,914	158,869
Electric bed coverings . . . . .	(D)	(D)	136,726	5,808	27,724	220
Electrothermal household appliances, n.e.c. . . . .	40,179,305	921,891	3,314,550	117,391	104,509,872	613,976
Electromechanical household food mixers (except blenders) <sup>5</sup> . . . . .	6,268,750	241,588	(NA)	(NA)	8,131,648	56,101
Electromechanical household food mixers <sup>5</sup> . . . . .	(D)	(D)	1,900,700	51,014	(NA)	(NA)
Household blenders and liquefiers <sup>5</sup> . . . . .	(D)	(D)	(NA)	(NA)	5,757,299	69,838
Household food preparation appliances, including food processors (except food mixers) . . . . .	1,191,118	41,609	397,629	22,648	7,767,236	105,255
Electromechanical portable air purifiers, and portable dehumidifiers . . . . .	(D)	(D)	168,674	7,547	1,838,940	35,550
Small electromechanical appliances, n.e.c. . . . .	4,799,035	116,692	347,084	7,135	27,749,702	368,474

D Withheld to avoid disclosing data for individual companies. NA Not available. n.e.c. Not elsewhere classified.

- <sup>1</sup>For a comparison of SIC-based codes with Schedule B export numbers and HTSUSA imports, see "Contact for Data Users" at end of this subsection.
- <sup>2</sup>Source: Bureau of the Census report EM 545, *U.S. Exports*.
- <sup>3</sup>Source: Bureau of the Census report IM 145, *U.S. General Imports for Consumption*.
- <sup>4</sup>Dollar value represents c.i.f. (cost, insurance, and freight) value at first port of entry in the United States.
- <sup>5</sup>Manufacturers' shipments for "Electromechanical household food mixers (except blenders)" and "Electromechanical household food mixers" are combined to avoid disclosing data for individual companies.

**HISTORICAL NOTE**

Data on electric housewares and fans have been collected by the Bureau of the Census since 1962. Historical data may be obtained from Current Industrial Reports available at your local Federal Depository Library. Historical data are also available on microfiche; contact Customer Services, 301-457-4100.

**CONTACT FOR DATA USERS**

For additional information about these data, contact Vera Harris-Bourne, 301-457-1604.

## MAJOR HOUSEHOLD APPLIANCES (MA36F)

### INTRODUCTION

These data cover manufacturers of major household appliances and parts in the United States. These statistics were collected by mail on Bureau of the Census annual Form MA36F, Major Household Appliances. The survey panel includes all known manufacturers of major household appliances, approximately 102 companies.

### SUMMARY OF FINDINGS

In 1996, manufacturers' shipments of major household appliances totaled \$15.8 billion, an 11-percent increase from \$14.0 billion in 1995. Shipments of household cooking

equipment, including parts and accessories, totaled \$3.5 billion in 1996, a 4-percent increase from the 1995 value of \$3.4 billion. The value of household refrigerators and freezers, including parts and attachments, increased 8 percent, from \$4.9 billion in 1995 to \$5.3 billion in 1996. Shipments for household laundry equipment and parts increased 4 percent, from \$3.1 billion in 1995 to \$3.2 billion in 1996. The value of shipments of household appliances, not elsewhere classified, increased 2 percent, from \$1.5 billion in 1995 to \$1.6 billion in 1996.

### EXPLANATION OF TERMS

See the Introduction for an explanation of terms.

**Table 4. Value of Shipments of Major Household Appliances by Class of Products: 1987 to 1996**

[Millions of dollars]

Product code	Product description	1996	1995	1994	1993	1992	1991	1990	1989	1988	1987
36311	Electric household ranges, ovens, and surface cooking units, equipment, and parts . . .	1,904.8	1,791.8	1,791.1	1,731.3	1,619.8	1,614.9	1,659.8	1,767.6	1,809.2	1,963.9
36313	Gas household ranges, ovens, and surface cooking units, equipment, and parts . . .	548.7	654.1	649.6	621.5	599.6	609.5	739.4	710.0	648.5	666.5
36314	Other household ranges, and cooking equipment and outdoor cooking equipment, including parts and accessories . . . . .	1,047.6	911.6	872.7	786.1	750.0	657.4	581.1	560.3	577.0	533.5
36321	Household refrigerators, including combination refrigerator-freezers <sup>1</sup> . . . . .	5,111.4	4,739.4	4,882.1	4,310.3	3,937.6	3,362.7	3,208.1	3,522.5	3,329.7	3,017.3
36322	Food freezers, complete units, for freezing and/or storing frozen food (household type) <sup>1</sup> . . . . .	(D)	(D)	(D)	(D)	(D)	277.4	226.6	226.1	252.7	228.0
36323	Parts and attachments for household refrigerators and freezers . . . . .	149.9	111.8	84.7	73.7	78.7	127.9	134.0	131.0	136.4	75.5
36330	Household laundry machines and parts . . . . .	3,217.9	3,095.4	3,361.4	3,389.4	2,961.7	2,919.0	2,924.5	2,980.5	2,887.8	2,790.4
36391	Water heaters, electric . . . . .	558.8	513.0	516.4	473.4	401.0	446.7	433.8	417.3	398.0	382.7
36392	Water heaters (except electric) . . . . .	745.6	681.8	748.8	700.0	586.5	616.1	577.2	569.9	543.6	523.6
36395	Household appliances, n.e.c., and parts . . . . .	1,612.0	1,579.2	1,624.3	1,305.6	1,276.5	1,170.8	1,185.5	1,238.6	1,274.9	1,286.0

D Withheld to avoid disclosing data for individual companies. n.e.c. Not elsewhere classified.

<sup>1</sup>For the years 1992 through 1996, product codes 36321 and 36322 are combined to avoid disclosing data for individual companies.

Table 5. Quantity and Value of Shipments of Major Household Appliances: 1996 and 1995

[Quantity in thousands of units. Value in millions of dollars]

Product code	Product description	Number of companies	1996		1995	
			Quantity	Value	Quantity	Value
36311 —	Major household appliances .....	105	(X)	15,755.9	(X)	13,966.2
	Electric ranges, ovens, and surface cooking units, equipment, and parts .....	21	6,714.9	1,904.8	6,439.0	1,791.8
	Free-standing ranges (widths are based on outside dimensions):					
36311 11	Under 23 (58.4 cm) inches in width, all types, including apartment house type .....	5	107.1	19.3	113.9	20.3
36311 17	23 (58.4 cm) inches up to and including 32 (81.3 cm) inches in width <sup>1</sup> .....	8	2,728.9	905.4	2,727.1	850.0
36311 35	33 (83.8 cm) inches and over in width, all types <sup>1</sup> .....	3	(D)	(D)	(D)	(D)
	Other than free-standing:					
	Built-in ranges:					
	Built-in ovens:					
36311 53	Single oven .....	7	302.4	157.5	303.0	153.0
36311 55	Two ovens .....	4	102.8	99.1	101.9	83.6
36311 61	Surface cooking tops .....	8	384.2	109.0	365.1	98.4
36311 65	Drop-in ranges .....	6	(D)	(D)	117.4	64.4
36311 73	Microwave ranges and ovens, including combination microwave/electric ranges and built-in ovens that utilize microwave and electrothermal energy in one or more of the oven cavities .....	5	53.1	54.9	58.4	57.4
36311 74	Microwave ovens, including counter top, built-in, and wall or cabinet-hung ovens .....	5	2,927.1	342.6	2,652.2	301.3
36311 79	Other electric and electronic ranges and ovens not listed above .....	-	(X)	-	(X)	-
36311 20	Parts and accessories for household electric ranges and ovens such as burners, rotisseries, oven racks, and broiler pans, sold separately .....	17	(X)	167.9	(X)	<sup>f</sup> 163.4
36313 —	Gas household ranges, ovens, and surface cooking units, equipment, and parts .....	15	1,706.7	548.7	2,033.3	654.1
	Standard type, free-standing:					
36313 11	Over 32 (81.3 cm) inches cooking top and oven .....	7	54.2	35.6	61.7	41.2
36313 13	Over 24 (61 cm) inches to 32 (81.3 cm) inches cooking top and oven .....	7	993.6	299.9	1,179.6	359.8
36313 15	Apartment ranges, 24 (61 cm) inches cooking top and under .....	4	197.2	38.2	212.6	40.9
36313 17	Standard type, for built-in installation (built-in or stack-on oven broiler unit) .....	4	(D)	(D)	(D)	(D)
36313 19	Surface cooking tops (one or more burners) .....	7	206.4	68.8	<sup>f</sup> 212.6	69.4
36313 22	Nonstandard types, including wall hung, slide-in, or drop-in .....	6	220.8	51.7	300.9	<sup>f</sup> 70.6
36313 39	Other gas household ranges, ovens, hot plates, and surface cooking units, not listed above .....	2	(D)	(D)	(D)	(D)
36313 20	Parts and accessories for gas household ranges and ovens such as burners, rotisseries, oven racks, and broiler pans, sold separately .....	11	(X)	37.9	(X)	<sup>f</sup> 40.2
36314 —	Other household ranges and cooking equipment (except gas and electric) and outdoor cooking equipment, including parts and accessories .....	24	12,509.4	1,047.6	11,662.7	911.6
	Barbecuers, grills, stoves, braziers, etc., for outdoor cooking and other cooking:					
	Portable units:					
36314 22	Gas fuel or both gas and other fuel .....	11	<sup>b</sup> 5,884.6	<sup>b</sup> 611.8	5,245.6	<sup>f</sup> 533.4
36314 24	Solid fuel (charcoal, wood, coal, etc.) .....	11	<sup>a</sup> 5,210.8	<sup>a</sup> 142.0	4,967.7	126.7
36314 26	Liquid fuel (oil, kerosene, etc.) .....	5	877.6	139.1	910.2	105.5
36314 28	All other outdoor and other cooking equipment .....	9	<sup>b</sup> 536.4	<sup>b</sup> 23.7	<sup>f</sup> 539.2	<sup>f</sup> 29.1
36314 20	Parts and accessories for outdoor and other cooking equipment, sold separately .....	16	(X)	<sup>b</sup> 131.0	(X)	116.9

See footnotes at end of table.



Table 5. Quantity and Value of Shipments of Major Household Appliances: 1996 and 1995—Con.

[Quantity in thousands of units. Value in millions of dollars]

Product code	Product description	Number of companies	1996		1995	
			Quantity	Value	Quantity	Value
36321 —	Major household appliances—Con. Household refrigerators, including combination refrigerator-freezers <sup>2</sup> . . . . .	15	11,132.8	5,111.4	11,004.9	4,739.4
	Compression type, fitted with separate external doors, including all combinations with two or more external doors:					
36321 02	9.4 cu ft and under (under 269 liters) <sup>3</sup> . . . . .	4	(D)	(D)	(D)	(D)
36321 09	9.5 to 13.4 cu ft (269 liters but under 382 liters) <sup>3</sup> . . . . .	3	203.8	55.8	235.9	60.7
36321 12	13.5 to 15.4 cu ft (382 liters but under 438 liters) . . . . .	4	1,318.8	436.0	1,506.3	465.5
36321 14	15.5 to 17.4 cu ft (438 liters but under 495 liters) . . . . .	5	792.1	268.7	679.3	214.1
36321 19	17.5 to 19.4 cu ft (495 liters but under 552 liters) . . . . .	6	2,332.0	979.8	2,327.4	927.8
36321 24	19.5 to 21.4 cu ft (552 liters but under 608 liters) . . . . .	7	1,545.5	855.6	1,572.3	829.9
36321 25	21.5 to 24.4 cu ft (608 liters but under 693 liters) . . . . .	6	1,674.7	1,422.0	1,705.1	1,405.9
36321 28	24.4 cu ft and over (693 liters and over) . . .	5	565.1	514.1	229.3	269.2
	Compression type, fitted with only one external door:					
36321 63	6.4 cu ft and under (under 184 liters) . . . . .	7	842.8	125.7	881.6	124.3
36321 64	6.5 cu ft and over (184 liters and over) . . . .	4	(D)	(D)	(D)	(D)
36321 80	Other household refrigerators . . . . .	4	(D)	(D)	(D)	(D)
36322 —	Food freezers, complete units, for freezing and/or storing frozen food (household type) <sup>2</sup> . . .	5	(D)	(D)	(D)	(D)
36322 05	Upright type freezers . . . . .	5	(D)	(D)	(D)	(D)
36322 50	Chest type freezers . . . . .	2	(D)	(D)	(D)	(D)
36323 —	Parts and attachments for household refrigerators and freezers, excluding compressors and condensing units and ice- making machines . . . . .	18	(X)	149.9	(X)	111.8
36330 —	Household laundry machines (household type defined as having dry linen capacity not exceeding 10 kg (22 lb)) . . . . .	5	12,082.9	3,217.9	11,728.9	3,095.4
	Washing machines, mechanical (electric):					
36330 11	Coin-operated . . . . .	4	227.4	98.2	227.9	95.4
36330 31	Noncoin-operated . . . . .	5	6,646.7	1,828.3	6,378.0	1,742.3
36330 37	Other washing machines, including machines with built-in centrifugal drier and gasoline driven . . . . .	3	276.1	163.8	270.1	155.2
	Dryers, mechanical (incorporating heat):					
36330 51	Gas (noncoin-operated) . . . . .	5	1,076.0	281.0	1,187.6	298.8
36330 55	Electric (noncoin-operated) . . . . .	5	3,735.3	800.5	3,545.2	758.6
36330 15	Coin-operated . . . . .	4	121.5	46.0	120.0	45.0
36330 59	Other drying equipment (not incorporating heat), including centrifugal wringers and spinners . . . . .	-	(X)	-	(X)	-
	Parts, accessories, and attachments for household laundry equipment, sold separately . . . . .	11	(X)	182.4	(X)	167.9
36330 96	For household washing machines . . . . .	10	(X)	171.1	(X)	156.5
36330 97	For household drying machines . . . . .	6	(X)	11.3	(X)	11.3
36391 —	Water heaters, electric (for permanent installation) . . . . .	10	4,384.9	558.8	4,068.2	513.0
	Storage type:					
36391 11	34 gallons and under (under 132 liters) . . . .	7	<sup>b</sup> 1,049.4	<sup>b</sup> 122.4	1,012.5	116.0
36391 12	35 to 44 gallons (132 liters but under 170 liters) . . . . .	7	<sup>b</sup> 1,556.2	<sup>b</sup> 187.1	1,421.7	170.1
36391 14	45 to 54 gallons (170 liters but under 208 liters) . . . . .	5	<sup>b</sup> 1,191.0	<sup>b</sup> 160.0	1,096.4	146.0
36391 15	55 gallons and over (208 liters and over) . . .	6	<sup>a</sup> 312.7	<sup>a</sup> 61.8	291.7	57.7
36391 98	Other types, including circulating and portable storage . . . . .	5	275.5	27.6	245.8	23.3

See footnotes at end of table.

Table 5. Quantity and Value of Shipments of Major Household Appliances: 1996 and 1995—Con.

[Quantity in thousands of units. Value in millions of dollars]

Product code	Product description	Number of companies	1996		1995	
			Quantity	Value	Quantity	Value
36392 —	Major household appliances—Con.					
	Water heaters (except electric).....	13	4,864.1	754.6	4,366.0	†681.8
	Direct-fired water heaters:					
36392 12	Gas .....	10	<sup>a</sup> 4,711.6	<sup>a</sup> 725.4	4,235.7	†653.0
36392 24	Oil.....	4	21.2	6.8	†22.1	†7.8
36392 52	Indirect water heaters, including storage, cast or coil type (less tank); tanks (with or without generator coils); generator coils with tank collar (sold without tank); and instantaneous.....	7	131.3	22.4	108.1	21.0
36395 —	Other household type appliances and parts, n.e.c. ....	18	13,149.9	1,612.0	12,550.1	1,579.2
	Dishwashing machines:					
36395 12	Portable type, including convertible type ...	2	(D)	(D)	(D)	(D)
36395 14	Built-in type.....	3	4,369.0	1,011.5	3,981.3	1,020.2
36395 63	Floor-waxing, polishing, scrubbing, and shampooing machines (for household use only).....	3	(D)	(D)	(D)	(D)
36395 71	Food waste disposers (all sizes, of the electromechanical, comminutor type, operating in conjunction with household plumbing systems of the type generally used in residences).....	3	(D)	(D)	(D)	(D)
36395 72	Household trash compactors .....	3	(D)	(D)	(D)	(D)
36395 60	Other major household appliances, n.e.c. ....	2	(D)	(D)	(D)	(D)
	Parts for other household appliances, n.e.c.:					
36395 91	For electric water heaters (value only) .....	6	(X)	21.1	(X)	23.7
36395 92	For nonelectric water heaters (value only) ..	5	(X)	18.9	(X)	17.5
36395 93	For dishwashing machines (value only) .....	8	(X)	39.8	(X)	†34.1
36395 97	For other major household appliances, n.e.c. (value only) .....	4	(X)	(D)	(X)	(D)

- Represents zero. D Withheld to avoid disclosing data for individual companies. n.e.c. Not elsewhere classified. †Revised by 5 percent or more from previously published data. X Not applicable.

<sup>1</sup>Product code 36311 35 is included with product code 36311 17 to avoid disclosing data for individual companies.

<sup>2</sup>Product code 36322 00 is included with product code 36321 00 to avoid disclosing data for individual companies.

<sup>3</sup>Product code 36321 02 is included with product code 36321 09 to avoid disclosing data for individual companies.

Note: Percent of estimation of each item is indicated as follows: <sup>a</sup>10 to 25 percent of this item has been estimated. <sup>b</sup>Over 25 percent of this item has been estimated.

Table 6. Shipments, Exports, and Imports of Major Household Appliances: 1996

[Quantity in thousands of units. Value in millions of dollars]

Product code	Product description	Manufacturers' shipments		Exports of domestic merchandise <sup>1 2</sup>		Imports for consumption <sup>1 3 4</sup>	
		Quantity	Value	Quantity	Value	Quantity	Value
36311 11, 17, 35, 53, 55, 61, 65	Electric ranges, ovens, and surface cooking units . . . . .	3,625.5	1,290.3	79.0	44.9	5,804.4	269.7
36311 73-74, 79	Microwave ovens . . . . .	2,980.2	397.5	388.8	59.2	8,451.7	702.6
36311 20	Parts and accessories for electric ranges and ovens . . . . .	(X)	167.9	(X)	228.6	(X)	164.2
36313 11, 13, 15, 17, 19, 22, 39	Gas ranges, ovens, and surface cooking units . . . . .	1,672.2	494.1	133.9	44.8	1,183.3	290.5
36313 20	Parts and accessories for gas ranges and ovens and other cooking equipment . . . . .	(X)	37.9	(X)	15.7	(X)	52.8
36314 22	Gas fuel or both gas and other fuel . . . . .	5,884.6	611.8	440.6	43.5	(X)	(X)
36314 24	Solid fuel (charcoal, wood, coal, etc.) . . . . .	5,210.8	142.0	108.7	19.1	1,787.9	12.2
36314 26	Liquid fuel (oil, kerosene, etc.) . . . . .	877.6	139.1	309.9	13.9	24.6	1.0
36314 20, 28	All other outdoor cooking equipment . . . . .	536.4	154.7	48.5	6.0	95.9	2.1
36321 02	Compression type refrigerators, fitted with separate external doors, including all combinations with two or more external doors:						
36321 09	9.4 cu ft and under (under 269 liters) <sup>5</sup> . . . . .	(D)	(D)	38.1	16.8	101.6	18.0
36321 12, 14, 19, 24-25, 28	9.5 to 13.4 cu ft (269 liters but under 382 liters) <sup>5</sup> . . . . .	203.8	55.8	27.8	7.7	86.1	22.2
	13.5 cu ft and over (382 liters and over) . . . . .	8,228.3	4,476.4	699.4	414.8	151.1	49.1
36321 63	Compression type refrigerators, fitted with one external door:						
36321 64	6.4 cu ft and under (under 184 liters) . . . . .	842.8	125.7	28.8	14.6	1,193.0	111.9
	6.5 cu ft and over (184 liters and over) . . . . .	(D)	(D)	292.6	162.0	914.0	33.2
36321 80	Other household refrigerators, noncompression, fitted with one external door . . . . .	(D)	(D)	119.2	42.0	209.9	87.2
36322 05	Freezers, upright type . . . . .	(D)	(D)	82.1	37.6	101.6	20.8
36322 50	Freezers, chest type . . . . .	(D)	(D)	79.1	26.0	281.5	53.4
36330 11	Fully automatic electric washing machines (coin-operated) . . . . .	227.4	98.2	19.9	7.7	6.4	4.1
36330 31	Fully automatic electric washing machines (noncoin-operated) . . . . .	6,646.7	1,828.3	884.2	249.8	1,291.6	48.2
36330 37	Other washing machines . . . . .	276.1	163.8	26.4	12.8	102.0	4.1
36330 51, 55	Dryers (noncoin-operated) and other drying equipment . . . . .	4,811.3	1,081.6	4.9	2.2	3.2	0.8
36330 15	Dryers (coin-operated) . . . . .	121.5	46.0	36.1	76.8	473.5	75.5
36391 11-12, 14-15	Water heaters, electric, storage type . . . . .	4,109.4	531.3	(NA)	(NA)	(NA)	(NA)
36391 98	Water heaters, electric, other . . . . .	275.5	27.6	(NA)	(NA)	(NA)	(NA)
36392 12	Water heaters, gas . . . . .	4,711.6	725.4	(NA)	(NA)	(NA)	(NA)
36392 24, 52	Water heaters, nonelectric, other than gas . . . . .	152.4	29.2	(NA)	(NA)	(NA)	(NA)
36395 12, 14	Other household appliances, n.e.c.: Dishwashing machines, household . . . . .	4,369.0	1,011.5	261.5	60.9	497.6	40.6
36395 63	Floor polishers . . . . .	(D)	(D)	32.6	6.5	8.9	1.5
36395 71	Food waste disposers . . . . .	(D)	(D)	224.4	16.0	68.2	1.7
36395 72, 60	Other major household appliances . . . . .	(D)	(D)	37.3	10.1	1,618.8	232.6
36395 91-93, 97	Parts for other major household appliances . . . . .	(X)	(D)	(X)	14.1	(X)	46.2

D Withheld to avoid disclosing data for individual companies. NA Not available. n.e.c. Not elsewhere classified. X Not applicable.

<sup>1</sup>For comparison of SIC-based codes with Schedule B export numbers and HTSUSA import numbers, see "Contact for Data Users" at end of this subsection.

<sup>2</sup>Source: Bureau of the Census report EM 545, *U.S. Exports*.

<sup>3</sup>Source: Bureau of the Census report IM 145, *U.S. Imports for Consumption*.

<sup>4</sup>Dollar value represents c.i.f. (cost, insurance, and freight) value at first point of entry into the United States.

<sup>5</sup>Manufacturers' shipments for product codes 36321 02 and 36321 09 are combined to avoid disclosing data for individual companies.

Note: Detail may not add to totals because of rounding.

**HISTORICAL NOTE**

Data on major household appliances have been collected by the Bureau of the Census since 1968. Historical data may be obtained from Current Industrial Reports available at your local Federal Depository Library. Historical data are also available on microfiche; contact Customer Services, 301-457-4100.

**CONTACT FOR DATA USERS**

For additional information about these data, contact Vera Harris-Bourne, 301-457-1604.

## CONSUMER ELECTRONICS (MA36M)

### INTRODUCTION

These data cover companies engaged in the manufacture of home-type radio receivers, television sets, phonographs, high-fidelity components, and speakers in the United States. Very small firms (generally less than five employees) for which 1992 Census of Manufactures data were derived from administrative records of other government agencies are excluded.

The statistics were collected by mail on Bureau of the Census annual Form MA36M, Radio and Television Receivers, Phonographs, and Related Equipment. The survey panel includes all known domestic manufacturers of these products, except the very small firms excluded from the scope of the survey. Approximately 155 companies are

included. No estimate is derived for the small firms excluded from the survey.

### SUMMARY OF FINDINGS

During 1996, the total value of shipments for consumer electronics was \$8.0 billion, a decrease of 2.2 percent from the 1995 value of \$8.1 billion. The 1996 figure includes automotive audio equipment, \$875.4 million; television receivers, \$4.7 billion; other consumer audio and video equipment, \$388.2 million; and loudspeakers, microphones, kits, and public address systems, \$2.1 billion.

### EXPLANATION OF TERMS

See the Introduction for an explanation of terms.

**Table 7. Value of Shipments of Consumer Electronics by Selected Products: 1987 to 1996**

[Millions of dollars]

Product code	Product description	1996	1995	1994	1993	1992	1991	1990	1989	1988	1987
36511	Consumer electronics . . . . .	7,991.8	8,171.9	8,024.2	7,299.8	7,324.8	6,494.5	6,567.3	6,659.3	5,774.6	5,478.4
36512	Automotive audio equipment (except speakers) . . .	875.4	721.9	779.8	630.5	607.6	340.2	307.4	322.0	248.2	463.3
36514	Household television receivers, including combinations . . . . .	4,653.3	5,144.7	5,018.4	4,777.1	4,865.4	4,562.0	4,642.6	4,737.7	3,986.2	3,729.3
36515	Other consumer audio and video equipment (except speakers) <sup>1</sup> . . . . .	388.2	<sup>1</sup> 425.1	339.1	224.9	207.2	294.5	347.4	373.4	385.4	289.5
	Speakers, microphones, and home-type electronic kits . . . . .	2,075.0	<sup>1</sup> 1,880.2	1,886.9	1,758.3	1,644.6	1,297.8	1,269.9	1,226.5	1,154.8	996.3

<sup>1</sup>Revised by 5 percent or more from previously published data.

<sup>1</sup>Total for product class 36514 does not include product code 36799 07.

Table 8. Quantity and Value of Shipments of Consumer Electronics: 1996 and 1995

[Quantity in number of units. Value in thousands of dollars]

Product code	Product description	Number of companies	1996		1995	
			Quantity	Value	Quantity	Value
36511 —	Automotive audio equipment (except speakers) . . .	16	8,068,110	875,387	8,036,840	721,916
36511 34	AM-FM radios with tape player combinations . . .	5	<sup>b</sup> 4,677,817	<sup>b</sup> 638,103	3,485,240	468,177
36511 41	Other automotive audio equipment, including equalizers and amplifiers, excluding speakers . . .	13	3,390,293	<sup>a</sup> 237,284	4,551,600	<sup>r</sup> 253,739
36512 —	Household television receivers, including combinations . . . . .	13	11,439,557	4,653,300	12,131,751	5,144,741
36512 31	Projection television . . . . .	10	886,672	1,307,827	<sup>r</sup> 794,349	<sup>r</sup> 1,220,525
36512 41	Other CRT-based color television: 50 cm (19.7 inches) and under . . . . .	5	1,191,740	222,235	1,002,221	174,560
36512 51	Over 50 cm (19.7 inches) . . . . .	9	9,361,145	3,123,238	10,335,181	3,749,656
36512 61	Other household television receivers . . . . .	-	-	-	-	-
36514 —	Other consumer audio and video equipment (except speakers) <sup>1</sup> . . . . .	52	1,646,156	388,171	<sup>r</sup> 1,464,695	<sup>r</sup> 425,109
36514 61	Compact and video disc players <sup>2</sup> . . . . .	6	(D)	(D)	62,661	49,887
36514 78	Power amplifiers, including preamplifiers . . . . .	34	326,680	116,047	295,917	113,938
36514 81	Receivers, tuners, and other consumer audio equipment incorporating radio reception <sup>2 3</sup> . . . . .	4	(D)	(D)	(D)	(D)
36799 07	Earphones, headsets, and phonograph cartridges, pickups, needles, and styli . . . . .	14	(X)	<sup>b</sup> 65,678	(X)	57,270
36514 67	Equalizers . . . . .	11	29,448	8,683	24,518	6,681
36514 83	Other consumer audio and video equipment (except speakers) <sup>2 3</sup> . . . . .	29	<sup>a</sup> 1,290,028	<sup>a</sup> 263,441	<sup>r</sup> 1,018,599	<sup>r</sup> 254,603
36515 —	Speakers, microphones, and home-type electronic kits . . . . .	100	82,955,412	2,074,960	<sup>r</sup> 88,192,797	<sup>r</sup> 1,880,235
36515 51	Single loudspeakers mounted in an enclosure . . . . .	32	<sup>a</sup> 2,902,910	<sup>a</sup> 264,559	<sup>a</sup> 2,398,611	<sup>a</sup> 226,039
36515 52	Multiple loudspeakers mounted in an enclosure . . . . .	48	8,358,666	749,379	<sup>a</sup> 7,769,942	<sup>a</sup> 637,815
36515 53	Other loudspeakers, including unmounted speakers sold separately . . . . .	40	67,507,041	728,334	<sup>a</sup> <sup>r</sup> 74,175,871	<sup>a</sup> <sup>r</sup> 719,134
36515 55	Microphones . . . . .	15	3,193,652	171,409	2,970,933	151,575
36515 67	Home-type electronic kits designed for consumer assembly <sup>4</sup> . . . . .	2	(D)	(D)	(D)	(D)
36515 94	Public address systems, including musical instrument amplifiers <sup>4</sup> . . . . .	23	993,143	161,279	877,440	145,672

- Represents zero. D Withheld to avoid disclosing data for individual companies. <sup>r</sup>Revised by 5 percent or more from previously published data. X Not applicable.

<sup>1</sup>Total for product class 36514 does not include product code 36799 07.  
<sup>2</sup>For 1996, product codes 36514 61 and 36514 81 are included with product code 36514 83 to avoid disclosing data for individual companies.  
<sup>3</sup>For 1995, product code 36514 81 is included with product code 36514 83 to avoid disclosing data for individual companies.  
<sup>4</sup>Product code 36515 67 is included with product code 36515 94 to avoid disclosing data for individual companies.

Note: Percent of estimation of each item is indicated as follows: <sup>a</sup>10 to 25 percent of this item has been estimated. <sup>b</sup>Over 25 percent of this item has been estimated.

Table 9. Shipments, Exports, and Imports of Consumer Audio and Video Electronics: 1996

[Quantity in number of units. Value in thousands of dollars]

Product code	Product description	Manufacturers' shipments		Exports of domestic merchandise <sup>1</sup>		Imports for consumption <sup>2</sup>	
		Quantity	Value f.o.b. plant	Quantity	Value at port	Quantity	Value <sup>3</sup>
36511 34, 41	Automotive audio equipment . . . . .	8,068,110	875,387	3,081,164	450,371	25,997,662	2,481,593
36512 31, 41, 51, 61	Household television receivers . . . . .	11,439,557	4,653,300	1,006,832	325,420	20,637,287	3,762,002
36514 61, 78, 81, 67, 83	Coin-operated audio equipment, power amplifiers, audio tape recorders and players, compact and video disc players, equalizers, and other consumer audio and video equipment (except speakers) . . . . .	1,646,156	388,171	4,037,721	648,526	41,261,857	2,383,456
36515 51	Single loud speakers mounted in an enclosure . . . . .	<sup>a</sup> 2,902,910	<sup>a</sup> 264,559	5,841,859	153,757	34,619,336	273,434
36515 52	Multiple loud speakers mounted in an enclosure . . . . .	8,358,666	749,379	2,258,113	113,066	9,545,031	300,955
36515 53	Other loud speakers . . . . .	67,507,041	728,334	16,545,596	296,642	157,852,950	625,447
36515 55	Microphones . . . . .	3,193,652	171,409	(X)	66,769	35,369,253	127,971
36515 67, 94	Home-type electronic kits designed for consumer assembly and public address systems, including musical instrument amplifiers . . . . .	993,143	161,279	1,344,181	114,285	5,404,417	590,754
36799 07	Earphones, headsets, and phonograph cartridges, pickups, needles, and styli . . . . .	(X)	65,678	2,958,740	74,684	68,267,517	230,576

X Not applicable.

<sup>1</sup>Source: Bureau of the Census report EM 545, *U.S. Exports*.<sup>2</sup>Source: Bureau of the Census report IM 145, *U.S. Imports for Consumption*.<sup>3</sup>Dollar value represents c.i.f. (cost, insurance, and freight) value at first point of entry into the United States plus U.S. import duties.Note: Percent of estimation of each item is indicated as follows: <sup>a</sup>10 to 25 percent of this item has been estimated. has been estimated.

## HISTORICAL NOTE

Data on radio and television receivers, phonographs, and related equipment have been collected by the Bureau of the Census since 1952. Historical data may be obtained from Current Industrial Reports (called Facts for Industry before 1959) available at your local Federal Depository Library.

Historical data are also available on microfiche; contact Customer Services, 301-457-4100.

## CONTACT FOR DATA USERS

For additional information about these data, contact Cynthia Ramsey, 301-457-4823.

## Chapter 9. Industrial Equipment

### STEEL SHIPPING DRUMS AND PAILS (MA34K)

#### INTRODUCTION

These data cover all companies engaged in the manufacture of steel shipping drums and pails. The reconditioning of containers is excluded.

The statistics were collected by mail on Bureau of the Census annual Form MA34K, Steel Shipping Drums and Pails. The survey panel includes all known producers of steel shipping drums and pails, approximately 38 companies.

During 1996, the value of shipments of steel pails totaled \$200.7 million, up 23.1 percent from the 1995 value of \$163.0 million. Shipments of steel drums increased by

3.0 percent, from \$685.5 million in 1995 to \$706.1 million in 1996.

#### EXPLANATION OF TERMS

**Steel pails.** Single-walled shipping containers having capacities of 12 gallons or less, in both cylindrical and tapered form, constructed of steel sheet of 29 gauge or heavier. Included are pails constructed with open tops as well as closed tops, flat and dome tops, tapered and straight sides, and lock and welded side seams.

**Steel shipping drums.** Single-walled cylindrical or bilged shipping containers, including overpacks for plastics containers, with a capacity greater than 12 gallons, and constructed of steel sheet 12 gauge and lighter.

Table 1. **Summary of Producers' Shipments of Steel Pails and Drums: 1987 to 1996**

[Quantity in thousands of units. Value in thousands of dollars]

Year	Steel pails		Steel drums	
	Quantity	Value	Quantity	Value
1996.....	60,443	200,681	34,334	706,084
1995.....	71,896	162,992	33,279	685,499
1994.....	86,478	208,406	34,857	681,972
1993.....	85,899	202,460	33,474	672,948
1992.....	76,794	178,850	33,336	632,616
1991.....	72,645	180,408	33,970	668,692
1990.....	75,242	195,669	36,388	701,615
1989.....	80,693	205,834	35,966	667,024
1988.....	78,018	188,817	37,336	675,923
1987.....	78,887	189,243	38,166	640,718

Table 2. Total Shipments of Steel Pails and Drums: 1996 and 1995

[Quantity in thousands of units. Value in thousands of dollars]

Product code	Product description	Number of companies	1996		1995	
			Quantity	Value	Quantity	Value
	Steel pails.....	16	60,443	200,681	<sup>r</sup> 71,896	<sup>r</sup> 162,992
	11 1/4-inch diameter.....	(NA)	57,924	187,114	55,625	145,514
34121 01	Full removable head.....	10	46,512	151,643	46,604	116,468
34121 06	Tight head (standard and dome top).....	7	11,412	35,471	9,021	29,046
34121 11	14-inch diameter.....	6	<sup>a</sup> 777	6,365	<sup>r</sup> 599	4,318
34121 13	All other diameters.....	7	1,742	7,202	<sup>r</sup> 15,672	<sup>r</sup> 13,160
	Steel drums and barrels.....	28	34,334	706,084	<sup>a</sup> 33,279	<sup>a</sup> 685,499
	14-inch diameter, all gauges.....	(NA)	2,209	23,547	2,418	25,022
34122 01	Tight head.....	6	281	4,018	292	4,105
34122 03	Open head, full or partial.....	9	<sup>a</sup> 1,928	<sup>a</sup> 19,529	2,126	20,917
	All other (except 14-inch diameter).....	(NA)	32,124	682,537	30,860	660,629
	20 gauge and heavier.....	(NA)	29,062	637,462	27,524	609,788
	50 gallon and larger, 18 gauge and heavier.....	(NA)	12,008	286,904	11,087	271,514
34122 05	Tight head.....	23	7,289	164,442	<sup>a</sup> 6,909	<sup>a</sup> 158,814
34122 07	Open head.....	25	4,719	122,462	<sup>a</sup> 4,178	<sup>a</sup> 112,700
	50 gallon and larger, 19 and 20 gauge, including 20/18.....	(NA)	15,918	329,324	15,420	316,775
34122 09	Tight head.....	23	12,532	252,368	<sup>a</sup> 11,350	<sup>a</sup> 232,557
34122 11	Open head.....	23	3,386	76,956	<sup>r</sup> <sup>a</sup> 4,070	<sup>a</sup> <sup>r</sup> 84,218
34122 13	30 to 49 gallon.....	14	727	14,291	714	<sup>a</sup> 16,233
34122 15	Under 30 gallon.....	8	409	6,943	303	<sup>a</sup> 5,266
	Lighter than 20 gauge <sup>1</sup> .....	12	<sup>a</sup> 3,062	<sup>a</sup> 45,075	<sup>a</sup> 3,336	<sup>a</sup> 50,841

NA Not available. <sup>r</sup>Revised by 5 percent or more from previously published data.<sup>1</sup>Product code 34122 17, "30 gallon and larger," and product code 34122 19, "under 30 gallon," were combined to avoid disclosure.Note: Percent of estimation of each item is indicated as follows: <sup>a</sup>10 to 25 percent of this item is estimated.

Table 3. Shipments, Exports, Imports, and Apparent Consumption of Steel Shipping Pails and Drums: 1996 and 1995

[Value in thousands of dollars]

Product description <sup>1</sup>	Manufacturers' shipments (value f.o.b. plant)	Exports of domestic merchandise (value at port) <sup>2</sup>	Imports for consumption <sup>3 4</sup> (value)	Apparent consumption <sup>5</sup>
Steel shipping pails:				
1996.....	200,681	77,410	51,864	175,135
1995.....	162,992	70,697	49,462	141,757
Steel shipping drums and barrels:				
1996.....	706,084	22,427	30,004	713,661
1995.....	685,499	19,466	23,060	689,093

<sup>1</sup>For comparison of SIC-based codes with Schedule B export numbers and HTSUSA import numbers, see "Contact for Data Users" at end of this subsection.<sup>2</sup>Source: Bureau of the Census report EM 545, *U.S. Exports*.<sup>3</sup>Source: Bureau of the Census report IM 145, *U.S. Imports for Consumption*.<sup>4</sup>Represents c.i.f. (cost, insurance, and freight) value at first port of entry in the United States plus U.S. import duties.<sup>5</sup>Apparent consumption is derived by subtracting exports from manufacturers' shipments plus imports.



**HISTORICAL NOTE**

Data on steel shipping drums and pails have been collected by the Bureau of the Census since 1924. Historical data may be obtained from Current Industrial Reports (called Facts for Industry before 1959) available at your

local Federal Depository Library. Historical data are also available on microfiche; contact Customer Services, 301-457-4100.

**CONTACT FOR DATA USERS**

For additional information about these data, contact Larry Blumberg, 301-457-4744.

## SELECTED INDUSTRIAL AIR POLLUTION CONTROL EQUIPMENT (MA35J)

### INTRODUCTION

These data cover firms engaged in the manufacture of selected industrial air pollution control equipment. The statistics in this publication were collected by mail on Bureau of the Census annual Form MA35J, Selected Air Pollution Control Equipment. The survey panel includes all known manufacturers of the selected products specifically designed for use in air pollution control, approximately 120 companies.

### SUMMARY OF FINDINGS

Shipments (and onsite construction in certain instances) of industrial air pollution devices in 1996 totaled \$707.0 million, of which \$518.4 million were particulate emissions collectors, \$164.0 million were gaseous emissions control devices, and \$24.6 million were other types of air pollution control equipment. Shipments decreased by 9 percent from the 1995 level of \$774.0 million.

New orders increased by 21 percent in 1996 to \$826.9 million. Backlog of orders increased by 41 percent in 1996 to \$411.7 million.

### EXPLANATION OF TERMS

**Net new orders (bookings).** Orders received during the year minus all cancellations received during the same year. Net new orders are defined to include: (a) the sales value of orders accepted during the reporting period for products and services to be delivered at some future date; (b) plus the sales value of orders received during the reporting period for immediate delivery; (c) plus or minus the net sales value of contract change documents that increase or decrease (or equal) the sales values of previous orders when the parties concerned are in substantial agreement as to the amount involved. Included as orders are only those orders that are supported by binding legal documents such as signed contracts, letters or awards, or letters of intent. In the case of letters of intent, the full amount of sales value is included if the parties concerned were in substantial agreement on this amount; otherwise, only the funds specially authorized to be expanded are included. Orders received and canceled during the year are excluded.

**Backlog of orders.** All orders that have not yet been reflected as shipments. Generally, unfilled orders at the end of the reporting period are equal to unfilled orders at the end of the prior period, plus net new orders received, less net shipments.

### Particulate Emissions Collectors

*Electrostatic precipitator.* A device that separates aerosol particulate matter (solid or liquid) from industrial gases by imparting an electric charge to the particles and removing them from the gas stream with the force created by an electric field.

*Fabrics filter.* A device in which the dustbearing gas is passed through fabrics in such a manner that the dust particles are retained on the upstream or "dirty" gas side of the fabrics, while the cleaned gas passes through the fabrics to the downstream or "clean" gas side, where it is removed by natural and/or mechanical means. The fabrics may be of any fibrous material, natural or manmade.

*Mechanical collector.* A device for the separation in a dry state of entrained particulate material from a gas stream by the application of one or a combination of the following forces: centrifugal, inertial, and gravitational.

*Wet scrubber.* A device for the removal of particulate contaminants from a gas stream by means of intimate contact with scrubbing liquid. (If water is added in any form, it is considered a scrubber, except in the cases of wetted wall electronic precipitators and those devices which are primarily mechanical collectors.)

### Gaseous Emissions Control Devices

*Catalytic oxidation system.* A device for the removal of combustible air contaminants in which the contaminant-laden stream is preheated by a suitable heating mechanism. The contaminant-laden stream is then passed through a catalyst bed that initiates and promotes oxidation of the combustible contaminants to carbon dioxide, water vapor, and other compounds less noxious than those originally in the gas stream.

*Thermal oxidation system.* A device for the correction of combustible air contaminants in which the contaminant-laden gas stream is passed over a burner or other suitable preheat device(s) to a thermal residence chamber where the contaminant materials are oxidized to carbon dioxide, water vapor, and other materials less noxious than those originally in the gas stream.

*Direct oxidation system.* A device for the destruction of concentrated combustible or oxidant streams in which the air contaminant is reacted directly with a fuel or with oxidizing air in a burner flame, and the products of combustion are exhausted into the atmosphere directly or through a suitable incineration chamber and stack.

*Scrubber (gas absorber).* A device for the removal of soluble or reactive gaseous material from gas streams by contacting the stream with water, aqueous chemical solution, or other scrubbing liquids. The process involves a chemical reaction.

*Flue gas desulfurization systems (FGD).* Chemical process plants designed primarily for the removal of sulfur oxides from gaseous products of combustion emitted to the atmosphere from the use of fossil fuels, in boilers or other

combustion devices operated for the generation of thermal or combustion devices operated for the generation of thermal or electric energy. The system extends from gas inlet to gas discharge, including all required auxiliaries and controls.

*Gas adsorber.* A device for the removal of air contaminants by adsorption on a surface-active solid such as activated carbon or molecular sieves. Depending on the application, the adsorbent is either discarded or regenerated.

**Table 4. New Orders, Shipments, and Backlog of Orders for Selected Industrial Air Pollution Control Equipment: 1996 and 1995**

[Quantity in number of units. Value in thousands of dollars]

Product code	Product description	Number of companies	New orders		Shipments		Backlog of orders, December 31	
			Quantity	Value	Quantity	Value	Quantity	Value
<b>1996</b>								
	Selected industrial air pollution control equipment .....	110	83,936	826,871	83,545	706,959	9,799	411,697
	Particulate emissions collectors .....	86	74,536	495,969	74,150	518,368	9,181	180,301
35646 51	Electrostatic precipitators .....	15	(D)	108,430	(D)	118,512	(D)	78,467
35646 54	Fabrics filters .....	53	56,240	280,852	55,510	286,828	7,291	54,218
35646 55	Mechanical collectors .....	37	(D)	57,309	(D)	63,479	(D)	20,265
35646 58	Wet scrubbers .....	28	1,205	49,378	1,238	49,549	226	27,351
	Gaseous emissions control devices ..	38	1,068	311,492	1,020	164,034	281	223,510
35646 70	Catalytic oxidation systems .....	11	196	44,458	189	19,943	50	37,289
35646 71	Nitric oxide (NO) control systems ..	3	(D)	(D)	(D)	(D)	(D)	(D)
35646 72	Thermal and direct oxidation systems .....	16	251	66,108	242	64,475	47	10,906
35646 73	Scrubbers (gas absorber, non-FGD) .....	10	516	29,173	525	26,661	106	6,327
35646 74	Wet flue gas desulfurization systems .....	5	(D)	(D)	(D)	(D)	(D)	(D)
35646 75	Dry flue gas desulfurization systems .....	4	(D)	(D)	9	4,884	(D)	(D)
35646 76	Gas adsorbers .....	8	(D)	(D)	43	24,487	(D)	(D)
35646 79	Other types of industrial air pollution control equipment .....	18	8,332	19,410	8,375	24,557	337	7,886
<b>1995</b>								
	Selected industrial air pollution control equipment .....	113	(S)	684,923	(S)	774,004	(S)	291,785
	Particulate emissions collectors .....	91	(S)	493,047	(S)	506,298	(S)	202,700
35646 51	Electrostatic precipitators .....	17	(S)	134,797	(S)	152,022	(S)	88,549
35646 54	Fabrics filters .....	57	53,949	253,558	52,978	242,123	6,561	60,194
35646 55	Mechanical collectors .....	37	6,360	67,618	6,273	63,343	695	26,435
35646 58	Wet scrubbers .....	31	1,269	37,074	1,249	48,777	259	27,522
	Gaseous emissions control devices ..	39	1,127	152,460	1,245	223,545	233	76,052
35646 70	Catalytic oxidation systems .....	12	207	27,648	249	34,832	43	12,774
35646 71	Nitric oxide (NO) control systems ..	4	(D)	4,237	(D)	4,402	(D)	(D)
35646 72	Thermal and direct oxidation systems .....	15	302	68,697	311	71,402	38	9,273
35646 73	Scrubbers (gas absorber, non-FGD) .....	12	552	26,291	610	26,527	115	3,815
35646 74	Wet flue gas desulfurization systems .....	4	(D)	(D)	(D)	72,559	7	31,422
35646 75	Dry flue gas desulfurization systems .....	6	(D)	(D)	16	10,736	(D)	(D)
35646 76	Gas adsorbers .....	5	35	7,147	38	3,087	18	7,077
35646 79	Other types of industrial air pollution control equipment .....	19	10,210	39,416	10,111	44,161	380	13,033

D Withheld to avoid disclosing data for individual companies published data. S Does not meet publication standards.

FGD Flue gas desulfurization.

Revised by 5 percent or more from previously

Table 5. Value of Shipments of Selected Air Pollution Control Equipment by End Use: 1996 and 1995

[Thousands of dollars]

Product description	Particulate emissions collectors		Gaseous emissions control devices		Other types of industrial air pollution control equipment	
	1996	1995	1996	1995	1996	1995
<b>Shipments</b> .....	<b>518,368</b>	<b>506,298</b>	<b>164,034</b>	<b>223,545</b>	<b>24,557</b>	<b>44,161</b>
Steam electric utility power plants .....	26,444	46,823	21,172	73,137	(D)	(D)
Steam industrial power plants <sup>1</sup> .....	3,366	8,596	(D)	(D)	(D)	(D)
Coal mining and cleaning <sup>1</sup> .....	888	1,320	(D)	(D)	(S)	(S)
Petroleum refining <sup>1</sup> .....	(D)	13,265	(D)	14,991	(D)	(D)
Foundries <sup>2 3</sup> .....	2,321	6,136	(D)	(D)	(D)	(S)
Iron and steel mills <sup>2</sup> .....	(D)	20,675	(D)	(D)	(D)	(D)
Primary nonferrous metal smelting plants <sup>2 3</sup> .....	4,749	11,962	2,485	1,929	(D)	(S)
Chemical and fertilizer production .....	38,409	44,139	11,562	10,441	(D)	(D)
Cement manufacturing .....	2,378	4,144	(S)	(S)	(D)	(D)
Grain milling and handling <sup>4</sup> .....	2,785	3,339	(D)	(D)	(D)	(D)
Pulp and paper mill operations <sup>4</sup> .....	31,151	40,090	(D)	1,131	(D)	313
Municipal waste combusters .....	1,932	12,483	7,148	4,186	(S)	(S)
Other end use industries .....	162,457	180,261	52,693	(D)	12,590	20,524
End use not specified .....	188,607	113,065	62,431	1,732	5,587	4,992

D Withheld to avoid disclosing data for individual companies. (D) Revised by 5 percent or more from previously published data. (S) Does not meet publications standards.

<sup>1</sup>"Industrial steam power plants," "Coal mining and cleaning," and "Petroleum refining" are combined for "Gaseous emissions control devices" for 1995, to avoid disclosing data for individual companies.

<sup>2</sup>"Foundries," "Iron and steel mills," and "Primary nonferrous metal smelting plants" are combined for "Gaseous emissions control devices" for 1996, to avoid disclosing data for individual companies.

<sup>3</sup>"Foundries," "Primary nonferrous metal smelting plants," are combined for "Gaseous emissions control devices" for 1995, to avoid disclosing data for individual companies.

<sup>4</sup>"Petroleum refining," "Grain milling and handling," and "Pulp and paper mill operations" are combined for "Other types of industrial air pollution control devices" for 1995, to avoid disclosing data for individual companies.

## HISTORICAL NOTE

Data on selected air pollution control equipment have been collected by the Bureau of the Census since 1971. Historical data may be obtained from Current Industrial Reports available at your local Federal Depository Library.

Historical data are also available on microfiche; contact Customer Services, 301-457-4100.

## CONTACT FOR DATA USERS

For additional information about these data, contact Richard Wiesler, 301-457-4746.

## AIR-CONDITIONING AND REFRIGERATION EQUIPMENT (MA35M)

### INTRODUCTION

The data in this subsection cover firms engaged in the manufacture of refrigeration, air-conditioning equipment, and nonelectric warm air furnaces. The statistics in this publication were collected by mail on Bureau of the Census annual Form MA35M, Refrigeration and Air-Conditioning Equipment, Including Warm Air Furnaces. The survey panel includes all known producers of these products, approximately 267 companies.

### SUMMARY OF FINDINGS

In 1996, the value of shipments of heat transfer equipment increased by 4 percent to \$6,408.6 million, compared with the 1995 figure of \$6,169.8 million. Unitary air-conditioners increased by 13 percent to \$5,538.8 million, from the 1995 level of \$4,807.5 million. Compressors and compressor units increased by 7 percent to \$4,618.3 million, compared with \$4,306.7 million in 1995. The value of shipments of condensing units, refrigeration (complete), increased by 3 percent to \$295.7 million, from the 1995 level of \$286.4 million. Room air-conditioners showed an increase of 9 percent in 1996 with \$1,496.6 million shipped, compared with the \$1,359.4 million shipped in 1995. Nonelectric warm air furnaces and humidifiers had a value of shipments for 1996 of \$1,638.6 million, a 7-percent increase from the 1995 value of \$1,522.3 million.

### EXPLANATION OF TERMS

**Open-type condensing unit.** A specific refrigerating combination for a given refrigerant, consisting of a compressor with an extended shaft for an external drive, a condenser, a liquid receiver (when required), and regularly furnished accessories. Includes units for household refrigerators and freezers.

**Hermetic-type condensing unit.** A specific refrigerating combination for a given refrigerant, consisting of a compressor and a motor, both of which are enclosed in the same housing, with no external shaft or shaft seal; the compressor motor operating in the refrigerant atmosphere; a condenser; a liquid receiver (when required); and the regularly furnished accessories. The compressor and compressor motor housing may be either the fully welded or brazed type, or the service-sealed type. Includes units for household refrigerators and freezers.

**Hermetic-type motor compressors.** Consists of a mechanical compressor and motor, both of which are enclosed in the same housing, with no external shafts or shaft seals, a motor that operates in the refrigerant atmosphere, and that

uses a refrigerant other than ammonia. Includes units for household refrigerators and freezers.

**Open-type compressors.** An open-type compressor (with or without motor) is a specific machine for compressing a given refrigerant vapor. This machine consists of a compressor with an extended shaft for an external drive. Includes units for household refrigerators and freezers.

**Ammonia compressor.** A compressor in which increase in ammonia vapor is attained by changing the internal volume of the compression chamber.

### Heat Transfer Equipment

*Evaporative condensers.* Consists of a condensing coil, spray system and pump (if furnished), a means for air circulation (including drive if furnished), and frame and enclosure.

*Room fan-coil air-conditioning units.* Units that are factory-made assemblies providing the functions of circulation, cooling, or heating, and filtering of air, but not including the source of cooling or heating.

*Room air-induction units.* Consists of a cooling coil, or cooling and heating coil, and means for delivering pre-conditioned air (received under pressure from an external source, mixed with recirculated air) to the space being conditioned.

*Packaged terminal air-conditioners.* Factory selected combinations of heating and cooling components or assemblies, intended to serve an individual room, and comprising: (1) heating assembly available with elements for use with hot water, steam, and electricity; means for forced heated air circulation and distribution; integral or remote temperature controls; (2) slide-in cooling section with complete refrigerant cycle; (3) room cabinet; (4) provision for outdoor air intake and discharge and accessories as required for mounting in a building wall; (5) provisions for air filtration and ventilation; (6) permanent individual branch circuit wiring with a suitable line cord or terminating at a junction box with the room cabinet; and (7) provisions for free conditioned air distribution or, when forced circulation is employed for minimal duct work, have a total external static resistance not exceeding 1/10 inch of water.

*Packaged terminal heat pumps.* Packaged terminal heat pumps are a separate unencased refrigeration system installed in a cabinet of similar function and configuration to that of a packaged terminal air-conditioner. It utilizes reverse cycle refrigeration as its prime heat source and should have other supplementary heat source availability.

*Unit coolers, refrigeration, all types.* Equipment in suitable enclosures with refrigerant or brine coils, fans, fan motor and drive; with or without refrigerant control; with or without sprays, pump, and defroster. This unit is also known as a forced air evaporator.

*Air-cooled refrigerant condensers, remote-type.* Condensing coil, a means for air circulation (including drive if furnished, frame, and enclosure).

### Miscellaneous Heat Transfer Equipment

#### Shell-and-tube, shell-and-coil, shell-and-u-tube, tube-in-tube condensers

*General.* A water-cooled refrigerant condenser is a factory-made assembly of elements by which the flows of refrigerant vapor and water are maintained in such a heat transfer relationship that the refrigerant vapor is condensed into a liquid.

*Shell-and-tube refrigerant condenser.* One in which the refrigerant vapor is condensed either on the inside or on the outside of a group of straight parallel tubes within a closed shell, with the tubes terminating at each end in a tube sheet.

*Shell-and-u-tube refrigerant condenser.* One in which the refrigerant vapor is condensed in a closed shell, with the cooling water circulated through a tube bundle consisting of U-tubes terminating in a single tube sheet.

*Tube-in-tube refrigerant condenser.* One or more assemblies of two tubes, one within the other, in which the refrigerant vapor is condensed either in the annular space or in the inner tube.

*Shell-and-coil refrigerant condenser.* One in which the refrigerant vapor is condensed in a closed shell, with the cooling water circulated through one or more continuous or assembled coils contained within the shell.

#### Shell-and-tube, shell-and-coil, and shell-and-u-tube liquid coolers

*General.* A factory-made assembly of elements in which the liquid and the refrigerant are in heat transfer relationship, causing the refrigerant to evaporate and the liquid to be cooled.

*Shell-and-tube liquid cooler.* Heat transfer is effected through a group of straight parallel tubes within a closed shell, with the tubes terminating at both ends of the cooler.

*Shell-and-u-tube liquid cooler.* Heat transfer is effected through a U-tube bundle in a closed shell; the U-tubes terminate at one end of the cooler.

*Tube-in-tube liquid cooler.* One or more assemblies of two tubes, one within the other, in which the heat transfer is effected through the inner tube or tubes.

*Shell-and-coil liquid cooler.* Heat transfer is effected through one or more continuous or assembled coils contained within a closed shell.

*Liquid-suction heat exchanger.* A device used to transfer heat from the refrigerant liquid to the suction gas. Such devices may be of the following types: shell-and-coil, tube-in-tube, finned-tube-in-tube, etc.

*Refrigerant liquid receiver.* A vessel, permanently connected to a refrigerant system by inlet and outlet pipes, for storage of a liquid refrigerant.

*Central system finned coils, air-conditioning and refrigeration type, used with, but not including, means for air circulation.* One or two row coils are considered as "heating only" coils. Three or more row coils are considered as "cooling and/or heating" coils.

*Original equipment manufactures (OEM) coil sales intended for resale or assembly into equipment by other manufacturers (all types).* Includes shipments of coils to private branders and OEM accounts, as well as those finned coils that are intended for resale or for assembly into equipment by other manufacturers.

*Factory-assembled, refrigeration-type, finned gravity coils.* Includes all types of (1) flat or shaped plate surface type heat exchangers for use with volatile refrigerants, eutectic solutions, or brine and (2) extended surface heat exchangers consisting of tube or pipe prime surface and finned secondary surface, generally used for refrigeration in either frosted or not frosted operation, and usually without forced circulation of the substance being refrigerated. These include bunker and gravity-type evaporators.

*Wetted-surface dehumidifiers.* Consists of a suitable enclosure containing cooling coils or means for liquid spray over the cooling coils and tank but without means for air circulation provided as an integral part of the unit. The unit may include a recirculating water pump, eliminator plates, and inlet deflectors.

#### Packaged unitary air-conditioning equipment, except room air-conditioners

*Year-round air-conditioners, single package.* Factory-made assemblies of one or more condensing units or absorption refrigeration units, heat-generating units (such as electric, gas, or oil-fired furnace), and means for air-cooling, dehumidifying, heating, cleaning, and forced circulation of air through a duct system, which may also have a means for humidifying and controlling temperature.

*Year-round air-conditioners, remote-condenser type.* All units that have the condenser located remotely from the equipment described previously.

*Air source heat pumps.* A heat pump that transfers heat from outdoor air to an indoor air circulation system.

*Heat pumps, single package.* Factory-made assemblies of one or more condensing units and evaporators and with the means for air circulation, ventilation, and cleaning, with provision for modifying the performance so that either heating, or cooling and dehumidification may be produced.

*Heat pumps, split systems.* All units that have the coil located remotely from the equipment described previously.

*Water source heat pump.* A factory-made assembly that normally includes an indoor conditioning coil with air moving means, compressor(s) and refrigerant-to-water heat exchanger(s), including the means to provide both cooling and heating functions. When such equipment is provided in more than one assembly, the separate assemblies shall be designed to be used together, and the rating requirements outlined in the standard are based upon the use of matched assemblies.

*Split system air-conditioning units (air-conditioning condensing units only).* Units assembled in factory-made enclosures and consisting of a motor-driven compressor, a condenser, and possibly a liquid receiver.

*Recreational vehicle air-conditioning units.* Designed for application to a recreational vehicle, as defined in American National Standard for Recreational Vehicles (American National Standards Institute Standard A119.2) (NFPA 501C), and consisting of one or more factory-made assemblies that normally include an evaporator or cooling coil, and a compressor and condenser combination. These air-conditioning units may include a heating function as well. Where such equipment is provided in more than one assembly, the separated assemblies shall have been designed to be used together, and the requirements of rating outlined in this standard are based upon the use of matched assemblies.

*Split system air-conditioning coil with blower.* Factory-made assemblies of a coil (supplied with cooling media from an external source), without means for air circulation, and those that may have provision for the introduction of outside air.

*Split system air-conditioning coil without blower.* Factory-made assemblies that include only a coil (supplied with cooling media from an external source), without circulating fan, for use with heating equipment incorporating a fan.

## Other Air-Conditioning and Refrigeration Equipment

*Centrifugal liquid-chilling packages.* Factory-made assemblies of one or more centrifugal or screw compressors, condensers, liquid coolers, controls, component parts, with motor compressor (if hermetic), or without drive or prime mover (if open). The hermetic centrifugal horsepower should be the maximum brake horsepower for which the motor is rated. The open centrifugal horsepower should be the maximum brake horsepower for which the motor or turbine drive, to which the machine is intended to be connected, is rated.

*Ice-making machine.* A factory-made assembly (not necessarily shipped in one package) consisting of a condensing unit and ice-making section operating as an integrated unit, with means for making and harvesting ice. It may also include means for storing or dispensing ice, or both.

*Self-contained ice-making machine.* A model in which the ice-making mechanisms and storage compartment are in an integral cabinet.

*Absorption liquid-chilling systems.* Those systems of 25 tons and over that cool and dehumidify the air by means of cold contact surface, in the same manner as a compression system. (This is the closed-type absorption system.)

*Absorption systems.* A system utilizing the process by which gas is taken up by the capillaries and extended surface of a porous material.

*Open-type absorption systems.* A system that dehumidifies by bringing the air into direct contact with the absorbent.

*Central station air-handling unit.* A factory-made, encased assembly consisting of a fan or fans and the other necessary equipment to perform one or more of the functions of circulating, cleaning, heating, cooling, humidifying, dehumidifying, and mixing of air, but that does not include a source of heating or cooling.

*Factory fabricated water-cooling towers.* Towers that are prefabricated by the manufacturers, and shipped either as a factory-assembled section (i.e., cell) or as major components (e.g., casing, fan, and precut fill) for assembly at the site of the installation.

*Mobile vehicle refrigeration and air-conditioning systems.* An assembly of refrigeration compressor apparatus with suitable power source for use when the vehicle is in motion or not in motion; means for air-cooling and dehumidification; means for air circulation, ventilation, and air-cleaning; interconnecting refrigerant piping; and refrigerant and temperature control apparatus, for mounting on the vehicle. The system may or may not have provision for heating.

*Reciprocating liquid-chilling packages.* Factory-made assemblies of one or more reciprocating compressors, condensers, and water or brine coolers, with interconnections, base, and accessories. These assemblies may be furnished with or without refrigerant, drive, and prime mover.

*Mechanical drinking water cooler.* A factory-made assembly, in one structure, that includes a complete mechanical refrigerating system, and that has the primary function of cooling potable water, and also provides for dispensing such water, by either integral or remote means, or both.

**Electrically operated dehumidifiers, mechanically refrigerated, self-contained.** A factory-made assembly of a condensing unit and means for air circulation, dehumidification, and condensate collection.

**Nonelectric warm air furnace.** A device for the transfer of heat, generated by the combustion of fuel within the device, or by radiation from an electric heating element, to air that flows between the combustion chamber and an outer enclosure to pipes or ducts that carry the heat to the desired location. In a gravity air flow furnace, the warm air rises by gravity. In a forced air furnace, the warm air is circulated by a motor-driven blower.

**Humidifiers.** Furnace or duct-mounted device installed in the supply or return-air plenum of a residential warm air furnace or in a supply or return air duct of a warm air heating system.

Table 6. **Summary of Shipments of Refrigeration, Air-Conditioning, and Warm Air Heating Equipment: 1996 and 1995**

[Value in thousands of dollars]

Product code	Product description	1996	1995
35851 —	Heat transfer equipment .....	6,408,555	<sup>†</sup> 6,169,842
35852 —	Unitary air-conditioners .....	5,538,787	4,807,452
35853 pt.	Commercial refrigeration equipment .....	219,586	202,628
35854 —	Compressors and compressor units .....	4,618,341	4,306,689
35855 —	Condensing units, refrigeration (complete) .....	295,654	286,415
35856 —	Room air-conditioners and dehumidifiers .....	1,496,600	<sup>†</sup> 1,359,413
3585C pt.	Nonelectric warm air furnaces and humidifiers .....	1,638,621	1,522,335

pt. Part. <sup>†</sup>Revised by 5 percent or more from previously published data.



Table 7. Quantity and Value of Shipments of Refrigeration, Air-Conditioning, and Warm Air Heating Equipment: 1996 and 1995

[Quantity in number of units. Value in thousands of dollars]

Product code	Product description	Number of companies	1996		1995	
			Quantity	Value	Quantity	Value
35851 —	Heat transfer equipment (except room and unitary air-conditioners) . . . . .	149	(X)	6,408,555	(X)	'6,169,842
35851 01	Packaged terminal air-conditioners <sup>1</sup> . . . . .	9	151,089	84,204	117,575	66,246
35851 03	Packaged terminal heat pumps . . . . .	8	112,541	60,837	94,843	50,148
	Evaporative condensers . . . . .	(X)	2,306	54,033	2,353	52,727
35851 04	100 tons and under . . . . .	7	510	4,495	526	4,309
35851 07	Over 100 tons . . . . .	7	1,796	49,538	1,827	48,418
	Room fan-coil air-conditioning units . . . . .	(X)	262,317	144,488	244,174	126,435
35851 08	Vertical stack . . . . .	5	18,319	13,078	'11,906	'8,326
35851 09	Vertical . . . . .	9	119,895	75,389	116,498	69,546
35851 10	Horizontal . . . . .	9	124,103	56,021	115,770	'48,563
35851 11	Room air induction units . . . . .	2	(D)	(D)	(D)	(D)
	Central station air-handling units (motor-driven fan type) . . . . .	(X)	339,888	519,658	336,282	'465,598
35851 13	Draw through . . . . .	23	316,907	439,274	315,760	'400,040
35851 15	Blow through . . . . .	12	8,490	54,082	7,980	'42,653
35851 17	Heating and ventilating . . . . .	14	14,491	26,302	12,542	22,905
	Coolers (refrigeration):					
	Ceiling, wall-mounted, and floor-mounted unit coolers . . . . .	(X)	207,797	154,391	194,278	140,129
35851 16	4,000 Btuh and under . . . . .	10	59,611	11,690	61,014	12,773
35851 21	4,001 to 6,000 Btuh . . . . .	8	11,517	3,514	10,852	4,195
35851 22	6,001 to 8,000 Btuh . . . . .	7	20,070	7,024	17,956	7,128
35851 23	8,001 to 12,000 Btuh . . . . .	8	47,043	21,831	42,091	21,736
35851 24	12,001 to 18,000 Btuh . . . . .	10	36,903	28,517	29,128	21,003
35851 25	Over 18,000 Btuh . . . . .	15	32,653	81,815	33,237	73,294
	Air-cooled refrigerant condensers (remote type) . . . . .	(X)	25,959	56,774	29,420	56,566
35851 30	Under 30 tons . . . . .	13	20,502	18,414	23,510	17,782
35851 32	30 to 50 tons . . . . .	11	1,877	7,073	2,074	7,673
35851 34	Over 50 tons . . . . .	10	3,580	31,287	3,836	31,111
	Miscellaneous heat transfer equipment:					
	Shell-and-tube, shell-and-coil, shell-and-u-tube, tube-in-tube . . . . .	(X)	(X)	55,045	(X)	66,997
35851 35	Condensers . . . . .	9	(X)	27,160	(X)	38,664
35851 36	Liquid coolers . . . . .	11	(X)	27,885	(X)	28,333
35851 37	Liquid-suction heat exchangers and refrigerant liquid receivers . . . . .	6	(X)	(D)	(X)	(D)
	Central system finned coils (air-conditioning and refrigeration type) . . . . .	(X)	(X)	89,986	(X)	'84,724
35851 38	Standard steam and steam distributing tube . . . . .	15	(X)	16,254	(X)	14,517
35851 39	Standard water cooling and/or heating and cleanable tube water . . . . .	22	(X)	68,093	(X)	'64,302
35851 40	Volatile refrigerant cooling . . . . .	12	(X)	5,639	(X)	'5,905
	Coil sales by original equipment manufacturers intended for resale or assembly into equipment by other manufacturers (all types) . . . . .	(X)	(X)	404,839	(X)	385,729
35851 42	Copper and aluminum . . . . .	20	(X)	281,417	(X)	'267,258
35851 43	Aluminum (only) . . . . .	9	(X)	52,162	(X)	49,349
35851 46	Other, including steel and copper . . . . .	11	(X)	71,260	(X)	69,122
35851 45	Factory-assembled, refrigeration type, finned gravity coils, including wetted-surface dehumidifiers . . . . .	5	(X)	15,052	(X)	12,823
	Centrifugal liquid chilling packages, hermetic and open types . . . . .	(X)	9,876	817,040	10,087	766,410
35851 51	200 hp and under . . . . .	8	1,593	48,184	1,487	46,301
35851 54	201 to 300 hp . . . . .	5	1,555	88,445	1,850	98,240
35851 56	301 to 400 hp . . . . .	5	1,299	88,471	1,548	97,594
35851 58	Over 400 hp . . . . .	5	5,429	591,940	5,202	524,275

See footnotes at end of table.

Table 7. Quantity and Value of Shipments of Refrigeration, Air-Conditioning, and Warm Air Heating Equipment: 1996 and 1995—Con.

[Quantity in number of units. Value in thousands of dollars]

Product code	Product description	Number of companies	1996		1995	
			Quantity	Value	Quantity	Value
35851 —	Heat transfer equipment (except room and unitary air-conditioners)—Con.					
	Ice-making machines . . . . .	(X)	221,381	310,898	220,824	302,468
	Self-contained ice-cube makers . . . . .	(X)	133,506	135,596	131,323	130,951
35851 62	Automatic, 200 lb and under . . . . .	6	90,490	64,909	83,802	55,872
35851 64	Automatic, 201 lb and over . . . . .	6	43,016	70,687	47,521	75,079
	Self-contained flake or chip machines . . . . .	(X)	8,463	21,986	8,707	21,079
35851 68	300 lb and under . . . . .	4	2,880	3,662	4,186	5,101
35851 70	Over 300 lb . . . . .	11	5,583	18,324	4,521	15,978
35851 71	Not self-contained . . . . .	8	50,623	88,902	52,899	89,237
35851 75	Combination ice makers and ice dispensers . .	5	28,789	64,414	27,895	61,201
35851 74	Absorption refrigeration and dehydration systems <sup>2</sup> . . . . .	7	(D)	(D)	(D)	(D)
35851 78	Mechanical refrigeration systems used on all types of vehicles <sup>2</sup> . . . . .	9	74,178	747,178	81,000	809,931
	Mobile vehicle mechanical air-conditioning systems . . . . .	(X)	15,136,658	2,184,416	16,820,095	2,165,016
35851 79	Air-conditioning units and systems for passenger automobiles <sup>3</sup> . . . . .	20	9,524,167	1,228,462	11,955,462	1,365,991
35851 80	Air-conditioning units and systems for trucks, buses, construction, and agriculture machinery and other vehicles . . . . .	18	5,612,491	955,954	4,864,633	799,025
	Reciprocating air and reciprocating water cooled, air-cooled screw, air-cooled scroll, and water-cooled scroll machines . . . . .	(X)	24,855	414,624	25,683	358,065
35851 91	20 hp and under . . . . .	24	11,153	46,738	13,155	44,992
35851 93	21 to 49 hp . . . . .	19	3,445	32,909	3,046	33,169
35851 95	50 to 75 hp . . . . .	16	3,056	59,982	2,691	49,220
35851 97	Over 75 hp . . . . .	18	7,201	274,995	6,791	230,684
35851 92	Factory-fabricated water cooling towers . . . . .	11	9,158	162,184	8,948	147,365
35852 —	Unitary air-conditioners . . . . .	60	(X)	5,538,787	(X)	4,807,452
35852 10	Recreational vehicle air-conditioners . . . . .	6	(D)	(D)	(D)	(D)
	Single package air-conditioners, with or without evaporator fans, including refrigeration chassis and remote-condenser type . . . . .	(X)	278,848	598,877	283,535	513,385
	Horizontal . . . . .	(X)	242,453	503,543	249,494	431,020
35852 31	Under 27,000 Btuh . . . . .	20	19,983	20,380	24,084	19,112
35852 32	27,000 to 32,999 Btuh . . . . .	17	35,546	38,495	44,878	35,775
35852 33	33,000 to 53,999 Btuh . . . . .	21	96,673	86,913	90,750	82,291
35852 34	54,000 to 64,999 Btuh . . . . .	20	35,497	46,796	37,689	42,089
35852 35	65,000 to 96,999 Btuh . . . . .	17	17,071	41,996	16,735	37,750
35852 36	97,000 to 134,999 Btuh . . . . .	13	15,276	50,036	15,407	45,769
35852 37	135,000 to 184,999 Btuh . . . . .	13	9,390	42,472	8,801	35,652
35852 38	185,000 to 249,999 Btuh . . . . .	13	5,366	37,988	4,976	36,669
35852 39	250,000 to 319,999 Btuh . . . . .	9	3,890	34,609	3,640	30,621
35852 40	320,000 to 379,999 Btuh . . . . .	9	817	12,803	560	8,432
35852 41	380,000 Btuh and over . . . . .	8	2,944	91,055	1,974	56,860
	Other than horizontal . . . . .	(X)	36,395	95,334	34,041	82,365
35852 4A	Under 54,000 Btuh <sup>4</sup> . . . . .	7	(D)	(D)	(D)	(D)
35852 44	54,000 to 64,999 Btuh <sup>4</sup> . . . . .	6	33,049	49,978	31,143	47,672
35852 45	65,000 to 96,999 Btuh . . . . .	4	657	2,273	608	2,192
35852 46	97,000 to 134,999 Btuh . . . . .	4	723	3,117	689	3,149
35852 47	135,000 to 184,999 Btuh . . . . .	4	661	4,209	591	3,668
35852 4T	185,000 Btuh and over . . . . .	6	1,305	35,757	1,010	25,684
	Year-round air-conditioners, single package and remote-condenser type (except heat pumps) . .	(X)	578,162	1,207,850	516,003	1,098,062
35852 50	Under 33,000 Btuh . . . . .	18	137,462	118,983	125,685	118,341
35852 51	33,000 to 38,999 Btuh . . . . .	17	113,812	116,354	104,987	110,318
35852 52	39,000 to 43,999 Btuh . . . . .	12	36,586	38,570	31,230	35,126
35852 53	44,000 to 53,999 Btuh . . . . .	14	57,865	74,133	48,722	64,478
35852 54	54,000 to 64,999 Btuh . . . . .	15	88,674	133,807	75,212	116,193
35852 55	65,000 to 134,999 Btuh . . . . .	12	92,978	263,496	83,388	244,675

See footnotes at end of table.

Table 7. Quantity and Value of Shipments of Refrigeration, Air-Conditioning, and Warm Air Heating Equipment: 1996 and 1995—Con.

[Quantity in number of units. Value in thousands of dollars]

Product code	Product description	Number of companies	1996		1995	
			Quantity	Value	Quantity	Value
35852 —	Unitary air-conditioners—Con.					
	Year-round air-conditioners, single package and remote condenser type (except heat pumps)—Con.					
35852 56	135,000 to 184,999 Btuh .....	11	26,542	130,865	24,790	131,975
35852 57	185,000 to 249,999 Btuh .....	12	13,270	106,769	12,123	93,623
35852 58	250,000 to 319,999 Btuh .....	9	5,617	51,947	5,964	62,098
35852 59	320,000 to 379,999 Btuh .....	9	1,541	22,101	1,024	17,723
35852 60	380,000 to 539,999 Btuh .....	7	1,501	28,141	975	21,063
35852 61	540,000 to 639,999 Btuh .....	9	827	35,456	554	20,229
35852 62	640,000 Btuh and over .....	8	1,487	87,228	1,349	62,220
	Air source heat pumps (except room air-conditioners) .....	(X)	1,204,410	936,252	1,036,767	790,146
	Single package:					
35852 63	Under 27,000 Btuh .....	17	30,204	25,414	24,907	21,030
35852 64	27,000 to 41,999 Btuh .....	16	95,624	97,304	73,229	75,979
35852 65	42,000 to 64,999 Btuh .....	16	63,939	83,317	48,719	60,381
35852 66	65,000 Btuh and over .....	8	8,982	35,067	8,482	34,729
	Split system:					
35852 67	Under 27,000 Btuh .....	16	314,239	155,868	285,165	140,463
35852 68	27,000 to 41,999 Btuh .....	16	467,573	320,113	404,889	273,913
35852 69	42,000 to 64,999 Btuh .....	15	209,339	188,333	177,984	156,733
35852 70	65,000 Btuh and over .....	8	14,510	30,836	13,392	26,918
35852 71	Water source heat pumps (except room air-conditioners) .....	14	(D)	(D)	(D)	(D)
	Split system air-conditioning condensing units ..	(X)	4,114,804	1,969,273	3,441,989	1,653,676
35852 72	Under 22,000 Btuh .....	15	304,748	96,706	264,111	83,156
35852 73	22,000 to 26,999 Btuh .....	17	921,717	303,159	732,403	255,287
35852 74	27,000 to 32,999 Btuh .....	19	881,477	355,196	726,482	300,764
35852 75	33,000 to 38,999 Btuh .....	15	836,423	374,298	694,783	299,427
35852 76	39,000 to 43,999 Btuh .....	17	396,722	213,434	342,832	184,654
35852 77	44,000 to 53,999 Btuh .....	18	389,728	233,052	337,343	200,738
35852 78	54,000 to 64,999 Btuh .....	16	323,793	224,982	289,291	175,783
35852 79	65,000 to 96,999 Btuh .....	7	23,284	30,730	20,533	27,024
35852 80	97,000 to 134,999 Btuh .....	8	16,393	31,217	15,470	29,301
35852 81	135,000 to 184,999 Btuh .....	7	8,982	26,860	8,460	24,981
35852 82	185,000 to 249,999 Btuh .....	7	4,775	20,671	4,130	17,723
35852 83	250,000 to 319,999 Btuh .....	5	1,762	9,758	1,629	9,206
35852 84	320,000 to 379,999 Btuh .....	5	1,848	12,034	1,557	10,204
35852 85	380,000 to 539,999 Btuh .....	5	1,408	12,461	1,258	11,342
35852 86	540,000 to 639,999 Btuh .....	4	668	7,237	614	6,552
35852 87	640,000 Btuh and over .....	4	1,076	17,478	1,093	17,534
	Split system air-conditioning coils .....	(X)	3,093,976	580,028	2,780,887	519,471
35852 88	With blower .....	15	1,322,047	366,882	1,216,712	324,868
35852 89	Without blower .....	16	1,771,929	213,146	1,564,175	194,603
35853 43	Commercial refrigeration equipment, mechanical drinking water coolers .....	5	1,004,335	219,586	927,333	202,628
35854 —	Compressors and compressor units <sup>5 6</sup> .....	35	(X)	4,623,341	(X)	4,306,689
	All refrigerants (except ammonia) .....	(X)	41,046,530	4,514,787	39,102,483	4,210,641
	Hermetic-type motor compressors .....	(X)	24,063,173	2,636,717	22,484,139	2,440,446
35854 11	Under 3 hp .....	11	18,521,768	1,361,349	17,634,944	1,294,667
35854 23	3 to 10 hp .....	12	5,386,567	974,241	4,722,588	879,630
35854 30	15 hp .....	11	27,735	32,627	25,851	30,374
35854 32	20 hp .....	11	22,694	34,557	23,865	34,742
35854 34	25 hp .....	11	15,770	26,093	14,996	24,948
35854 36	30 hp .....	12	22,122	29,499	13,682	24,181
35854 39	40 and 50 hp .....	10	34,033	58,707	19,384	49,307
35854 42	60 hp .....	8	24,780	17,803	22,484	15,018
35854 46	75 hp <sup>7</sup> .....	9	(D)	(D)	(D)	(D)
35854 49	100 hp and over <sup>7</sup> .....	7	7,704	101,841	6,345	87,579
35854 52	Open-type compressors (with or without motor—all sizes) .....	14	80,745	71,294	73,888	55,378
35854 53	Automotive air-conditioning compressors (open-type, with or without motor) <sup>8</sup> .....	7	(D)	(D)	(D)	(D)
35854 54	Screw type <sup>8</sup> .....	3	16,902,612	1,806,776	16,544,456	1,714,817
35854 58	Ammonia refrigerants (all types) .....	7	3,066	108,554	2,878	96,048

See footnotes at end of table.

Table 7. Quantity and Value of Shipments of Refrigeration, Air-Conditioning, and Warm Air Heating Equipment: 1996 and 1995—Con.

[Quantity in number of units. Value in thousands of dollars]

Product code	Product description	Number of companies	1996		1995	
			Quantity	Value	Quantity	Value
35855 —	Condensing units, refrigeration (complete).....	24	522,138	295,654	545,062	286,415
	Air-cooled hermetic-type .....	(X)	485,820	194,532	526,413	198,456
35855 23	1 hp and under .....	14	399,711	93,021	442,416	101,627
35855 25	1.5 hp .....	11	18,930	12,181	18,352	13,686
35855 28	2 and 2.5 hp .....	12	25,046	18,675	23,602	16,201
35855 30	3 hp .....	11	19,350	22,224	20,995	22,310
35855 32	Over 3 hp, but under 15 hp .....	15	22,783	48,431	21,048	44,632
35855 44	Water-cooled hermetic-type, under 15 hp .....	5	(D)	(D)	(D)	(D)
	Water or air-cooled hermetic-type .....	(X)	4,044	44,665	4,224	42,421
35855 61	15 hp .....	6	1,843	26,747	1,793	21,782
35855 62	20 hp .....	6	523	2,786	783	4,401
35855 63	25 hp .....	7	355	2,634	348	2,539
35855 64	30 hp .....	5	375	4,108	298	2,771
35855 70	40 hp .....	5	948	8,390	1,002	10,928
35856 —	Room air-conditioners and dehumidifiers .....	18	(X)	1,496,600	(X)	<sup>1</sup> 1,359,413
35856 11	Electrically operated dehumidifiers, mechanically refrigerated, self-contained .....	11	(X)	148,044	(X)	152,269
	Room air-conditioners .....	(X)	4,562,091	1,348,556	4,278,535	1,207,144
35856 31	5,999 Btuh and under .....	6	1,089,570	213,519	<sup>1</sup> 931,033	<sup>1</sup> 173,906
35856 34	6,000 to 6,999 Btuh .....	6	286,489	67,416	236,127	54,859
35856 38	7,000 to 7,999 Btuh .....	7	527,711	125,625	<sup>1</sup> 511,719	<sup>1</sup> 111,041
35856 42	8,000 to 8,999 Btuh .....	5	313,345	88,290	257,206	70,385
35856 46	9,000 to 9,999 Btuh .....	7	93,202	31,405	<sup>1</sup> 106,321	<sup>1</sup> 35,776
35856 52	10,000 to 10,999 Btuh .....	7	595,708	172,625	525,330	<sup>1</sup> 142,528
35856 56	11,000 to 12,999 Btuh .....	9	671,785	220,486	<sup>1</sup> 762,758	<sup>1</sup> 213,383
35856 61	13,000 to 14,999 Btuh .....	8	65,513	27,236	<sup>1</sup> 91,146	<sup>1</sup> 35,712
35856 63	15,000 to 16,999 Btuh .....	7	92,963	36,387	63,114	25,429
35856 65	17,000 to 19,999 Btuh .....	8	503,922	199,447	<sup>1</sup> 483,343	<sup>1</sup> 185,039
35856 67	20,000 to 22,999 Btuh .....	6	44,876	17,988	<sup>1</sup> 39,163	<sup>1</sup> 18,951
35856 68	23,000 to 25,999 Btuh .....	9	225,660	108,526	233,149	107,345
35856 69	26,000 Btuh and over .....	10	51,347	39,606	38,126	32,790
3585C pt.	Nonelectric warm air furnaces and dehumidifiers .....	(X)	(X)	1,638,621	(X)	1,522,335
	Oil, forced air:					
3585C 04	150,000 Btu bonnet output and under .....	20	163,072	112,113	<sup>1</sup> 149,315	<sup>1</sup> 100,775
3585C 13	150,000 Btu bonnet output and over .....	17	7,080	9,425	7,212	9,664
	Gas, forced air:					
3585C 07	150,000 Btu bonnet output and under .....	24	2,995,572	1,260,397	2,649,815	1,165,592
3585C 08	150,001-400,000 Btu bonnet output .....	16	(D)	(D)	(D)	(D)
3585C 09	Over 400,000 Btu bonnet output .....	12	(D)	(D)	(D)	(D)
3585C 79	All other nonelectric warm air furnaces .....	8	(D)	(D)	(D)	(D)
3585C 20	Humidifiers (attachments to warm air furnaces) (all types), including central systems and self-contained (except portable humidifiers) .....	22	641,793	71,151	565,004	65,850

Btuh British thermal units-per hour. D Withheld to avoid disclosing data for individual companies. pt. Part. <sup>1</sup>Revised by 5 percent or more from previously published data. X Not applicable.

<sup>1</sup>Defined as factory-selected combinations of heating and cooling components or assemblies intended to serve an individual room and comprising: (1) heating assembly available with element for use with hot water, steam, and electricity; means for forced heated air circulation and distribution; integral or remote temperature controls; (2) slide-in cooling section with complete refrigerant cycle; (3) room cabinet; (4) provision for outdoor air intake and discharge and accessories as required for mounting in a building wall; (5) provisions for air filtration and ventilation; (6) permanent individual branch circuit wiring with a suitable line cord or terminating at a junction box within the room cabinet; and (7) provision for free conditioned air distribution, or when forced circulation is employed for minimal duct work having a total external static resistance not exceeding 1/10 inch of water.

<sup>2</sup>Product code 35851 74 is combined with product code 35851 78 to avoid disclosing data for individual companies.

<sup>3</sup>Figures exclude systems assembled from purchased components and installed at passenger automobile assembly lines. Values are understated for some systems because of exclusion of compressors.

<sup>4</sup>Product code 35852 4A is combined with product code 35852 44 to avoid disclosing data for individual companies.

<sup>5</sup>Represents only those compressors and compressor units produced and shipped separately, including interplant transfers.

<sup>6</sup>Includes units shipped for household refrigerators.

<sup>7</sup>Product code 35854 46 is combined with product code 35854 49 to avoid disclosing data for individual companies.

<sup>8</sup>Product code 35854 53 is combined with product code 35854 54 to avoid disclosing data for individual companies.

Table 8. Quantity of Assembled Compressor Bodies: 1996 and 1995

[Quantity in number of units]

Product description	Number of companies	1996	1995
Compressor bodies <sup>1 2</sup> .....	(X)	34,657,234	33,196,357
All refrigerants (except ammonia) .....	(X)	34,656,478	33,195,649
Other than automotive air-conditioning .....	(X)	23,765,635	22,096,517
1/4 hp and under .....	5	5,817,483	5,825,347
1/3 and 1/2 hp <sup>3</sup> .....	6	(D)	(D)
3/4 and 1 hp <sup>3</sup> .....	5	5,285,665	4,942,747
1-1/2 hp .....	6	1,068,176	880,016
2 hp .....	6	5,202,281	4,851,199
3 hp .....	11	3,069,939	2,651,035
4 hp <sup>4</sup> .....	5	(D)	(D)
5 hp <sup>4</sup> .....	7	2,447,410	2,153,721
7-1/2 hp .....	10	297,361	278,365
10 hp .....	12	315,201	318,043
15 hp .....	10	94,061	60,717
20 hp .....	9	28,790	34,893
25 hp .....	10	22,186	17,228
30 hp .....	11	31,123	21,444
40 hp .....	11	43,380	28,977
50 hp <sup>5</sup> .....	8	(D)	(D)
60 hp <sup>5</sup> .....	8	(D)	(D)
75 hp <sup>5</sup> .....	9	31,331	26,282
100 hp and over .....	7	11,248	6,503
Automotive air-conditioning, including passenger automobiles, trucks, buses, agriculture, and construction equipment .....	4	(D)	(D)
Ammonia refrigerants .....	5	(D)	(D)

D Withheld to avoid disclosing data for individual companies. X Not applicable.

<sup>1</sup>Includes units for household refrigerators.<sup>2</sup>Represents total number of compressor bodies assembled, whether shipped separately or incorporated into a condensing package or unitary end-use product such as single package air-conditioners, freezers, and refrigerators (manufactured and remanufactured units).<sup>3</sup>"Other than automotive air-conditioning 1/3 and 1/2 hp" combined with "Other than automotive air-conditioning 3/4 and 1 hp" to avoid disclosing data for individual companies.<sup>4</sup>"Other than automotive air-conditioning 4 hp" combined with "Other than automotive air-conditioning 5 hp" to avoid disclosing data for individual companies.<sup>5</sup>"Other than automotive air-conditioning 50 hp" and "Other than automotive air-conditioning 60 hp" are combined with "Other than automotive air-conditioning 75 hp" to avoid disclosing data for individual companies.

Table 9. **Shipments, Exports, Imports, and Apparent Consumption of Air-Conditioning and Refrigeration Equipment: 1996 and 1995**

[Value in thousands of dollars]

Product code <sup>1</sup>	Product description	Manufacturers' shipments (value f.o.b. plant)	Export of domestic merchandise <sup>1</sup>		Imports for consumption <sup>4 5</sup>
			Value at port <sup>2</sup>	Estimated producers' value <sup>3</sup>	
<b>1996</b>					
35851 —	Heat transfer equipment, excluding room and unitary air-conditioners and dehumidifiers.....	6,408,555	521,941	391,560	47,132
35852 —	Unitary air-conditioners .....	5,538,787	312,192	234,206	69,162
35853 43	Commercial refrigeration equipment, mechanical drinking water coolers.....	219,586	27,228	20,426	2,929
35854 —	Compressors and compressor units, all refrigerants.....	4,618,341	919,664	689,932	688,000
35855 —	Condensing units, all refrigerants .....	295,654	24,808	18,611	20,298
35856 —	Room air-conditioners and dehumidifiers.....	1,496,600	139,208	104,434	419,294
3585C pt.	Nonelectric warm air furnaces and humidifiers.....	1,638,621	(NA)	(NA)	(NA)
<b>1995</b>					
35851 —	Heat transfer equipment, excluding room and unitary air-conditioners and dehumidifiers.....	6,169,842	757,880	568,562	42,554
35852 —	Unitary air-conditioners .....	4,807,452	298,377	223,842	43,879
35853 43	Commercial refrigeration equipment, mechanical drinking water coolers.....	202,628	26,147	19,615	2,479
35854 —	Compressors and compressor units, all refrigerants.....	4,306,689	817,714	613,449	753,526
35855 —	Condensing units, all refrigerants .....	286,415	20,695	15,525	19,040
35856 —	Room air-conditioners and dehumidifiers.....	1,359,413	142,835	107,155	368,664
3585C pt.	Nonelectric warm air furnaces and humidifiers.....	1,638,621	(NA)	(NA)	(NA)

NA Not available. pt. part. <sup>1</sup>Revised by 5 percent or more from previously published data.<sup>1</sup>Source: Bureau of the Census report EM 545, *U.S. Exports*.<sup>2</sup>Dollar value represents c.i.f. (cost, insurance, and freight) value at port of export.<sup>3</sup>Values were derived by use of adjustment factors to exclude freight, insurance, and other charges incurred in moving goods to port of export. Adjustment is made to convert values to an approximation of the producers' value of exported goods. Current adjustment factors are based on data for 1995 that are published in *Exports from Manufacturing Establishments*, AR95-1, Appendix B. Adjustment factor for this report is 0.7502.<sup>4</sup>Source: Bureau of the Census report IM 145, *U.S. Imports for Consumption*. Figures include both import value and duty value.<sup>5</sup>Represents c.i.f. (cost, insurance, and freight) value at first port of entry in the United States plus U.S. import duties.

## HISTORICAL NOTE

Data on air-conditioning and refrigeration have been collected by the Bureau of the Census since 1944. Historical data may be obtained from Current Industrial Reports (called Facts for Industry before 1959) available at your local Federal Depository Library. Historical data are also

available on microfiche; contact Customer Services, 301-457-4100.

## CONTACT FOR DATA USERS

For additional information about these data, contact Joanna T. Q. Nguyen, 301-457-4752.

## FLUID POWER PRODUCTS, INCLUDING AEROSPACE (MA35N)

### INTRODUCTION

These data cover producers of fluid power products, including aerospace, except very small firms (generally less than 20 employees) for which 1992 Census of Manufactures data were derived from administrative records of other government agencies.

The statistics were collected by mail on Bureau of the Census annual Form MA35N, Fluid Power Products, Including Aerospace Products. The survey panel includes all known producers of fluid power products, approximately 361 companies. This survey does not include products produced and consumed within the same establishment.

### SUMMARY OF FINDINGS

In 1996, fluid power product manufacturers including aerospace had shipments of \$9,416.2 million, an increase of 4 percent from \$9,011.1 million reported in 1995. Hydraulic and pneumatic valves increased 4 percent to \$2,481.5 million in 1996 from \$2,377.0 million in 1995. Fittings and assemblies for tubing and hose, excluding plumbers' brass goods, increased 5 percent to \$2,165.7 million from \$2,068.3 million. Hydraulic and pneumatic cylinders, actuators, accumulators, cushions, and nonvehicular shock and absorbers increased by 6 percent to \$2,207.4 million from \$2,079.1 million. Compressed air and gas dryers, and lubricators increased by 12 percent to \$89.5 million from \$80.0 million. Filters of hydraulic and pneumatic fluid systems increased to \$479.2 million from \$446.5 million, a 7-percent increase. Hydraulic and pneumatic pumps, motors, and hydrostatic transmission components incurred a 2-percent increase to \$1,992.8 million, from \$1,960.3 million.

### EXPLANATION OF TERMS

**Accumulators (hydraulic only).** Devices that store hydraulic fluid under pressure as a source of fluid power.

**Actuators.** Devices that convert fluid power into linear or rotary mechanical force. Linear types are typically referred to as cylinders. Rotary types are referred to as rotary actuators and motors. Motors have shafts that rotate continuously in the same direction. Rotary actuator shafts do not rotate continuously. Typically, the shafts rotate a certain number of degrees before rotating in the opposite direction to their point of origin.

**Air dryer.** A device for reducing the moisture vapor content of the compressed air in a pneumatic system.

**Assembly.** A length of hose and/or tubing to which fittings have been attached.

**Cushion.** A device that provides controlled resistance to nonlinear motion.

**Cylinder, electrohydraulic.** A hydraulic, linear actuator that produces a continuously variable mechanical output, as a function of a continuously variable electronic input signal (voltage or current).

**Cylinder, mill type.** A linear actuator that has circular flanges welded to the cylinder barrel ends. This type of cylinder is used in severe duty applications like the steel mills from which it derived its name.

**Cylinder, rodless (shuttle).** A linear actuator with a rod that never leaves its case, that is sealed lengthwise. Typically used in position control applications.

**Cylinder, telescoping.** A linear actuator with nested tubular rod segments that provide a long working stroke in a short retracted envelope.

**Cylinder, threaded/weld fused combination.** A linear actuator with one threaded end and one weld fused end.

**Cylinder, tie rod.** A linear actuator with head and cap end closures that are secured by tie rods.

**Filter (filter assembly).** A device whose primary function is the retention of insoluble contaminants in a fluid by a porous media.

**Filter element.** That part of a filter that retains contaminants. Some elements are permanent (reusable or cleanable) and others are disposable (nonreusable). Disposable elements must eventually be replaced.

**Fittings.** Devices used to connect hoses and tubing to components (valves, cylinders, motors, pumps) of a fluid power system. They are constructed from metal or plastics and are sometimes referred to as connectors or couplings.

**Gerotor/gerolor.** A special type of internal gear motor where the internal gear is always in sliding contact with the external gear.

**Hydrostatic transmission.** A device that combines a hydraulic pump with a hydraulic motor. Quantity and value of pumps and motors sold together as transmissions were reported separately in the relevant pump and motor categories.

**Intensifiers.** A device that is driven by a low pressure fluid to produce fluid at a higher pressure.

**Lubricator.** A device that adds controlled or metered amounts of lubricant into a pneumatic system.

**Manifold (manifold assembly).** A fluid conductor that can provide multiple connection ports. In a fluid power system, manifolds are typically used as housings for cartridge valves.

**Motor.** A device that transforms fluid power into rotary mechanical force. Motors can be hydraulic or pneumatic.

**Motor, axial piston.** A motor with several parallel pistons arranged around a common axis.

**Motor, external gear.** A motor that has only external gears and no internal gear.

**Motor, internal gear.** A motor with an internal gear that meshes with one or more external gears. See also gerotor/gerolor.

**Motor, radial piston.** A motor with several pistons arranged to operate radially.

**Motor, vane.** A motor with multiple vanes that cause rotation of an internal member when under pressure.

**Power unit.** A device that combines a hydraulic pump with a prime mover (usually an electric motor). As is done for hydrostatic transmissions, the quantity and value of the pumps and prime movers were reported separately in relevant categories.

**Pump, axial piston.** A reciprocating pump with several parallel pistons arranged around a common axis.

**Pump, external gear.** A rotary pump that has only external gears, and no internal gear.

**Pump, internal gear.** A rotary pump that has an internal gear in engagement with one or more external gears. An internal gear pump generally has external gears that rotate

on a fixed axis. A gerotor pump differs from other internal gear types in that its internal gear is always in sliding contact with the external gear.

**Pump, radial piston.** A reciprocating pump with several pistons arranged radially within the pump chamber.

**Pump, reciprocating.** A pump that uses pistons to create a partial vacuum to draw hydraulic fluid through the pump inlet. The return strokes of the pistons unseat outlet check valves and force the fluid through the pump outlet.

**Pump, rotary.** A pump that uses gears or vanes to cause rotary motion that moves hydraulic fluid from the pump inlet to the pump outlet.

**Pump, vane.** A rotary pump with multiple vanes within a supporting rotor.

**Reservoir, hydraulic.** A container for storage of hydraulic fluid under pressure.

**Valves, cartridge.** Valves with working parts contained in a cylindrical body. The body must be inserted into a housing (usually a manifold) for use. Ports through the body of the valve align with ports in the housing.

**Valves, electrohydraulic.** Valves that use continuously variable electronic input (voltage or current) to produce a continuously variable hydraulic output.

**Valve, manually operated.** Valves actuated by means of a hand lever, or other manual energizing device.

**Valve, mechanical.** Valves that are actuated by cams, levers, rollers, screws, springs, stems, or other mechanical energizing devices.

**Valve, relief.** Direct acting or pilot operated valves that are used to prevent a hydraulic system from exceeding its maximum pressure limits.

**Valve, remote pilot.** Pilot operated valves that are controlled remotely through the use of air pressure.

**Valve, solenoid.** Valves that are operated by a solenoid.



Table 10. Value of Shipments of Fluid Power Products, Including Aerospace: 1996 and 1995

[Value in thousands of dollars]

Product code	Product description	1996	1995
	Fluid power products, including aerospace . . . . .	9,416,247	9,011,052
3492C	Nonaerospace-type hydraulic directional control valves . . . . .	476,962	<sup>1</sup> 467,299
3492D	Nonaerospace-type hydraulic valves (except directional control) . . . . .	725,299	726,954
3492E	Nonaerospace-type pneumatic directional control valves . . . . .	475,837	439,746
3492F	Nonaerospace-type pneumatic valves (except directional control) . . . . .	205,255	187,556
3492A	Aerospace-type hydraulic fluid power valves . . . . .	253,209	<sup>1</sup> 241,555
3492B	Aerospace-type pneumatic fluid power valves . . . . .	91,380	77,671
3492G	Parts for fluid power valves . . . . .	253,560	<sup>1</sup> 236,169
3492J	Nonaerospace-type flared (metal) fittings and couplings for, and assemblies of tubing used in fluid power transfer systems . . . . .	310,607	314,587
3492K	Nonaerospace-type flareless fittings and couplings, including nonmetal fittings, used in fluid power transfer systems . . . . .	454,685	446,522
3492M	Nonaerospace-type hydraulic and pneumatic fittings and couplings for hose, and manifolds . . . . .	724,585	<sup>1</sup> 676,498
3492N	Nonaerospace-type hydraulic and pneumatic assemblies of hose . . . . .	272,924	272,800
3492H	Aerospace-type hydraulic and pneumatic hose or tube end fittings and assemblies and manifolds . . . . .	402,919	357,878
35694	Nonaerospace-type filters for hydraulic fluid power systems . . . . .	324,054	298,995
35695	Nonaerospace-type filters for pneumatic fluid power systems . . . . .	106,138	<sup>1</sup> 97,619
35696	Aerospace-type hydraulic and pneumatic filters . . . . .	49,056	49,846
35699 pt.	Compressed air and gas dryers, and lubricators . . . . .	89,506	<sup>1</sup> 79,985
35934	Nonaerospace-type hydraulic fluid power cylinders and actuators, linear and rotary . . . . .	1,154,138	1,071,483
35935	Nonaerospace-type pneumatic fluid power cylinders and actuators, linear and rotary . . . . .	423,969	400,301
35939	Parts for nonaerospace-type hydraulic and pneumatic fluid power cylinders, actuators, and related items, n.e.c. . . . .	243,377	233,991
35932	Aerospace-type fluid power cylinders and actuators, hydraulic and pneumatic . . . . .	385,964	373,290
35943	Nonaerospace-type reciprocating pumps . . . . .	521,552	<sup>1</sup> 491,490
35944	Nonaerospace-type rotary and other fluid power pumps . . . . .	423,215	444,029
35945	Nonaerospace-type fluid power motors . . . . .	505,617	510,280
35946	Aerospace-type fluid power pumps and motors . . . . .	137,366	<sup>1</sup> 124,276
35949	Parts for fluid power pumps, motors, and hydrostatic transmissions . . . . .	405,073	<sup>1</sup> 390,232

n.e.c. Not elsewhere classified. pt. Part. <sup>1</sup>Revised by 5 percent or more from previously published data.

Table 11. **Manufacturer's Shipments of Fluid Power Products, Including Aerospace by Type: 1996 and 1995**

[Quantity in units. Value in thousands of dollars]

Product code	Product description	1996			1995		
		Number of companies	Quantity	Value	Number of companies	Quantity	Value
3492C —	Fluid power products, including aerospace. . . . .	(X)	(X)	9,416,247	(X)	(X)	9,011,052
	Nonaerospace-type hydraulic directional control valves. . . . .	(X)	6,717,184	476,962	(X)	4,800,959	467,299
	Manual:						
3492C 22	3- and 4-way monoblock . . . . .	27	3,221,567	107,899	27	1,575,814	103,258
3492C 24	3- and 4-way sectional . . . . .	20	1,032,236	173,966	20	993,377	174,843
	Solenoid:						
3492C 26	2-way types. . . . .	15	337,550	19,329	17	254,009	15,986
3492C 28	3- and 4-way types . . . . .	21	917,806	111,139	22	870,695	114,903
3492C 25	Other directional control . . . . .	31	1,208,025	64,629	31	1,107,064	58,309
3492D —	Nonaerospace-type hydraulic valves (except directional control) . . . . .	(X)	18,210,072	725,299	(X)	19,734,681	726,954
	Pressure control:						
3492D 31	Relief valves . . . . .	23	1,802,176	39,556	24	1,819,628	46,654
3492D 33	Other, including load sensing and manual types. . . . .	16	809,107	32,763	16	1,158,662	33,741
	Flow control:						
3492D 34	Manual types . . . . .	18	1,084,584	28,144	20	1,225,645	31,941
3492D 35	Other flow control valves . . . . .	23	2,646,550	62,822	23	3,082,245	60,268
3492D 38	Cartridge valves, all types . . . . .	18	8,964,757	189,783	19	9,732,380	204,006
	Electrohydraulic valves:						
3492D 49	Pilot-operated, torque motor servovalves . . . . .	11	(D)	75,484	12	(D)	71,471
3492D 50	Other types, including proportional. . . . .	9	(D)	61,987	9	(D)	52,752
3492D 48	Other nonaerospace-type hydraulic valves, including stack and logic . . . . .	23	1,864,176	234,760	25	1,927,292	226,121
3492E —	Nonaerospace-type pneumatic directional control valves . . . . .	(X)	15,695,428	475,837	(X)	15,427,147	439,746
3492E 51	Manual . . . . .	39	3,799,584	75,335	39	4,131,109	78,464
	Solenoid:						
3492E 54	Under 1/8 inch port diameter. . . . .	11	2,682,175	46,781	12	2,155,264	32,227
	1/8 inch up to and including 1/4 inch port diameter:						
3492E 56	3-way types. . . . .	22	2,160,714	53,954	22	2,175,529	48,885
3492E 57	4-way types. . . . .	22	2,447,486	102,853	22	2,501,755	100,622
	Over 1/4 inch port diameter:						
3492E 58	3-way types. . . . .	18	621,103	37,823	17	582,912	34,047
3492E 59	4-way types. . . . .	17	1,443,119	78,137	17	1,440,130	77,533
3492E 55	Mechanical, remote pilot, and all other types. . . . .	30	2,541,247	80,954	31	2,440,448	67,968
3492F —	Nonaerospace-type pneumatic valves (except directional control) . . . . .	(X)	13,731,140	205,255	(X)	13,996,229	187,556
3492F 61	Filter-regulator combination units, integral types. . . . .	14	1,413,146	27,251	15	1,365,482	25,490
3492F 62	Other FRs and filter-regulator-lubricator combo units. . . . .	14	369,612	16,905	14	361,264	15,979
3492F 64	Regulators, sold separately . . . . .	22	4,965,931	77,311	21	4,759,632	73,594
3492F 65	Flow control valves . . . . .	31	3,886,886	43,261	32	3,714,096	37,604
3492F 69	Check, shuttle, exhaust, needle, and all other types. . . . .	29	3,095,565	40,527	30	3,795,755	34,889
3492A —	Aerospace-type hydraulic fluid power valves . . . . .	(X)	1,006,840	253,209	(X)	960,414	241,555
3492A 71	Manually or mechanically operated . . . . .	15	(D)	56,957	15	(D)	54,418
3492A 72	Solenoid operated . . . . .	23	58,947	43,752	22	59,689	44,137
3492A 73	Motor operated. . . . .	7	(D)	7,575	7	(D)	5,340
3492A 74	Electrohydraulic servovalves . . . . .	5	72,525	71,711	6	68,912	69,643
3492A 75	Flow, pressure, and other types of hydraulic valves. . . . .	24	333,827	73,214	24	316,706	68,017
3492B —	Aerospace-type pneumatic fluid power valves . . . . .	(X)	307,336	91,380	(X)	308,578	77,671
3492B 79	Pneumatic valves, all types . . . . .	19	307,336	91,380	20	308,578	77,671
3492G —	Parts for fluid power valves . . . . .	(X)	(X)	253,560	(X)	(X)	236,169
3492G 96	Parts for nonaerospace-type hydraulic and pneumatic valves, sold separately . . . . .	64	(X)	212,689	65	(X)	203,468
3492G 98	Parts for aerospace-type hydraulic and pneumatic valves, sold separately . . . . .	21	(X)	40,871	25	(X)	32,701
3492J —	Nonaerospace-type flared (metal) fittings and couplings for, and assemblies of tubing used in fluid power transfer systems <sup>1</sup> . . . . .	(X)	(X)	310,607	(X)	(X)	314,587
	Flared fittings:						
3492J 11	Brass and bronze (SAE 45 degrees and 37 degrees) <sup>1</sup> . . . . .	9	(D)	(D)	9	(D)	(D)
3492J 13	Carbon steel (JIC 37 degrees) <sup>1</sup> . . . . .	13	(D)	136,414	13	(D)	138,735
3492J 15	Other, including alloy steel <sup>1</sup> . . . . .	14	5,110	57,205	14	4,835	53,788
3492J 41	Assemblies of tubing <sup>1</sup> . . . . .	7	(X)	(D)	8	(X)	(D)
3492J 42	Assemblies of tubing and hose <sup>1</sup> . . . . .	7	(X)	41,539	7	(X)	45,148

See footnotes at end of table.

Table 11. **Manufacturer's Shipments of Fluid Power Products, Including Aerospace by Type: 1996 and 1995—Con.**

[Quantity in units. Value in thousands of dollars]

Product code	Product description	1996			1995		
		Number of companies	Quantity	Value	Number of companies	Quantity	Value
3492K —	Fluid power products, including aerospace—Con. Nonaerospace-type flareless fittings and couplings, including nonmetal fittings, used in fluid power transfer systems <sup>1</sup> .....	(X)	38,827	454,685	(X)	38,393	446,522
	Metal types:						
3492K 21	Brass and bronze <sup>1</sup> .....	15	(D)	(D)	15	(D)	155,678
3492K 23	Carbon steel <sup>1</sup> .....	13	3,305	82,920	13	3,238	81,284
3492K 24	Stainless steel <sup>1</sup> .....	17	7,615	190,837	17	7,372	184,793
3492K 28	Other, including alloy steel <sup>1</sup> .....	8	(D)	(D)	8	(D)	15,931
3492K 38	Nonmetal fittings, including plastics <sup>1</sup> .....	10	3,288	8,639	10	3,364	8,836
3492M —	Nonaerospace-type hydraulic and pneumatic fittings and couplings for hose, and manifolds ..	(X)	(X)	724,585	(X)	(X)	676,498
3492M 44	Permanent hose end fittings (crimped and swaged) .....	20	(X)	295,472	20	(X)	280,406
3492M 46	Hydraulic and pneumatic reusable end fittings ..	29	(X)	119,471	29	(X)	117,335
3492M 47	Hydraulic quick connect and disconnect couplings .....	17	(X)	135,917	17	(X)	111,754
3492M 48	Pneumatic quick connect and disconnect couplings .....	23	(X)	65,900	24	(X)	63,953
3492M 49	Manifolds and manifold assemblies for fluid power systems .....	20	(X)	65,988	20	(X)	61,215
3492M 50	All other, including steel adaptor, swivel, rotating, and extension fittings .....	22	(X)	41,837	22	(X)	41,835
3492N —	Nonaerospace-type hydraulic and pneumatic assemblies of hose .....	(X)	(X)	272,924	(X)	(X)	272,800
3492N 51	Assemblies with permanent end fittings .....	22	(X)	232,851	24	(X)	236,185
3492N 53	Assemblies with reusable end fittings .....	11	(X)	40,073	11	(X)	36,615
3492H —	Aerospace-type hydraulic and pneumatic hose or tube end fittings and assemblies and manifolds .....	(X)	(X)	402,919	(X)	(X)	357,878
3492H 61	Assemblies of hose and/or tubing .....	11	(X)	95,619	11	(X)	81,728
3492H 62	Quick connect, rotating, swivel, and extension fittings .....	10	(X)	134,949	9	(X)	118,881
3492H 63	Manifolds for aerospace hydraulic systems .....	6	(X)	30,332	6	(X)	27,564
3492H 69	Aerospace hose and tube fittings, n.e.c. ....	15	(X)	142,019	15	(X)	129,705
35694 —	Nonaerospace-type filters for hydraulic fluid power systems .....	(X)	(X)	324,054	(X)	(X)	298,995
	Hydraulic fluid filter assemblies, with or without filter element installed:						
35694 11	Low pressure (below 301 psi) .....	29	1,066,165	49,887	29	1,152,838	54,096
35694 12	Medium pressure (301 to 2,999 psi) .....	18	768,563	27,733	18	730,173	25,634
35694 14	High pressure (3,000 psi and above) .....	15	128,693	19,558	15	131,026	19,451
	Filter replacement elements:						
35694 15	Reusable (cleanable) type .....	16	1,032,677	17,528	16	905,348	15,583
35694 17	Nonreusable type .....	27	17,732,531	176,285	27	16,144,601	156,476
35694 19	Strainers and separators, filter parts, and accessories .....	22	(X)	33,063	23	(X)	27,755
35695 —	Nonaerospace-type filters for pneumatic fluid power systems .....	(X)	(X)	106,138	(X)	(X)	97,619
	Air supply filter assemblies and filter replacement elements, excluding those shipped as part of an FR or FRL combo unit:						
35695 32	Coalescing types, including elements sold separately .....	14	(X)	43,159	13	(X)	40,858
35695 34	Other types, including elements sold separately .....	12	(X)	35,152	11	(X)	32,173
35695 39	Air exhaust mufflers, diffusers, filter parts, and air preparation accessories .....	18	(X)	27,827	18	(X)	24,588
35696 —	Aerospace-type hydraulic and pneumatic filters ..	(X)	(X)	49,056	(X)	(X)	49,846
35696 51	Hydraulic .....	6	(X)	(D)	7	(X)	(D)
35696 53	Pneumatic .....	2	(X)	(D)	2	(X)	(D)
35699 pt.	Compressed air and gas dryers, and lubricators ..	(X)	848,990	89,506	(X)	735,854	79,985
	Compressed air and gas dryers:						
35699 41	Refrigerated dryers .....	5	30,254	36,025	5	28,940	34,702
35699 42	Desiccant dryers .....	7	(D)	(D)	6	17,008	28,849
35699 44	Other compressed air and gas dryers .....	4	(D)	(D)	4	17,900	1,498
35699 13	Lubricators for pneumatic systems, sold separately .....	8	699,929	15,790	8	672,006	14,936

See footnotes at end of table.

Table 11. **Manufacturer's Shipments of Fluid Power Products, Including Aerospace by Type: 1996 and 1995—Con.**

[Quantity in units. Value in thousands of dollars]

Product code	Product description	1996			1995		
		Number of companies	Quantity	Value	Number of companies	Quantity	Value
35934 —	Fluid power products, including aerospace—Con. Nonaerospace-type hydraulic fluid power cylinders and actuators, linear and rotary . . . . .	(X)	4,413,785	1,154,138	(X)	4,283,538	1,071,483
	Hydraulic cylinders, excluding electrohydraulic: Tie-rod types:						
	Standard NFPA and JIC tie-rod types:						
35934 04	Less than 1,500 psi . . . . .	24	184,819	43,310	24	215,190	40,786
35934 06	1,500 to 3,000 psi . . . . .	21	250,089	92,612	21	226,974	85,946
35934 08	Greater than 3,000 psi . . . . .	8	(D)	(D)	9	(D)	(D)
35934 10	Other tie-rod types . . . . .	17	(D)	(D)	17	(D)	(D)
35934 12	Threaded/weld fused combination . . . . .	50	2,753,318	663,497	49	2,598,397	608,317
35934 13	Telescoping . . . . .	22	176,975	98,263	22	166,175	90,105
35934 15	Mill type . . . . .	13	28,126	21,019	15	27,403	21,484
35934 16	Other, including those threaded at both ends . . . . .	22	525,573	117,840	25	509,458	109,279
35934 18	Electrohydraulic types . . . . .	7	6,570	13,998	6	5,152	10,845
35934 25	Hydraulic rotary actuators . . . . .	13	41,779	44,393	12	38,072	41,934
35935 —	Nonaerospace-type pneumatic fluid power cylinders and actuators, linear and rotary . . . . .	(X)	6,174,730	423,969	(X)	5,939,256	400,301
	Tie-rod types:						
35935 23	Steel . . . . .	17	276,698	74,004	16	258,573	69,806
	Aluminum:						
35935 24	Less than 1-1/2 inch bore size . . . . .	7	53,237	4,290	7	42,845	3,716
35935 25	1-1/2 inch bore size and over . . . . .	23	375,110	48,609	22	313,415	39,980
35935 27	Rodless cylinders . . . . .	12	121,215	37,087	12	101,622	32,420
	Other pneumatic cylinders:						
35935 28	Less than 1-1/2 inch bore size . . . . .	25	3,842,546	130,890	23	3,597,901	123,389
35935 29	1-1/2 inch bore size and over . . . . .	34	1,400,024	100,006	34	1,519,266	102,281
35935 26	Pneumatic rotary actuators . . . . .	16	105,900	29,083	16	105,634	28,709
35939 —	Parts for nonaerospace-type hydraulic and pneumatic fluid power cylinders, actuators, and related items, n.e.c. . . . .	(X)	(X)	243,377	(X)	(X)	233,991
35939 31	Accumulators (bladder, piston, and other types) . . . . .	23	232,280	47,875	25	202,805	41,634
35939 34	Shock absorbers, not for vehicle suspension, and cushions (hydraulic and pneumatic) . . . . .	14	1,376,581	52,686	15	1,872,028	51,698
35939 36	Reservoirs, intensifiers, and other devices for fluid energy absorption and/or storage . . . . .	11	3,950	1,712	11	3,233	2,491
35939 96	Parts for nonaerospace-type hydraulic and pneumatic cylinders, actuators, accumulators, cushions, and nonvehicular shock absorbers, sold separately . . . . .	60	(X)	141,104	63	(X)	138,168
35932 —	Aerospace-type fluid power cylinders and actuators, hydraulic and pneumatic . . . . .	(X)	(X)	385,964	(X)	(X)	373,290
	Hydraulic servo-actuator assemblies (linear and rotary):						
35932 51	Mechanical input . . . . .	4	17,045	(D)	4	15,692	(D)
35932 52	Electrical input . . . . .	5	7,697	108,679	5	7,187	106,955
35932 55	Combination input . . . . .	2	(D)	(D)	3	(D)	(D)
	Hydraulic utility actuators:						
35932 61	Linear actuators (cylinders) . . . . .	9	15,676	43,367	10	12,917	36,116
35932 62	Rotary actuators (limited rotation) . . . . .	2	(D)	(D)	3	(D)	(D)
35932 71	Shock absorbers, snubbers, and cushions, all types, excluding oleo strut assemblies . . . . .	7	(D)	16,016	6	(D)	11,229
35932 72	Pneumatic actuators (linear and rotary) . . . . .	5	(D)	(D)	5	(D)	(D)
35932 73	Accumulators (bladder, piston, and other types) . . . . .	8	3,562	3,179	9	7,461	5,204
35932 74	Reservoirs, intensifiers, and other devices for fluid energy absorption and/or storage . . . . .	4	1,060	4,229	4	739	4,146
35932 79	Other aerospace-type fluid power cylinders, rotary actuators, cushions, and related items, n.e.c. . . . .	4	(X)	1,674	5	(X)	1,388
35939 98	Parts for aerospace-type hydraulic and pneumatic cylinders, actuators, accumulators, cushions, and related items, sold separately . . . . .	11	(X)	26,871	11	(X)	26,211
35943 —	Nonaerospace-type reciprocating pumps . . . . .	(X)	1,737,926	521,552	(X)	1,646,082	491,490
	Axial piston:						
	Variable displacement types:						
35943 15	Closed loop . . . . .	9	1,047,474	329,697	11	1,043,177	319,554
35943 27	Open loop . . . . .	11	240,540	102,031	12	212,605	95,810
35943 37	Fixed displacement types . . . . .	11	(D)	83,379	11	(D)	70,295
35943 36	Radial piston types . . . . .	4	(D)	6,445	4	(D)	5,831

See footnotes at end of table.

Table 11. **Manufacturer's Shipments of Fluid Power Products, Including Aerospace by Type: 1996 and 1995—Con.**

[Quantity in units. Value in thousands of dollars]

Product code	Product description	1996			1995		
		Number of companies	Quantity	Value	Number of companies	Quantity	Value
35944 —	Fluid power products, including aerospace—Con.						
	Nonaerospace-type rotary and other fluid power pumps .....	(X)	2,768,542	423,215	(X)	2,827,137	444,029
	Fixed displacement, open and closed loop:						
35944 30	Internal gear type, including gerotors.....	13	950,817	88,786	12	888,060	192,671
35944 34	External gear type .....	16	(D)	(D)	15	(D)	(D)
35944 35	Vane type .....	3	(D)	(D)	3	(D)	(D)
35944 38	Variable displacement types .....	5	49,526	30,904	5	49,042	32,399
35945 —	Nonaerospace-type fluid power motors.....	(X)	(X)	505,617	(X)	(X)	510,280
35945 40	Pneumatic (air) motors .....	5	(D)	(D)	5	(D)	(D)
	Hydraulic motors:						
	Gear type:						
35945 52	Internal types, excluding gerotors.....	7	(D)	121,203	6	(D)	116,043
35945 56	Gerotors and gerolors .....	6	710,446	122,858	6	742,545	126,186
35945 54	External types .....	8	158,746	23,960	8	173,884	26,813
35945 42	Vane types, fixed and variable .....	7	24,098	23,549	7	30,017	28,292
35945 43	Radial piston types, fixed and variable .....	2	(D)	(D)	3	(D)	(D)
	Axial piston type:						
35945 44	Fixed displacement .....	9	521,669	87,858	11	512,083	84,633
35945 45	Variable displacement .....	7	(D)	52,364	8	(D)	50,707
35945 50	Prime movers shipped with pumps or sold separately .....	6	(X)	(D)	6	(X)	43,757
35946 —	Aerospace-type fluid power pumps and motors... ..	(X)	75,790	137,366	(X)	79,765	124,276
	Hydraulic pumps:						
35946 71	Fixed and variable displacement types .....	10	24,719	83,550	10	26,443	76,182
35946 72	Pump/electric motor assemblies, fixed, and variable displacement types.....	10	10,456	24,562	10	10,601	22,882
35946 73	Other pump packages, n.e.c. ....	9	37,505	12,997	10	39,934	13,092
	Motors:						
35946 83	Pneumatic (air) motors and motor packages .....	-	-	-	-	-	-
35946 86	Hydraulic motors, fixed and variable displacement types .....	3	(D)	(D)	3	(D)	(D)
35946 87	Hydraulic motor packages, including motor/gearbox, motor/valve, motor/generator, and similar combination units .....	4	(D)	(D)	4	(D)	(D)
35949 —	Parts for fluid power pumps, motors, and hydrostatic transmissions .....	(X)	(X)	405,073	(X)	(X)	390,232
	Hydraulic:						
35949 91	Nonaerospace .....	33	(X)	359,447	33	(X)	357,201
35949 93	Aerospace .....	6	(X)	38,047	6	(X)	28,450
	Pneumatic:						
35949 95	Nonaerospace .....	4	(X)	(D)	2	(X)	(D)
35949 97	Aerospace .....	2	(X)	(D)	2	(X)	(D)

- Represents zero. D Withheld to avoid disclosing data for individual companies. n.e.c. Not elsewhere classified. pt. Part. 1Revised by 5 percent or more from previously published data. X Not applicable.

<sup>1</sup>Quantity reported in thousands of pounds.

Table 12. Shipments, Exports, and Imports of Fluid Power Products: 1996

[Quantity in number of units. Value in thousands of dollars]

Product code	Product description	Manufacturers' shipments		Export shipments <sup>1</sup>		Import shipments <sup>2</sup>	
		Quantity	Value	Quantity	Value	Quantity	Value
3492A, C, D	Hydraulic fluid power valves . . . . .	25,934,096	1,455,470	3,204,388	177,136	6,419,372	104,727
3492B, E, F	Pneumatic fluid power valves . . . . .	29,733,904	772,472	2,372,815	93,390	12,472,343	105,664
3492G	Parts for fluid power valves; hydraulic, pneumatic, and whether or not aerospace.	(X)	253,560	(X)	60,171	(X)	63,663
35932 pt., 35934 pt.	Hydraulic cylinders and hydraulic linear actuators (except electrohydraulic types) . .	4,387,682	1,153,112	229,180	67,640	598,719	141,603
35935 pt.	Pneumatic cylinders (tie-rod types) . . . . .	705,045	126,903	567	910	9,918	501
35935 pt.	Pneumatic cylinders (except tie-rod types) .	5,363,785	267,983	555,406	29,432	225,880	24,987
35932 pt., 35934 pt., 35935 pt.	Fluid power accumulators, hydraulic and pneumatic, and other hydraulic, pneumatic or combination devices for fluid energy absorption and/or storage, whether or not aerospace . . . . .	393,073	133,771	127,360	71,268	153,686	45,676
35945 pt.	Pneumatic (air) motors and motor packages, whether or not aerospace . . . . .	(D)	19,220	37,545	12,147	8,590	1,124
35945 pt., 35946 pt.	Hydraulic motors, whether or not aerospace . . . . .	2,849,709	456,768	101,582	24,437	195,938	138,081
35943, 35944 pt., 35946 pt.	Hydraulic pumps, whether or not aerospace . . . . .	1,121,719	1,028,317	2,886,420	262,708	2,904,489	249,672
35939 pt., 35949	Parts for fluid power pumps and motors . . .	(X)	573,048	(X)	233,582	(X)	232,645

D Withheld to avoid disclosing data for individual companies. pt. Part. X Not applicable.

<sup>1</sup>Source: Bureau of the Census report, EM 545, *U.S. Exports*.<sup>2</sup>Source: Bureau of the Census report, IM 145, *U.S. Imports for Consumption*.

## HISTORICAL NOTE

Data on fluid power products have been collected by the Bureau of the Census since 1981. Historical data may be obtained from Current Industrial reports available at your local Federal Depository Library. Historical data are also available on microfiche; contact Customer Services, 301-457-4100.

## FUNDING

The MA35N survey is funded by the National Fluid Power Association.

## CONTACT FOR DATA USERS

For additional information about these data, contact Renee Coley, 301-457-4742.

## PUMPS AND COMPRESSORS (MA35P)

### INTRODUCTION

This survey covers companies engaged in manufacturing industrial pumps (reciprocating, turbine, centrifugal, rotary, diaphragm, and other pumps); domestic water systems; domestic sump pumps; oil well and oil field pumps; other pumps; air compressors; gas compressors; and vacuum pumps. Very small firms (generally less than five employees) for which 1992 Census of Manufactures data were derived from administrative records of other government agencies are excluded. Excluded from this survey are hand pumps; measuring and dispensing pumps; automotive circulating pumps; hydraulic fluid power pumps; paint-spraying equipment; compressors for ice making, refrigeration equipment, and air-conditioning units; and replacement and repair parts for pumps and compressors.

The statistics in this publication were collected by mail on Bureau of the Census annual Form MA35P, Pumps and Compressors. The survey panel includes all known manufacturers of the covered products, except the very small firms excluded from the scope of the survey. Approximately 460 companies are included. No estimate is derived for the small firms excluded from the survey.

### SUMMARY OF FINDINGS

In 1996, manufacturers' shipments of pumps and compressors totaled \$8,056.4 million, an increase of 9 percent from the 1995 figure of \$7,373.3 million. The 1996 total includes industrial pumps, \$3,011.3 million, an increase of 12 percent from the 1995 total of \$2,700.3 million; compressors and vacuum pumps, \$2,908.5 million, an increase of 6 percent from the 1995 total of \$2,743.8 million; domestic water systems, \$351.4 million, an increase of 7 percent from the 1995 total of \$329.1 million; domestic sump pumps, \$150.9 million, an increase of 29 percent from the 1995 total of \$116.6 million; oil well and oil field pumps, \$276.9 million, about the same as the 1995 total of \$277.0 million; and other pumps, \$275.9 million, an increase of 2 percent from the 1995 total of \$270.7 million.

Beginning in 1995, replacement parts, sold separately, for pumps and compressors, are also included in the survey total, although companies which manufacture only parts and not complete units are presently excluded from the survey. For 1996, in-scope shipments of parts for pumps totaled \$821.1 million, an increase of 21 percent from the 1995 total of \$679.7 million, and in-scope shipments of compressor and vacuum pumps parts totaled \$260.3 million, an increase of 2 percent from the 1995 total of \$256.3 million.

### EXPLANATION OF TERMS

**Pump.** A device for raising, transferring, moving, or pressurizing fluids.

**Driver.** An electric motor or a prime mover, such as a steam engine, steam or gas turbine, or internal combustion engine.

#### Reciprocating Pumps

*Direct-acting steam-driven.* A reciprocating pump and a steam engine built together as a unit. The power to drive the pump is furnished by the steam engine.

*Power-operated, other than steam.* A reciprocating pump driven by power from an outside source applied to the crankshaft of the pump.

**Vertical turbine pumps (including deep well).** A submersible pump system, over 5 horsepower. Submersible pump systems, 5 horsepower and under, are included in domestic water systems.

#### Centrifugal Pumps

*Centrifugal pump.* A pump in which the pressure is developed principally by the action of centrifugal force. Pumps in this class with single inlet impellers usually have a specific speed below 4,200; and with double suction impellers, a specific speed below 6,000. In pumps of this class, the liquid normally enters the impeller at the hub and flows radially to the periphery.

*Frame-mounted pump.* A pump design in which the impeller is mounted on a shaft, held in a bearing frame and coupled to a motor with a flexible coupling.

*Close-coupled pump.* A pump design in which the impeller is mounted on the motor shaft.

*Mixed-flow pump.* A pump in which the head is developed partly by centrifugal force and partly by the lift of the vanes on the liquid. This type pump has a single inlet impeller with the flow entering axially and discharging in an axial and radial direction. Pumps of this type usually have a specific speed from 4,200 to 9,000.

*Propeller (or axial-flow) pump.* A pump of this type develops most of its head by the propelling or lifting action of the vanes on the liquid. It has a single inlet impeller, with the flow entering axially and discharging nearly axially. Pumps of this type usually have a speed above 9,000.

*Single-stage pump.* A pump in which the total head is developed by one impeller.

*Multistage pump.* A pump having two or more impellers acting in series in one casing.

*Single-suction pump.* A pump equipped with one or more single suction impellers.

*Double-suction pump.* A pump equipped with one or more double suction impellers.

**Rotary pump.** A positive displacement pump, consisting of a fixed casing containing gears, cams, screws, vanes, plungers, or similar elements actuated by rotation of the drive shaft. These pumps are characterized by their close running clearances and the absence of suction and discharge valves.

**Domestic water system.** A complete water supply pump system for household and farm use, containing driver, tank, and fittings. May include submersible pump systems 5 horsepower and under. Submersible pump systems over 5 horsepower are reported as vertical turbine pumps. Excluded are irrigation pumps, which are reported under industrial pumps by class and type of pump.

*Jet pump.* A pump with built-in jet (ejector) assembly for either shallow or deep well use.

*Nonjet pump.* An electrical reciprocating piston pump for shallow or deep well use.

*Submersible pump.* A pump completely submerged in water (well, pond, reservoir, etc.) that uses a series of impellers and diffusers (stages) on a single shaft or a helical rotor positive displacement design propelled by an oil-filled or water-lubricated motor.

*Domestic hand pumps, etc..* Hand, windmill, or engine-driven well pumps not electrically powered.

**Oil well and oil field pumps.** Included are pumps especially designed for oil well and oil field applications (except boiler feed).

**Vacuum pump.** A device for withdrawing air, gas, or air and gas mixtures from piping systems, enclosed vessels, or enclosed spaces, discharging the air to the atmosphere, and removing the moisture.

**Compressors.** Devices for compressing gases such as air for motive power or natural gas for the transfer of gas or for the recovery of liquid hydrocarbons.

*Stationary air compressors.* Air compressors that are intended for permanent installation and are not typically mobile.

*Portable air compressors.* Air compressors that are mountable on wheels, skids or motor trucks in order to be typically mobile.

*Gas compressors.* This category includes engine-compressor units that generally consist of an integral engine compressor block that houses both the engine and compressor. In such machines, the engine pistons and compressor pistons are mounted on a common crankshaft.

## STANDARD ABBREVIATIONS

hp	horsepower
ANSI	American National Standards Institute
API	American Petroleum Institute
ISO	International Organization for Standardization
FM	Factory Mutual Insurance Certification
UL	Underwriters' Laboratories
PSI	Pounds per square inch
GPM	Gallons per minute
PSIG	Pounds per square inch gauge (represents the differential between atmospheric pressure and output pressure of compressors)
CFM	Cubic feet per minute



Table 13. Quantity and Value of Shipments of Pumps and Compressors: 1996 and 1995

[Quantity in number of units. Value in thousands of dollars]

Product description	1996		1995	
	Quantity	Value	Quantity	Value
<b>Total</b> .....	<b>20,819,091</b>	<b>8,056,387</b>	<b>20,606,621</b>	<b>7,373,327</b>
Pumps (except vacuum pumps), including parts .....	17,690,107	4,887,559	17,298,245	4,373,216
Industrial pumps .....	7,446,374	3,011,314	7,163,833	2,700,278
Drivers, reported .....	(X)	419,264	(X)	389,600
Centrifugal pumps (except drivers) .....	4,142,407	1,533,937	4,051,319	1,380,478
Submersible, reported .....	1,011,105	249,616	552,096	198,179
Other, reported .....	2,626,902	1,229,842	2,745,251	1,097,952
Estimated from pre-1995-basis reports .....	504,400	54,479	753,972	84,347
Vertical turbine pumps (except drivers) .....	51,803	248,613	53,261	198,403
Reported .....	49,444	228,110	51,169	184,038
Estimated from pre-1995-basis reports .....	2,359	20,503	2,092	14,365
Reciprocating pumps (except drivers), reported .....	(D)	(D)	(D)	161,444
Diaphragm pumps (except drivers), reported .....	797,001	178,002	817,898	158,005
Rotary pumps (except drivers), reported .....	1,116,280	331,807	943,327	270,959
Other (except drivers), reported .....	785,443	105,247	616,948	89,494
Estimated from other sources (potentially including drivers) .....	(D)	(D)	(D)	51,895
Domestic water systems, including drivers .....	2,086,793	351,421	1,880,778	329,055
Reported .....	2,081,924	350,601	1,874,628	327,979
Estimated from other sources .....	(S)	820	(S)	1,076
Domestic sump pumps, including drivers .....	2,581,603	150,939	2,042,546	116,579
Reported .....	2,573,342	150,456	2,034,574	116,124
Estimated from other sources .....	(S)	483	(S)	455
Oil well and oil field pumps .....	51,328	276,901	(S)	276,978
Drivers, reported .....	(X)	102,657	(X)	105,573
Except drivers, reported .....	50,885	171,856	(D)	167,510
Estimated from other sources (potentially including drivers) .....	(S)	2,388	(D)	3,895
Other pumps (potentially including drivers) .....	5,524,009	275,921	6,001,976	270,657
Reported .....	5,465,029	272,975	5,533,872	249,548
Estimated from other sources .....	(S)	2,946	(S)	21,109
Parts (reported; made by manufacturers of complete pumps) .....	(X)	821,063	(X)	679,669
Compressors, including vacuum pumps, and parts .....	3,128,984	3,168,828	3,308,376	3,000,111
Air and gas compressors (but not vacuum pumps) .....	2,820,447	2,667,059	2,982,159	2,465,688
Drivers (except for one category of gas compressor), reported .....	(X)	262,547	(X)	276,101
Air compressors (except drivers), new, stationary, reported .....	699,322	1,023,512	(D)	943,325
Air compressors (except drivers), new, portable, reported .....	1,994,766	531,610	1,834,761	482,893
Gas compressors (usually except driver), new, stationary, reported ..	3,187	646,786	3,098	489,659
Other compressors (except drivers), reported .....	(D)	145,446	(D)	144,217
Estimated from other sources .....	(D)	57,158	(S)	129,493
Laboratory vacuum pumps (potentially including drivers; reported) .....	(D)	(D)	(D)	1,769
Vacuum pumps (except laboratory) .....	(D)	(D)	(D)	276,378
Drivers, reported .....	(X)	17,995	(X)	21,102
Except drivers, reported .....	282,073	201,754	301,296	235,305
Estimated from other sources (potentially including drivers) .....	(D)	(D)	(D)	19,971
Parts (reported; made by manufacturers of complete compressors) .....	(X)	260,336	(X)	256,276

D Withheld to avoid disclosing data for individual companies.

S Does not meet publication standards.

X Not applicable.

Table 14. Quantity and Value of Shipments of Pumps and Compressors: 1996 and 1995

[Quantity in number of units. Value in thousands of dollars]

Product code	Product description	Number of companies	1996		1995	
			Quantity	Value	Quantity	Value
35612 —	Pumps and compressors <sup>1</sup> .....	(X)	20,819,091	8,056,387	20,606,621	7,373,327
35612 99	Industrial pumps (except hydraulic fluid power pumps) .....	(X)	7,446,374	3,011,314	7,163,833	2,700,278
	Value of drivers <sup>2</sup> .....	94	(X)	419,264	(X)	389,600
	Centrifugal pumps:					
	Sewage type (nonsubmersible), vertical or horizontal with nonclog impeller:					
35612 68	12" and under .....	20	11,356	35,505	10,842	34,640
35612 69	Over 12" .....	6	286	8,624	365	10,731
	Submersible effluent pumps (less than 1" solids handling capacity):					
35612 70	Less than 1 hp .....	16	633,269	33,530	231,540	23,723
35612 71	1 hp and over .....	16	15,496	22,828	14,176	9,898
	Submersible solids handling pumps (solids 1" to 2" inclusive):					
35612 72	1/2 hp and under .....	13	245,630	43,559	208,022	37,011
35612 73	Over 1/2 hp .....	21	44,439	28,721	38,503	23,754
	Submersible nonclog pumps (greater than 2" solids handling capacity):					
35612 74	3" discharge and under .....	16	17,260	15,301	12,749	9,062
35612 75	Discharge more than 3" but less than 7" .....	20	18,621	54,383	16,164	50,338
35612 76	7" discharge and over .....	9	1,145	10,528	1,397	12,082
	Submersible grinder pumps (incorporating a hardened stainless steel cutter mechanism to macerate the solids into a fine slurry):					
35612 77	2 hp and below .....	8	27,233	30,111	22,775	23,855
35612 78	Over 2 hp .....	7	8,012	10,655	6,770	8,456
	Single and two stage, single and end suction, close coupled with driver:					
35612 03	1" discharge and under .....	30	214,212	35,486	224,831	29,373
35612 07	Discharge more than 1", up to 2" .....	33	239,964	69,674	210,420	58,802
35612 08	Over 2" discharge .....	33	64,412	53,771	58,704	45,372
	Single and two stage, single suction, in-line, close coupled with driver:					
35612 17	2" discharge and under .....	12	15,810	7,373	15,261	8,680
35612 18	Over 2" discharge .....	14	5,241	5,494	5,072	4,057
	Single stage, single suction, vertical, in-line frame:					
35612 21	2" discharge and under .....	15	(D)	28,466	(D)	28,175
35612 23	Over 2" discharge .....	13	13,060	32,532	12,471	38,428
	Single stage, single suction, frame or foot mounted, metallic pumps (built to National or International Standards ANSI B73.1 or ISO 2858):					
35612 25	2" discharge and under .....	22	31,529	72,703	29,634	69,617
35612 27	Over 2" discharge .....	20	39,289	110,429	38,211	99,700
	Single stage, single suction, frame or foot mounted, nonmetallic pumps (built to National or International Standards ANSI B73.1 or ISO 2858):					
35612 30	2" discharge and under .....	10	(D)	16,832	(D)	13,855
35612 31	Over 2" discharge .....	7	1,773	8,086	1,658	8,002
	Single stage, single suction, frame or foot mounted, non-ANSI, non-ISO, with or without recessed impeller:					
35612 33	1" discharge and under .....	19	15,898	5,243	15,941	3,932
35612 35	Discharge more than 1", up to 2" .....	21	22,146	16,122	22,744	15,691
35612 37	Over 2" discharge .....	23	21,651	59,674	29,437	56,085
	Single stage, single suction, replaceable elastomer lined or hard metal, frame or foot mounted:					
35612 41	1" discharge and under <sup>3</sup> .....	4	(D)	(D)	305	805
35612 43	Discharge more than 1", up to 2" <sup>3</sup> .....	7	(D)	(D)	(D)	(D)
35612 45	Over 2" discharge <sup>3</sup> .....	8	(D)	(D)	(D)	(D)
	Single stage, single suction, centerline mounted:					
35612 46	2" discharge and under <sup>4</sup> .....	7	(D)	24,247	3,022	18,386
35612 47	Over 2" discharge <sup>4</sup> .....	7	(D)	32,655	1,269	17,245
	Single stage, axially split, double suction:					
35612 48	4" discharge and under .....	10	4,807	10,230	4,166	9,908
35612 49	Discharge more than 4", up to 8" .....	13	9,982	41,222	8,865	27,787
35612 4A	Over 8" discharge .....	13	3,008	39,221	3,513	32,944

See footnotes at end of table.

Table 14. Quantity and Value of Shipments of Pumps and Compressors: 1996 and 1995—Con.

[Quantity in number of units. Value in thousands of dollars]

Product code	Product description	Number of companies	1996		1995	
			Quantity	Value	Quantity	Value
35612 —	Pumps and compressors—Con. Industrial pumps (except hydraulic fluid power pumps)—Con. Centrifugal pumps—Con.					
	Single stage, radially split, double suction impeller pumps, API-610 compliant:					
35612 4B	4" discharge and under	4	21	1,427	27	1,421
35612 4C	Discharge more than 4", up to 8"	6	114	8,633	73	4,372
35612 4D	Over 8" discharge	5	91	8,121	68	3,033
	Single stage, radially split, double suction impeller pumps, non-API compliant:					
35612 4E	4" discharge and under <sup>5</sup>	3	(D)	(D)	(D)	(D)
35612 4F	Discharge more than 4", up to 8" <sup>5</sup>	5	(D)	(D)	(D)	1,578
35612 4G	Over 8" discharge <sup>5</sup>	2	(D)	(D)	(D)	(D)
	Multistage, single or double suction, diffuser design, radially split case:					
35612 52	4" discharge and under	9	(D)	38,710	2,453	22,318
35612 53	Discharge more than 4", up to 8" <sup>6</sup>	8	(D)	(D)	(D)	(D)
35612 54	Over 8" discharge <sup>6</sup>	3	(D)	(D)	(D)	(D)
	Multistage, single or double suction, volute or diffuser design, axially split case:					
35612 56	4" discharge and under <sup>7</sup>	11	2,731	32,819	(D)	(D)
35612 57	Discharge more than 4", up to 8" <sup>7</sup>	6	(D)	(D)	(D)	(D)
35612 58	Over 8" discharge <sup>7</sup>	2	(D)	(D)	(D)	(D)
	Sealless centrifugal pumps, magnetic drive:					
35612 60	1" discharge and under	12	96,481	21,357	95,427	18,289
35612 61	Discharge more than 1", up to 2"	10	3,325	10,916	3,047	8,663
35612 62	Over 2" discharge	8	754	5,772	785	5,747
	Sealless centrifugal pumps, canned motor:					
35612 63	1" discharge and under <sup>8</sup>	6	(D)	(D)	(D)	11,523
35612 64	Discharge more than 1", up to 2" <sup>8</sup>	3	1,044	7,680	(D)	(D)
35612 65	Over 2" discharge	3	(D)	(D)	(D)	(D)
	Propeller and mixed flow, horizontal and vertical, including vertical turbine over 36":					
35612 66	36" and under	16	2,222	40,406	3,697	46,300
35612 67	Over 36"	14	1,642	26,722	1,426	23,225
	All other centrifugal pumps:					
35612 79	6" discharge and under	29	(D)	164,820	(D)	161,681
35612 80	Over 6" discharge	13	(D)	42,003	(D)	31,239
35612 CC	Centrifugal pumps, n.s.k. <sup>9</sup>	18	504,400	54,479	753,972	84,347
	Vertical turbine pumps not exceeding 36" discharge, including deep-well:					
	Pump with submersible motor:					
35612 81	Bowl diameter 6" and under	18	14,447	21,453	19,012	27,153
35612 82	Bowl diameter over 6"	13	8,019	29,943	7,992	28,977
35612 83	Pump and bowl assemblies through 36" (all column and shaft lengths, including FM or UL approved vertical turbine fire pumps; deep well and short coupled pumps, except can and pot type)	14	25,162	148,867	22,154	102,438
35612 84	Can and pot type (pump and bowl assemblies, suction can and pot type)	10	1,816	27,847	2,011	25,470
35612 VV	Vertical turbine pumps, n.s.k. <sup>9</sup>	3	2,359	20,503	2,092	14,365
	Reciprocating pumps:					
35612 85	Direct-acting steam-driven	2	(D)	(D)	(D)	1,733
35612 86	Driven by electric motor, engine, or steam turbine: Reciprocating piston, plunger or diaphragm (not air operated) pumps	30	471,441	160,427	543,225	159,711
35612 87	Diaphragm pumps (air operated)	18	797,001	178,002	817,898	158,005
	Rotary pumps:					
	100-PSI and under designed pressure:					
35612 88	10 GPM and under, designed capacity	26	568,555	64,174	475,272	51,480
35612 89	11 to 99 GPM, designed capacity	22	205,890	73,991	138,143	67,774
35612 90	100 to 299 GPM, designed capacity <sup>10</sup>	15	(D)	39,699	(D)	33,772
35612 91	300 GPM and over, designed capacity <sup>10</sup>	10	(D)	28,917	(D)	10,377
	101 to 249 PSI, designed pressure:					
35612 92	10 GPM and under, designed capacity	11	140,596	23,134	143,389	22,422
35612 93	11 to 99 GPM, designed capacity	11	40,594	30,075	38,715	27,352
35612 94	100 GPM, and over, designed capacity <sup>10</sup>	9	(D)	24,187	(D)	24,345

See footnotes at end of table.

Table 14. Quantity and Value of Shipments of Pumps and Compressors: 1996 and 1995—Con.

[Quantity in number of units. Value in thousands of dollars]

Product code	Product description	Number of companies	1996		1995	
			Quantity	Value	Quantity	Value
35612 —	Pumps and compressors—Con. Industrial pumps (except hydraulic fluid power pumps)—Con. Rotary pumps—Con. 250 to 500 PSI, designed capacity:					
35612 95	10 GPM and over, designed capacity <sup>11</sup> .....	10	(D)	10,353	(D)	8,421
35612 96	11 GPM, and over, designed capacity <sup>11</sup> .....	10	(D)	(D)	<sup>1</sup> 5,238	<sup>1</sup> 8,402
35612 97	Over 500 PSI, designed pressure <sup>11</sup> .....	8	(D)	(D)	<sup>1</sup> 4,397	<sup>1</sup> 16,614
35612 98	Other industrial pumps, n.e.c. ....	28	785,443	105,247	616,948	<sup>1</sup> 89,494
35612 00	Industrial pumps, n.s.k. <sup>12</sup> .....	75	(D)	(D)	(D)	<sup>1</sup> 51,895
35613 —	Domestic water systems, including drivers .....	(X)	2,086,793	351,421	1,880,778	329,055
35613 67	Nonsubmersible pump systems (jet and nonjet, including drivers) .....	21	1,055,879	149,572	898,868	130,315
	Submersible pump systems, 5 hp and under, including drivers:					
35613 76	Up to 1 hp .....	20	796,999	146,766	809,904	148,183
35613 77	Over 1 to 3 hp .....	16	137,298	37,383	128,141	32,723
35613 78	Over 3 to 5 hp .....	14	83,688	15,582	29,078	15,205
35613 90	Domestic hand and windmill pumps, pumps jacks, and cylinders (sold separately, including drivers) .....	3	8,060	1,298	8,637	1,553
35613 00	Domestic water systems and related pumps, n.s.k. ....	6	(S)	820	(S)	1,076
35614 —	Domestic sump pumps, 1 hp and under, including drivers ..	(X)	2,581,603	150,939	2,042,546	116,579
35614 35	Pedestal, including drivers .....	18	362,135	18,965	262,140	13,651
	Submersible, including drivers:					
35614 38	1/3 hp and over .....	19	2,038,618	117,449	1,631,677	91,220
35614 39	Over 1/3 hp .....	8	172,589	14,042	<sup>1</sup> 140,757	<sup>1</sup> 11,253
35614 00	Domestic sump pumps, n.s.k. <sup>12</sup> .....	5	(S)	483	(S)	455
35617 —	Oil well and oil field pumps (except boiler feed) .....	(X)	51,328	276,901	<sup>1</sup> (S)	<sup>1</sup> 276,978
35617 98	Value of drivers <sup>2</sup> .....	8	(X)	102,657	(X)	105,573
35617 01	Subsurface pumps for oil-well pumping .....	12	42,036	133,662	<sup>1</sup> 196,492	139,259
35617 11	Mud pumps (slush pumps) .....	4	(D)	17,630	(D)	<sup>1</sup> 9,289
35617 21	Other oil well and oil field pumps <sup>13</sup> .....	8	(D)	20,564	9,281	18,962
35617 00	Oil well and oil field pumps, n.s.k. <sup>12</sup> .....	6	(S)	2,388	<sup>1</sup> (D)	<sup>1</sup> 3,895
35618 —	Other pumps, n.e.c., including drivers .....	(X)	5,524,009	275,921	6,001,976	270,657
35618 00	Other pumps (except vacuum pumps, automotive pumps, measuring and dispensing or service station pumps, hand pumps, and hydraulic fluid power pumps), including oil burner and appliance pumps, fire engine pumps, laboratory pumps, packaged pump units, hot water heating circulator pumps, etc.:					
35618 00	Reported (or estimated from prior year reports) .....	24	5,465,029	272,975	5,533,872	249,548
35618 02	Estimated from other sources <sup>12</sup> .....	14	(S)	2,946	(S)	21,109
35619 —	Parts and attachments for pumps and pumping equipment whose product codes begin with 3561; made by manufacturers of complete units only .....	(X)	(X)	821,063	(X)	679,669
35619 11	Aftermarket (spare) parts for centrifugal pumps .....	40	(X)	512,633	(X)	434,095
35619 22	Aftermarket (spare) parts for vertical turbine pumps .....	15	(X)	58,937	(X)	39,192
35619 33	Aftermarket (spare) parts for reciprocating pumps .....	16	(X)	77,118	(X)	<sup>1</sup> 51,605
35619 95	Other .....	29	(X)	172,375	(X)	154,777
35633 —	Air and gas compressors .....	(X)	2,820,447	2,667,059	2,982,159	2,465,688
35633 98	Value of drivers <sup>2</sup> .....	29	(X)	262,547	(X)	276,101
	Air compressors, new:					
	Stationary, reciprocating, single acting:					
35633 01	1-1/2 hp and under <sup>14</sup> .....	18	216,837	57,710	(D)	45,487
35633 02	Over 1-1/2 to 5 hp .....	22	248,399	119,926	226,968	114,520
35633 03	6 to 25 hp .....	21	47,881	86,293	43,666	81,669
35633 04	26 hp and over .....	9	1,357	13,266	1,641	16,296
35633 05	Stationary, reciprocating, double acting <sup>14</sup> .....	12	(D)	51,544	(D)	44,441
	Stationary, rotary positive:					
35633 07	Discharge pressure 50 PSIG and under, all hp sizes. Discharge pressure of 51 PSIG and over:	7	(D)	32,069	(D)	30,779
35633 11	40 hp and under .....	12	10,553	68,911	<sup>1</sup> 10,861	<sup>1</sup> 66,644
35633 12	41-150 hp .....	15	12,403	158,821	<sup>1</sup> 12,661	<sup>1</sup> 151,731
35633 13	151-300 hp <sup>15</sup> .....	9	(D)	(D)	2,249	75,700
35633 15	301 hp and over <sup>15</sup> .....	6	(D)	(D)	662	43,948

See footnotes at end of table.

Table 14. Quantity and Value of Shipments of Pumps and Compressors: 1996 and 1995—Con.

[Quantity in number of units. Value in thousands of dollars]

Product code	Product description	Number of companies	1996		1995	
			Quantity	Value	Quantity	Value
35633 —	Pumps and compressors—Con.					
	Air and gas compressors—Con.					
	Air compressors, new—Con.					
35633 16	Stationary, centrifugal and axial	8	(D)	267,118	(D)	'272,110
	Portable:					
35633 29	Under 11 CFM <sup>16</sup>	11	(D)	(D)	(D)	219,485
35633 33	11 to 74 CFM <sup>16</sup>	10	(D)	(D)	(D)	82,621
35633 34	75 to 124 CFM	7	548	3,283	1,282	8,522
35633 36	125 to 249 CFM	9	12,974	92,481	10,362	73,777
35633 37	250 to 599 CFM	6	2,332	31,754	2,067	25,693
35633 40	600 CFM and over	7	2,169	74,860	2,104	72,795
	Gas compressors, new:					
	Stationary, centrifugal and axial:					
35633 42	Natural gas	4	70	133,103	60	85,629
35633 43	All other gases	6	355	170,991	345	137,108
	Stationary reciprocating:					
35633 45	Integral engine, including drivers <sup>17</sup>	4	(D)	(D)	(D)	(D)
	Other than integral engine:					
35633 51	1,000 hp and over	15	1,387	146,566	1,339	68,778
35633 53	1,001 hp and over <sup>17</sup>	6	647	124,712	(D)	(D)
35633 56	Stationary rotary positive <sup>17</sup>	4	(D)	(D)	610	19,487
35633 88	Other compressors (except for refrigeration, air-conditioning, and ice-making), including rebuilt compressors, compressor packages, and packaged compressor units assembled from purchased compressors	17	(D)	145,446	(D)	144,217
35633 00	Air and gas compressors, n.s.k. <sup>12</sup>	18	(D)	57,158	(S)	'129,493
38210 —	Laboratory vacuum pumps	(X)	(D)	(D)	(D)	1,769
38210 66	Laboratory vacuum pumps, including drivers and replacement parts	3	(D)	(D)	(D)	1,769
35634 —	Vacuum pumps, excluding laboratory	(X)	(D)	(D)	(D)	276,378
35634 98	Value of drivers <sup>2</sup>	14	(X)	17,995	(X)	'21,102
	Low vacuum, 29.5" mercury vacuum and lower:					
35634 61	Under 5 hp	14	204,164	46,891	197,366	32,785
35634 65	5 hp and over	11	4,750	39,145	4,927	38,537
	High vacuum, 29.6" mercury vacuum and over:					
35634 73	Under 5 hp	16	70,491	88,167	95,783	132,373
35634 77	5 hp and over	7	2,668	27,551	3,220	31,610
35634 00	Vacuum pumps, n.s.k. <sup>12</sup>	17	(D)	(D)	(D)	19,971
35636 —	Parts and attachments for air and gas compressors and vacuum pumps whose produce codes begin with 3563; made by manufacturers of complete units only	(X)	(X)	260,336	(X)	'256,276
35636 00	Parts and attachments for air and gas compressors and vacuum pumps (except laboratory)	22	(X)	260,336	(X)	'256,276

D Withheld to avoid disclosing data for individual companies. n.e.c. Not elsewhere classified. n.s.k. Not specified by kind. 'Revised by 5 percent or more from previously published data. S Does not meet publication standards. X Not applicable.

<sup>1</sup>Value includes parts but quantity does not.

<sup>2</sup>Value of drivers (electric motors, internal combustion engines, hydrostatic transmissions, steam turbines, etc.) is not included for most product categories but rather placed in one of four separate "driver" categories corresponding to the first five digits of the product code. There is a "driver" category each for product classes 35612, 35617, 35633, and 35634. Drivers may be included in values for products in product classes 35613, 35614, 35618, and 38210, and in product codes 36512 00, 35617 00, 35633 45, 36533 00, and 36534 00; in these cases they are not in the "driver" codes.

<sup>3</sup>For 1996, product codes 35612 41, 43, and 45 have a combined quantity of 5,642 and a combined value of 57,630. For 1995, product codes 35612 43 and 45 have a combined quantity of 5,304 and a combined value of 51,596.

<sup>4</sup>For 1996, product codes 35612 46 and 47 have a combined quantity of 16,226.

<sup>5</sup>For 1996, product codes 35612 4E, 35612 4F, and 35612 4G have a combined value of 3,921. For 1995, product codes 35612 4E, 35612 4F, and 35612 4G have a combined quantity of 2,518. For 1995, product codes 35612 4E and 35612 4G have a combined value of 5,144.

<sup>6</sup>For 1996, product codes 35612 53 and 54 have a combined quantity of 243 and a combined value of 16,054. For 1995, the combined quantity is 254 and the combined value is 15,885.

<sup>7</sup>For 1996, product codes 35612 57 and 58 have a combined quantity of 215 and a combined value of 16,397. For 1995, product codes 35612 56, 57 and 58 have a combined quantity of 2,912 and a combined value of 46,353.

<sup>8</sup>For 1996, product codes 35612 63 and 65 have a combined quantity of 17,144 and a combined value of 12,865. For 1995, product codes 35612 64 and 65 have a combined quantity of 1,246 and a combined value of 7,370.

Table 14. Quantity and Value of Shipments of Pumps and Compressors: 1996 and 1995—Con.

<sup>9</sup>Certain companies which provided acceptable data under the classification basis used for 1994 and earlier did not do so either for 1995 or for both 1995 and 1996. For these companies the last reported quantity and value data for product codes 35612 CC, "Centrifugal pumps" and 35612 VV, "Turbine pumps" provided on the former basis were copied or revised forward for the respective year into respective "not specified by kind" (see footnote 12) code. Precursor product codes from which values derive were not intended to include drivers.

<sup>10</sup>For 1996, product codes 35612 90, 91, and 94 have a combined quantity of 59,627.

<sup>11</sup>For 1996, product codes 35612 95, 96, and 97 have a combined quantity of 101,018. For 1996, product codes 35612 96 and 97 have a combined value of 37,277.

<sup>12</sup>Not specified by kind, or "n.s.k.": Values and quantities for a number of manufacturing establishments (either delinquent or too small to be included in the survey) were estimated from the 1992 Census of Manufactures and subsequent other surveys and records. Estimates were made only to five-digit product class level. Drivers may in some cases be included. (For product class 35618, there is only one "kind" specified, and 1995 estimated for this product class were originally placed within product code 35618 00. With this report, data are split into two product codes, 35618 00 and 35618 02, so that estimates, in the latter code, can be kept distinct from reported data.)

<sup>13</sup>Power pumps for water flooding are reported in product code 35612 86.

<sup>14</sup>Estimated sum of 1995 quantities for product codes 35633 01 and 35633 05, of 499,461 (virtually unchanged from how it was originally reported) is probably too high. However, in lieu of a better estimate, it is used here.

<sup>15</sup>For 1996, product codes 35633 13 and 15 have a combined quantity of 2,729 and a combined value of 167,854.

<sup>16</sup>For 1996, product codes 35633 29 and 33 have a combined quantity of 1,976,743 and a combined value of 329,232. For 1995, combined quantity is 1,818,946.

<sup>17</sup>For 1996, product codes 35633 45 and 56 have a combined quantity of 728 and a combined value of 71,414. For 1995, product codes 35633 45 and 53 have a combined quantity of 744; and a combined value of 178,657.

Table 15. Shipments, Exports, and Imports of Pumps and Compressors: 1996 and 1995

[Quantity in number of units. Value in thousands of dollars]

Product description <sup>1</sup>	Manufacturers' shipments		Export shipments <sup>2</sup>		Import shipments <sup>4</sup>	
	Quantity	Value f.o.b. plant	Quantity	Value <sup>3</sup>	Quantity	Value <sup>5</sup>
<b>1996</b>						
Pumps <sup>6</sup> .....	17,690,107	4,887,559	2,035,338	832,376	49,673,091	518,385
Centrifugal pumps, submersible .....	1,011,105	249,616	233,450	62,231	521,905	27,601
Centrifugal pumps, other <sup>7</sup> .....	3,131,302	1,284,321	139,070	257,190	7,057,383	187,229
Turbine pumps, vertical .....	51,803	248,613	4,865	20,747	4,354	2,369
Reciprocating pumps .....	(D)	(D)	70,242	81,954	602,764	51,464
Diaphragm pumps .....	797,001	178,002	184,609	43,070	426,496	21,145
Rotary pumps .....	1,116,280	331,807	65,354	107,690	490,447	47,508
Oil well and oil field pumps (except boiler feed) .....	51,328	276,901	6,078	56,020	2,883	10,611
Domestic water systems, including windmill and hand pumps .....	2,086,793	351,421	344,712	26,187	17,722,109	23,557
Other pumps, including domestic water systems and sump pumps, and hot water circulator pumps .....	8,891,055	532,107	986,958	177,287	22,844,750	146,901
Compressors <sup>6</sup> .....	2,820,447	2,667,059	2,308,533	297,835	1,562,144	688,836
Stationary air compressors:						
Reciprocating, single and double acting <sup>8</sup> .....	(D)	328,739	(D)	(D)	533,822	62,535
Rotary positive, centrifugal, and axial <sup>8</sup> .....	(D)	694,773	(D)	(D)	548,391	133,717
Portable air compressors <sup>8</sup> .....	1,994,766	531,610	6,089	88,865	3,226,709	76,009
Other air and gas compressors, including gas compressors, and compressor packages .....	(D)	792,232	1,857,399	87,136	2,827,854	47,012
Vacuum pumps .....	308,537	241,433	445,045	121,834	3,371,031	369,563
<b>1995</b>						
Pumps <sup>6</sup> .....	17,298,245	<sup>†</sup> 4,373,216	1,982,473	761,062	42,640,441	464,861
Centrifugal pumps, submersible .....	552,096	198,179	213,041	56,880	426,249	25,102
Centrifugal pumps, other <sup>7</sup> .....	<sup>†</sup> 3,499,223	1,182,299	171,500	226,671	3,488,040	160,371
Turbine pumps, vertical .....	53,261	198,403	5,647	25,076	3,355	2,052
Reciprocating pumps .....	(D)	161,444	75,450	78,812	239,252	45,097
Diaphragm pumps .....	<sup>†</sup> 817,898	<sup>†</sup> 158,005	167,645	46,716	35,778	13,220
Rotary pumps .....	<sup>†</sup> 943,327	270,959	67,124	105,061	1,665,420	62,328
Oil well and oil field pumps (except boiler feed) .....	<sup>†</sup> (S)	<sup>†</sup> 276,978	4,394	39,771	2,793	4,797
Domestic water systems, including windmill and hand pumps .....	1,880,778	329,055	322,182	24,489	15,762,097	21,103
Other pumps, including sump pumps, hot water circulator pumps .....	8,661,470	476,730	955,490	157,586	21,017,457	130,791
Compressors <sup>6</sup> .....	<sup>†</sup> 2,982,159	<sup>†</sup> 2,465,688	1,174,109	139,860	7,181,648	303,423
Stationary air compressors:						
Reciprocating, single and double acting <sup>8</sup> .....	771,736	302,413	(D)	(D)	87,750	42,523
Rotary positive, centrifugal, and axial <sup>8</sup> .....	(D)	<sup>†</sup> 640,912	(D)	(D)	516,193	138,920
Portable air compressors <sup>8</sup> .....	1,834,761	482,893	4,731	86,054	3,555,410	73,971
Other air and gas compressors, including gas compressors and compressor packages .....	(D)	633,876	1,169,378	53,806	3,022,295	48,009
Vacuum pumps .....	<sup>†</sup> 326,217	278,147	352,588	92,514	4,161,089	334,979

D Withheld to avoid disclosing data for individual companies.

<sup>†</sup>Revised by 5 percent or more from previously published data.

S Data does not meet publication standards.

<sup>1</sup>Manufacturers' shipments generally exclude values of drivers.<sup>2</sup>Source: Bureau of Census report EM 545, *U.S. Exports*.<sup>3</sup>Excludes value of drivers.<sup>4</sup>Source: Bureau of Census report IM 145, *U.S. General Imports, and IM 146, U.S. Imports for Consumption*.<sup>5</sup>Value represents c.i.f. (cost, insurance, and freight) value at first port of entry in the United States plus import duties.<sup>6</sup>Manufacturers' shipments detail does not add to total because of such factors as drivers, parts, and "n.s.k."; see table 13.<sup>7</sup>Manufacturers' shipments include product code 35612 CC (see table 13) which is believed not to include submersible pumps.<sup>8</sup>Export data for three categories of compressors are combined because one harmonized code in third category may be used interchangeably with any of several codes in first two categories.

**HISTORICAL NOTE**

Data on pumps and compressors have been collected by the Bureau of the Census since 1960. Data on hydraulic fluid power pumps and motors formerly collected on this survey are now included in the Current Industrial Report, MA35N, Fluid Power Products. Historical data may be obtained from Current Industrial Reports available at your

local Federal Depository Library. Historical data are also available on microfiche; contact Customer Services, 301-457-4100.

**CONTACT FOR DATA USERS**

For additional information on these data, contact Richard Wiesler, 301-457-4746.



## ANTIFRICTION BEARINGS (MA35Q)

### INTRODUCTION

These data cover companies engaged in the manufacture of complete antifriction bearings and components, including balls and rollers, in the United States.

The statistics were collected by mail on Bureau of the Census annual Form MA35Q, Antifriction Bearings. The survey panel includes all known producers of these products, approximately 84 companies.

### SUMMARY OF FINDINGS

The value of shipments of complete antifriction bearings and components, including balls and rollers, was \$5,337.8 million in 1996, an increase of 3 percent from shipments of \$5,205.4 million in 1995. The 1996 total includes: complete ball bearings, \$1,930.9 million, an increase of 2 percent from the 1995 value of shipments; complete tapered roller bearings and roller bearing parts (except rollers), \$1,324.1 million, an increase of 3 percent; other complete roller bearings, \$1,013.6 million, an increase of 3 percent; mounted bearings (except plain), \$458.4 million, a decrease of less than 1 percent; and parts and components for ball and roller bearings, sold separately, \$610.8 million, an increase of 6 percent.

### EXPLANATION OF TERMS

**Antifriction bearing.** A bearing using rolling elements, i.e., balls or rollers. Plain bearings, i.e., those with no rolling elements, are not included.

**Ball bearings, complete.** An antifriction bearing using balls as rolling elements.

**Annular ball bearing.** An antifriction bearing primarily designed to support load perpendicular to shaft axis. More commonly called "radial" ball bearing.

**Ground or precision.** Excludes all unground ball bearings.

**Single-row conrad-ball bearing.** A deep groove ball bearing with only one row of balls and a cage (i.e., retainer, separator). Included are all standard and special types, all inner race configurations (extended, wide, etc.), and all outer race configurations (spherical outside diameter, cylindrical outside diameter, wide, etc.).

**Miniature ball bearing.** Ball bearing with outside diameter below, but not including, 3/8 in. or 9 mm outside diameter.

**ABEC 1 and ABEC 3.** The "regular" standards of ground ball bearing precision.

**ABEC 5 and up.** The higher or "precision" standards of ground ball bearing precision.

**Single-row maximum capacity type.** Distinguished from the conrad type by a filling slot in both outer and inner rings, which allows the bearing to contain a greater number of larger balls than the corresponding conrad bearing without filling slots. Also known as "max" type, "full complement," or "filling slot" ball bearings.

**Integral shaft and integral spindle ball bearings.** Bearings that have a solid inner race, i.e., a shaft that has the ball raceway(s) ground into the shaft surface, thus making the inner race/shaft integral to the bearing. Examples include, but are not restricted to, water pump bearings, some automotive hub units, and computer spindle bearings.

**Double-row ball bearing.** A unitary bearing with two rows of balls. Includes both angular contact and deep groove types, and both conrad and max types. All ABEC 1 and up of all standard and special configurations are included, but self-aligning, double-row bearings are not included.

**Angular contact ball bearings.** Bearings that have a single row of balls whose internal clearances and ball race locations result in a definite contact angle and predetermined relationship of inner to outer ring faces. All standard and special configurations and all ABEC 1 and up precisions are included.

**All other ground or precision ball bearings (ABEC 1 and up).** All radial ball bearings not covered previously. This category includes only those ground ball bearings, etc., that are not classified above. It includes linear ball bearings.

**Ground ball bearings of less than ABEC 1 precision.** All types of radial (single-row, double-row, angular contact, and other) ball bearings that have ground raceways but are less than the ABEC 1 precision grade.

**Unground, including self-aligning (less than ABEC 1).** Antifriction ball bearings with unground raceways. All radial types, styles, and configurations are included.

**Thrust ball bearings.** Concentric axial loading only, both ground (less than ABEC 1 and up) and unground types, of all configurations. Both single-direction thrust and double-direction thrust ball bearings are included. Angular contact bearings are not included.

**Other ball bearings.** Bearings that do not qualify under any of the previous categories. This category only includes bearings that have not been described previously.

**Tapered roller bearing.** An antifriction bearing using taper-shaped rollers as rolling elements.

**Cup and cone assemblies shipped as a set.** This is a complete tapered roller bearing, which includes the cup and cone and roller assembly, each of which may be sold separately.

**Cups.** Tapered bearing outer races.

**Cone assemblies.** Tapered bearing inner race, with cage and rollers.

**Other parts, except rollers.** Includes cages, spacers, railroad end caps, and other miscellaneous items.

**Cylindrical roller bearing.** An antifriction bearing using cylindrical shaped rollers as the rolling elements. Axes of rollers are parallel to the bearing axis. Regular (ABEC 1 and 3) and precision (ABEC 5 and up) are reported separately, but within each category all types and configurations are included: single-row and multirow, radial and thrust, traction motor, journal, aeroengine, and others, except those classified as needle roller bearings, as defined below.

**Spherical roller bearing.** A self-aligning antifriction bearing using convex (spherical, or barrel-shaped) or concave (hourglass shaped) rollers as the rolling elements. Within

each category of single-row and double-row types, all configurations of radial and thrust, and all precisions are included: geared outer, spherangular, air frame, and all other similar types.

**Needle roller bearing.** An antifriction bearing using "needle" roller elements. Needle rollers are cylindrically shaped, but are long and slim, with a uniform diameter not exceeding 5 mm and having a length of a least three times the diameter. The ends of the rollers may be of several shapes.

**Linear bearings.** A roller bearing designed for linear relative motion between its raceways in the direction of rolling. Only includes linear roller bearings. Those pertaining to ball bearings are included in "All other ground or precision ball bearings (ABEC 1 and Up)" category.

**Other roller bearings not specified above.** This category includes roller bearings not classified above.

**Mounted bearings, except plain.** Antifriction ball or roller bearings that are encased (mounted) in an enclosure (a mounting, or housing closure) that is usually made of iron, steel, or rubber. The enclosure, or housing, may be of one piece (unit) or two-piece (split) construction. Major types included are pillow blocks, flange units, takeup units, "rubber tired" bearings, and any other types of mounted bearings. Loose inserts sold separately are not included here, but are included in appropriate bearing categories above.

Table 16. **Value of Shipments for Complete Antifriction Bearings and Components, Including Balls and Rollers by Product Class: 1987 to 1996**

[Millions of dollars]

Product code	Product description	1996	1995	1994	1993	1992	1991	1990	1989	1988 <sup>1</sup>	1987
3562-	Ball and roller bearings . . . . .	5,337.8	5,205.4	4,693.8	4,331.1	4,011.3	3,778.9	4,064.2	3,965.3	3,899.2	3,550.9
35621	Ball bearings, complete . . . .	1,930.9	1,896.7	1,676.2	1,616.8	1,484.2	1,406.7	1,469.0	1,420.9	1,497.6	1,312.2
35622	Tapered roller bearings, cups and cones . . . . .	1,324.1	1,283.1	1,139.2	1,001.0	935.6	876.8	977.3	963.9	745.7	754.6
35623	Roller bearings, complete . .	1,013.6	987.5	935.5	810.4	773.1	794.3	872.4	849.6	834.3	737.9
35624	Mounted bearings (except plain) . . . . .	458.4	459.7	407.8	439.4	378.0	322.9	362.9	344.9	358.2	305.6
35629	Parts and components for ball and roller bearings, including balls and rollers sold separately . . . . .	610.8	578.5	535.1	467.0	440.4	378.3	382.6	386.1	463.4	440.6

<sup>1</sup>Revised by 5 percent or more from previously published data.

<sup>1</sup>Data for 1988 and earlier years may not be directly comparable due to reclassifications.

Table 17. Quantity and Value of Shipments of Antifriction Ball and Roller Bearings, Components, and Parts: 1996 and 1995

[Quantity in thousands of units. Value in thousands of dollars]

Product code	Product description	Number of companies	1996		1995	
			Quantity	Value	Quantity	Value
3562—	Antifriction bearings and components . . . . .	(X)	(X)	5,337,824	(X)	5,205,426
35621 —	Ball bearings, complete . . . . .	51	594,525	1,930,865	583,440	1,896,650
	Annular, including self-aligning:					
	Ground or precision:					
	Single-row conrad:					
	Miniature (below 9 mm outside diameter):					
35621 01	Regular (ABEC 1 and 3) <sup>1</sup> . . . . .	3	(D)	(D)	(D)	(D)
35621 02	Precision (ABEC 5 and up) <sup>1</sup> . . . . .	5	6,953	25,274	6,539	24,464
	Other regular (ABEC 1 and 3):					
35621 03	9 mm outside diameter through 30 mm outside diameter . . . . .	7	81,324	77,959	85,273	78,565
35621 04	Over 30 mm outside diameter through 52 mm outside diameter . . . . .	12	129,171	189,689	128,963	181,588
35621 05	Over 52 mm outside diameter through 100 mm outside diameter . . . . .	16	37,714	213,687	33,260	195,127
35621 07	Over 100 mm outside diameter . . . . .	13	4,288	166,411	5,262	165,647
	Other precision (ABEC 5 and up):					
35621 09	9 mm outside diameter through 30 mm outside diameter . . . . .	4	5,562	61,061	5,390	54,246
35621 11	Over 30 mm outside diameter through 52 mm outside diameter . . . . .	8	718	46,612	667	39,019
35621 12	Over 52 mm outside diameter through 100 mm outside diameter . . . . .	8	214	34,396	219	31,402
35621 13	Over 100 mm outside diameter . . . . .	7	44	38,564	46	33,609
35621 14	Single-row maximum capacity type . . . . .	4	1,198	20,569	1,368	23,794
35621 18	Integral shaft and integral spindle ball bearings . . . . .	6	31,372	340,096	29,378	323,092
35621 16	Double row . . . . .	11	24,748	169,050	23,875	171,635
	Angular contact:					
35621 19	Regular <sup>2</sup> . . . . .	10	(D)	(D)	(D)	(D)
35621 22	Precision <sup>2</sup> . . . . .	2	4,359	134,185	7,767	189,488
35621 21	All other ground or precision bearings (ABEC 1 and up) <sup>3</sup> . . . . .	4	(D)	(D)	(D)	(D)
35621 23	Ground bearings of less than ABEC 1 precision <sup>3</sup> . . . . .	3	(D)	(D)	(D)	(D)
35621 25	Unground, including self-aligning (less than ABEC 1) <sup>3</sup> . . . . .	16	215,470	168,917	207,032	162,782
	Thrust ball bearings:					
35621 33	Ground . . . . .	14	5,993	27,340	3,957	27,628
35621 35	Unground . . . . .	5	5,386	11,793	5,375	11,368
35621 55	Other ball bearings . . . . .	18	40,011	205,262	39,069	183,196
35622 —	Tapered roller bearings . . . . .	9	237,893	1,324,092	255,529	1,283,106
35622 32	Cup and cone assemblies shipped as a set <sup>4</sup> . . . . .	9	(D)	(D)	(D)	(D)
35622 33	Cups shipped separately <sup>4</sup> . . . . .	7	(D)	(D)	(D)	(D)
35622 34	Cone assemblies shipped separately <sup>4</sup> . . . . .	8	237,893	1,324,092	255,529	1,283,106
35623 —	Cylindrical, spherical, needle, and other roller bearings . . . . .	29	789,063	1,013,617	764,181	987,473
	Cylindrical roller bearings:					
35623 11	Regular (ABEC 1 and 3) . . . . .	20	58,543	159,164	46,544	152,015
35623 12	Precision (ABEC 5 and up) . . . . .	6	145	62,526	131	58,422
	Spherical roller bearings, including hourglass and barrel:					
35623 24	Single-row <sup>5</sup> . . . . .	4	(D)	(D)	(D)	(D)
35623 25	Double-row <sup>5</sup> . . . . .	5	1,177	201,759	1,328	199,946
35623 41	Needle roller bearings . . . . .	8	656,204	496,855	650,293	491,047
35623 93	Other roller bearings not specified above . . . . .	17	72,994	93,313	65,885	86,043

See footnotes at end of table.

Table 17. **Quantity and Value of Shipments of Antifriction Ball and Roller Bearings, Components, and Parts: 1996 and 1995—Con.**

[Quantity in thousands of units. Value in thousands of dollars]

Product code	Product description	Number of companies	1996		1995	
			Quantity	Value	Quantity	Value
3562—	Antifriction bearings and components—Con.					
35624 —	Mounted bearings (except plain) . . . . .	16	10,300	458,446	10,406	459,661
35624 17	Ball bearings, unit and/or split-mounted . . . . .	13	9,008	245,714	9,054	249,900
	Roller:					
35624 53	Unit mounted . . . . .	7	1,137	178,720	1,167	173,521
35624 55	Split-mounted . . . . .	5	155	34,012	185	36,240
35629 —	Parts and components for ball and roller bearings, including balls and rollers sold separately . . . . .	44	(X)	610,804	(X)	578,536
35629 11	Balls:					
	Shipments (quantity in millions of units) . . . .	16	30,670	252,642	29,808	221,209
	Production for all purposes (quantity in millions of units) . . . . .	17	(S)	(X)	(S)	(X)
35629 21	Other antifriction ball and bearing components and parts, including unassembled ball bearings, cages, housing closures, and races . . . . .	19	(X)	104,221	(X)	112,182
35629 31	Rollers:					
	Shipments (quantity in millions of units) . . . .	13	14,637	124,181	14,200	108,200
	Production for all purposes (quantity in millions of units) . . . . .	15	(S)	(X)	(S)	(X)
	Other roller bearing parts and components (except rollers):					
35629 35	For tapered roller bearings (except cup and cone assemblies) . . . . .	8	(X)	48,143	(X)	45,810
35629 36	For cylindrical roller bearings . . . . .	5	(X)	(D)	(X)	(D)
35629 37	For spherical roller bearings . . . . .	3	(X)	(D)	(X)	(D)
35629 49	For other roller bearings . . . . .	4	(X)	(D)	(X)	(D)
35629 59	Housing and parts and components for housings, including housing closures, collars, spacers, sleeves, adapters, and other miscellaneous items . . . . .	4	(X)	(D)	(X)	(D)

D Withheld to avoid disclosing data for individual companies. S Does not meet publication standards. X Not applicable.

<sup>1</sup>Product code 35621 01 is combined with product code 35621 02 to avoid disclosing data for individual companies.<sup>2</sup>Product code 35621 19 is combined with product code 35621 22 to avoid disclosing data for individual companies.<sup>3</sup>Product codes 35621 21, 35621 23, and 35621 25 are combined to avoid disclosing data for individual companies.<sup>4</sup>Product codes 35621 32, 35621 33, and 35621 34 are combined to avoid disclosing data for individual companies.<sup>5</sup>Product code 35621 24 is combined with product code 35621 25 to avoid disclosing data for individual companies.

Table 18. Shipments, Exports, Imports, and Apparent Consumption of Antifriction Bearings and Components, Including Balls and Rollers: 1996 and 1995

[Quantity in thousands of units. Value and duty in thousands of dollars]

Product description	Manufacturers' shipments		Exports of domestic merchandise <sup>1</sup>		Imports for consumption <sup>2</sup>		Apparent consumption <sup>3</sup>	
	Quantity	Value f.o.b. plant	Quantity	Value at port	Quantity	C.i.f. and calculated duty	Quantity	Value
<b>1996</b>								
Radial ball bearings <sup>4</sup> .....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Integral shaft and spindle ball bearings <sup>4</sup> .....	554,514	1,725,603	20,569	147,788	512,162	649,741	1,046,107	2,227,556
Other ball bearings .....	40,011	205,262	16,741	87,163	68,915	79,029	92,185	197,128
Tapered roller bearings .....	237,893	1,324,092	16,980	223,678	58,480	164,664	279,393	1,265,078
Cylindrical roller bearings .....	58,688	221,690	1,787	48,153	9,417	103,880	66,318	277,417
Spherical roller bearings .....	1,177	201,759	4,009	32,181	934	72,230	(1,898)	241,808
Needle roller bearings .....	656,204	496,855	12,698	40,691	19,230	27,245	662,736	483,409
Other roller bearings.....	72,994	93,313	5,790	73,425	842	8,072	68,046	27,960
Mounted bearings:								
Ball.....	9,008	245,714	481	19,179	2,547	21,348	11,074	247,883
Roller.....	1,292	212,732	134	7,417	2,993	13,201	4,151	218,516
Parts for ball and roller bearings:								
Balls (quantity in millions of units) . . .	30,670	252,642	(NA)	52,378	(NA)	14,277	30,670	214,541
Rollers (quantity in millions of units) . .	14,637	124,181	(NA)	34,973	(NA)	23,144	14,637	112,352
Other parts for tapered roller bearings <sup>5</sup> .....	(X)	(D)	(NA)	(D)	(NA)	(D)	(NA)	(D)
Other ball bearing parts <sup>5</sup> .....	(X)	233,981	(NA)	97,948	(NA)	69,053	(NA)	205,086
<b>1995</b>								
Radial ball bearings <sup>4</sup> .....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Integral shaft and spindle ball bearings <sup>4</sup> .....	544,370	1,713,454	31,647	206,045	497,874	605,240	1,010,597	2,112,649
Other ball bearings .....	39,069	183,196	14,610	77,946	33,588	130,156	58,047	235,406
Tapered roller bearings .....	255,529	1,283,106	18,101	200,389	61,488	160,373	298,916	1,243,090
Cylindrical roller bearings .....	46,675	210,437	1,974	47,883	8,236	85,637	52,937	248,191
Spherical roller bearings .....	1,328	199,946	3,653	27,567	1,376	57,553	(949)	229,932
Needle roller bearings .....	650,293	491,047	13,001	40,342	20,777	30,999	658,069	481,704
Other roller bearings.....	65,885	86,043	4,432	62,086	422	5,773	61,875	29,730
Mounted bearings:								
Ball.....	9,054	249,900	475	15,900	3,320	24,858	11,899	258,858
Roller.....	1,352	209,761	136	1,073	2,756	11,191	3,972	219,879
Parts for ball and roller bearings:								
Balls (quantity in millions of units) . . .	29,808	221,209	(NA)	45,487	(NA)	13,587	29,808	189,309
Rollers (quantity in millions of units) . .	14,200	108,200	(NA)	39,120	(NA)	27,180	14,200	96,260
Other parts for tapered roller bearings <sup>5</sup> .....	(X)	(D)	(NA)	(D)	(NA)	(D)	(NA)	(D)
Other ball bearing parts <sup>5</sup> .....	(X)	249,120	(NA)	98,823	(NA)	103,255	(NA)	253,552

D Withheld to avoid disclosing data for individual companies. NA Not available. <sup>1</sup>Revised by 5 percent or more from previously published data.  
X Not applicable.

<sup>1</sup>Source: Bureau of Census report EM 545, *U.S. Exports*.

<sup>2</sup>Source: Bureau of Census report IM 145, *U.S. Imports for Consumption*.

<sup>3</sup>Apparent consumption is derived by subtracting exports from manufacturers' shipments plus imports.

<sup>4</sup>"Radial ball bearings" is combined with "Integral shaft and spindle ball bearings" to avoid disclosing data for individual companies.

<sup>5</sup>"Other parts for tapered roller bearings" is combined with "Other ball bearings parts" to avoid disclosing data for individual companies.

**HISTORICAL NOTE**

Data on antifriction bearings have been collected by the Bureau of the Census since 1972. Historical data may be obtained from Current Industrial Reports available at your local Federal Depository Library. Historical data are also available on microfiche; contact Customer Services, 301-457-4100.

**CONTACT FOR DATA USERS**

For additional information about these data, contact Joanna Nguyen, 301-457-4752.

## VENDING MACHINES (COIN-OPERATED) (MA35U)

### INTRODUCTION

These data cover manufacturers of coin-operated vending machines in the United States. The statistics were collected by mail on Bureau of the Census annual Form MA35U, Vending Machines (Coin-Operated). The survey panel includes all known producers of this type of machine with more than 10 employees (46 companies).

### SUMMARY OF FINDINGS

In 1996, manufacturers' shipments of coin-operated vending machines totaled \$815.1 million, an increase of 6 percent from the 1995 figure of \$767.0 million. Shipments of beverage vending machines increased 10 percent, from \$464.8 million in 1995 to \$511.1 million in 1996. Vending machines for confections and foods increased 5 percent, from \$211.6 million in 1995 to \$222.8 million in 1996.

### EXPLANATION OF TERMS

#### Hot Beverages

*Instant, freeze-dried, or liquid concentrate coffee.* Hot beverages made by an instant process; i.e., prepared in machine from powdered, freeze-dried or liquid concentrate, with options for chocolate, soup, tea, and decaffeinated coffee.

*Fresh-brew or freeze-dried coffee counter type.* Small, usually counter type vendors, with or without chocolate or hot water options.

*Fresh brew coffee and combinations.* Brewed coffee vendors with optional chocolate, soup, tea, and decaffeinated coffee.

#### Soft Drink

*Canned and bottled beverages (refrigerated).* Canned soft drinks in all sizes and bottled soft drinks in all glass package sizes.

*Cup drink (postmix).* Machines that produce soft drinks by the postmix method; machines may include automatic ice-making equipment.

*Packaged milk.* Milk and flavored milk in paper, plastics, or glass containers; includes all sizes of containers.

*Other vending machines for beverages.* Fruit or vegetable juices in all types of containers and other beverages not included above.

#### Confections and Food Vending Machines

*Bulk confection and charms.* Bulk confections such as candy, peanuts, single-wrapped sticks of gum, ball gum, capsules, and trinkets.

*Bagged snacks and confections.* Glass-front and other vendors selling candy bars, cookies, crackers, and packaged gum, bagged snack, chips, pastry and other confections.

*Ice cream.* Frozen novelties such as cones, bars, sandwiches, and other frozen desserts.

*Multipurpose food.* Refrigerated, frozen, or heated temperature foods in various package sizes and materials.

*Other vending machines for confections and foods.* Machines not classified above such as bulk popcorn and french fries.

#### Other Vending Machines

*Water.* Machines for filtering/treating water for dispensing by bulk into a container.

*Postage stamp.* U.S. postage stamps and other types of stamps.

*All other coin-operated vending machines.* Aspirin, cigars, combs, cosmetics, pencils, paper, newspapers, etc.; includes multipurpose machines for nonfood and nonbeverage items.

Table 19. Value of Shipments Coin-Operated Vending Machines: 1986 to 1996

[Millions of dollars]

Year	MA35U	Annual Survey of Manufactures
1996.....	815.1	(NA)
1995.....	767.0	715.9
1994.....	698.2	657.0
1993.....	590.2	609.5
1992.....	592.8	<sup>1</sup> 559.5
1991.....	522.1	478.5
1990.....	524.6	507.0
1989.....	591.8	581.7
1988.....	583.2	558.6
1987.....	521.1	<sup>1</sup> 502.1
1986.....	469.7	454.9

NA Not available.

<sup>1</sup>Source: Census of Manufactures.

Table 20. Quantity and Value of Shipments of Coin-Operated Vending Machines: 1996 and 1995

[Quantity in number of units. Value in thousands of dollars]

Product code	Product description	Number of companies	1996		1995	
			Quantity	Value	Quantity	Value
	Coin-operated vending machines.....	45	787,517	815,055	<sup>†</sup> 747,691	767,006
	Beverage vending machines.....	(X)	353,146	511,132	340,463	464,777
	Hot beverage:					
35811 10	Instant, freeze-dried, or liquid concentrate coffee.....	10	4,988	11,045	2,939	6,279
35811 03	Fresh brew or freeze-dried office counter type.....	2	(D)	(D)	(D)	(D)
35811 04	Fresh brew coffee and combinations.....	7	(D)	(D)	(D)	(D)
	Soft drink:					
35811 08	Canned and bottled beverages (refrigerated).....	9	316,362	438,773	298,491	382,774
35811 09	Cup (postmix).....	4	(D)	(D)	1,706	7,319
35811 19	Other vending machines for beverages.....	3	(D)	(D)	(D)	(D)
	Confections and food vending machines.....	(X)	263,445	222,789	232,949	211,602
35811 21	Bulk confections and charms.....	5	158,039	8,787	128,097	6,681
35811 22	Bagged snacks and confections.....	9	88,271	146,415	88,436	137,752
35811 24	Frozen foods and ice cream.....	3	(D)	(D)	(D)	(D)
35811 25	Multipurpose food and confections.....	6	15,681	63,814	14,990	63,872
35811 29	Other vending machines for confections and foods.....	4	(D)	(D)	(D)	(D)
	Other vending machines.....	(X)	170,926	81,134	<sup>†</sup> 174,279	90,627
35811 31	Cigarettes (single packs only).....	2	(D)	(D)	(D)	(D)
35811 32	Water.....	2	(D)	(D)	(D)	(D)
35811 35	Postage stamp.....	2	(D)	(D)	(D)	(D)
35811 49	All other vending machines.....	25	167,621	67,596	<sup>†</sup> 170,019	70,762

D Withheld to avoid disclosing data for individual companies.

<sup>†</sup>Revised by 5 percent or more from previously published data.

X Not applicable.



Table 21. **Shipments, Exports, Imports, and Apparent Consumption of Coin-Operated Vending Machines: 1996 and 1995**

[Value in millions of dollars]

Product description	Manufacturers' shipments (value f.o.b. plant)	Exports of domestic merchandise <sup>1</sup>	Imports for consumption <sup>2 3</sup>	Apparent consumption <sup>4</sup>
<b>1996</b>				
Coin-operated vending machines .....	815.1	158.9	36.2	692.4
<b>1995</b>				
Coin-operated vending machines .....	767.0	155.6	31.8	643.2

<sup>1</sup>Source: Bureau of the Census report EM 545, *U.S. Exports*. Schedule B export numbers for automatic merchandising machines, coin-operated, and new are: 8476.21.0000, 8476.29.0000, and 8476.89.0000.

<sup>2</sup>Source: Bureau of the Census report IM 145, *U.S. Imports for Consumption*. HTSUSA numbers for automatic merchandising machines, coin-operated, new are: 8476.21.0000, 8476.29.0000 and 8476.89.0000.

<sup>3</sup>Dollar value represents c.i.f. (cost, insurance, and freight) value at first port of entry in the United States plus import duties.

<sup>4</sup>Apparent consumption is derived by subtracting exports from total of manufacturers' shipments plus imports.

## HISTORICAL NOTE

Data on coin-operated vending machines have been collected by the Bureau of the Census since 1955. Historical data may be obtained from Current Industrial Reports (called Facts for Industry before 1959) available at your local Federal Depository Library. Historical data are also available on microfiche; contact Customer Services, 301-457-4100.

## FUNDING

The MA35U survey is funded by the National Automatic Merchandising Association.

## CONTACT FOR DATA USERS

For additional information about these data, contact Joanna T. Q. Nguyen, 301-457-4752.

## MOTORS AND GENERATORS (MA36H)

### INTRODUCTION

These data cover firms engaged in the manufacture of electric motors and generators and engine-driven generator sets in the United States. The statistics were collected by mail on Bureau of the Census annual Form MA36H, Motors and Generators. The survey panel includes all known manufacturers of these products, approximately 256 companies.

### SUMMARY OF FINDINGS

During 1996, the total value of shipments of motors and generators, including interplant transfers, was \$10.7 billion, up 3 percent from the 1995 value of \$10.4 billion. The 1996 data for individual categories of motors and generators exhibited the following changes. The value of shipments of

fractional horsepower motors increased 3 percent, from \$4.8 billion in 1995 to \$4.9 billion in 1996. The integral horsepower motors and generators increased 9 percent, from \$2.1 billion in 1995 to \$2.3 billion in 1996. The value of land transportation motors and generators was combined with parts for motors and generators to avoid disclosing data for individual companies. The value of shipments of prime mover generator sets decreased 5 percent from the 1995 value of \$1.5 billion, to \$1.4 billion in 1996. Electric motor generator sets and other rotating equipment, including hermetics and parts, remained constant at \$2.0 billion from 1995 to 1996.

### EXPLANATION OF TERMS

For explanation of terms, see "Contact for Data Users" at the end of this subsection.

Table 22. Value of Shipments of Motors and Generators by Product Class: 1991 to 1996

[Millions of dollars]

Product code	Product description	1996	1995	1994	1993	1992	1991
3621-36211	Motors and generators . . . . .	10,704.1	10,395.5	9,596.2	9,011.2	8,092.3	7,652.5
	Fractional horsepower motors, excluding hermetics . . . . .	4,932.6	4,766.2	4,469.7	4,242.8	4,019.7	3,626.0
36212	Integral horsepower motors and generators, other than for land transportation equipment. . . . .	2,336.9	2,134.7	1,951.4	1,695.0	1,568.9	1,670.7
36213	Land transportation motors, generators, and control equipment <sup>1</sup> . . . . .	(D)	(D)	(D)	(D)	138.4	202.7
36214	Prime mover generator sets (except steam or hydraulic turbine) . . . . .	1,397.5	1,480.6	1,395.6	1,245.9	1,087.1	1,048.1
	Motor generator sets and other rotating equipment:						
36217	Fractional . . . . .	431.7	405.4	413.7	358.6	344.1	325.1
36218	Integral . . . . .	587.2	538.8	397.7	381.5	394.6	393.3
36219	Parts for motors and generators. . . . .	<sup>1</sup> 1,018.3	<sup>1</sup> 1,069.8	968.1	1,087.4	539.4	386.6

D Withheld to avoid disclosing data for individual companies. <sup>1</sup>Revised by 5 percent or more from previously published data.

<sup>1</sup>For years 1993 through 1996, data for industry 36213 are combined with industry 36219 to avoid disclosing data for individual companies.

Table 23. Quantity and Value of Shipments of Motors and Generators: 1996 and 1995

[Quantity in number of units. Value in thousands of dollars]

Product code	Product description	Number of companies	1996		1995	
			Quantity	Value	Quantity	Value
3621—	Motors and generators	(NA)	(X)	10,704,116	(X)	10,395,522
36211—	Fractional horsepower, excluding hermetics and other rotating equipment	(NA)	301,648,699	4,932,554	303,475,366	4,766,187
36211 0M	Used in automobile accessories (such as heaters, convertible tops, and automatic windows; excluding starter motors and generators), including ac and dc	12	98,264,660	1,422,114	92,179,384	1,365,353
36211 0N	Used in aircraft and spacecraft, excluding generators:					
	Ac	16	124,620	35,728	106,952	30,118
36211 0P	Dc	19	163,576	44,858	160,216	40,509
36211 0T	Used in toys (all sizes) and clock type synch and subsynch timing, ac and dc	7	7,802,499	53,317	11,475,373	59,743
	All other uses:					
	Ac (noncommutated)	(NA)	139,233,384	2,230,253	140,010,414	2,171,872
	Single phase or polyphase:					
36211 X2, 3	Less than 746 watts, under 1 hp (three-digit FS) <sup>1</sup>	(NA)	77,257	13,445	73,692	11,291
	Single phase:					
	Skeleton type shaded pole	(NA)	38,607,556	137,837	37,924,247	141,842
36211 1A	Less than 2.75-inch diameter at widest point <sup>2</sup>	9	(D)	(D)	(D)	(D)
36211 1B	2.75-inch diameter and over <sup>2</sup>	5	38,607,556	137,837	37,924,247	141,842
	Conventional type shaded pole	(NA)	55,474,607	547,551	55,201,872	536,311
36211 1C	Less than 2.5-inch diameter:	7	14,833,684	83,378	16,387,962	88,859
	2.5- to less than 3.75-inch diameter:					
36211 1D	2 pole	8	10,172,343	193,311	11,709,224	207,299
36211 1Q	4 pole	4	12,572,511	118,444	11,800,574	110,033
36211 1T	6 pole and over	1	(D)	(D)	(D)	(D)
36211 1F	3.75- to less than 4.375-inch diameter:	3	2,841,066	37,699	2,598,552	33,233
	4.375- to less than 5.375-inch diameter:					
36211 1G	2 and 4 pole	6	3,243,968	44,011	2,695,929	34,530
36211 1H	6 pole and over	5	11,724,851	67,225	9,928,951	59,141
36211 1I	5.375-inch diameter and over	3	(D)	(D)	(D)	(D)
	Permanent split capacitor	(NA)	17,232,534	552,997	16,826,677	426,389
36211 1J	Less than 2.5-inch diameter <sup>3</sup>	4	(D)	(D)	(D)	(D)
	2.5- to less than 3.75-inch diameter:					
36211 1K	2 pole <sup>3</sup>	9	2,329,208	52,701	1,894,601	40,824
36211 1L	4 pole and over	12	3,027,137	42,835	3,135,201	46,791
	3.75- to less than 4.375-inch diameter:					
36211 1M	2 pole <sup>4</sup>	4	(D)	(D)	(D)	(D)
36211 1V	4 pole <sup>4</sup>	6	(D)	(D)	(D)	(D)
36211 1W	6 pole and over <sup>4</sup>	4	1,005,731	23,031	1,121,667	22,918
	4.375- to less than 5.375-inch diameter:					
36211 1O	2 pole <sup>5</sup>	3	(D)	(D)	(D)	(D)
36211 1P	4 pole <sup>5</sup>	10	2,129,495	42,076	1,568,808	33,416
36211 1R	6 pole and over	6	707,921	17,913	1,012,058	25,593
	5.375- to less than 6-inch diameter:					
36211 1S	Less than 746 watts, under 1 hp (two-digit FS)	11	7,851,550	359,761	7,845,733	237,325
36212 1A	746 watts and over, 1 hp and over (two-digit FS) <sup>6</sup>	4	(D)	(D)	(D)	(D)
	6-inch diameter and over:					
36211 1U	Less than 746 watts, under 1 hp (two-digit FS)	8	181,506	14,694	248,623	19,536
36212 1B	746 watts and over, 1 hp and over (two-digit FS) <sup>6</sup>	5	(D)	(D)	(D)	(D)
	Capacitor start	(NA)	4,054,343	162,032	3,780,391	158,125
36211 11	Less than 3.75-inch diameter <sup>7</sup>	5	(D)	(D)	(D)	(D)
36211 14	3.75- to less than 4.375-inch diameter <sup>7</sup>	2	1,300,973	16,484	1,301,703	17,318
36211 15	4.375- to less than 5.375-inch diameter	5	115,784	5,451	148,691	7,153
	5.375- to less than 6-inch diameter:					
36211 16	Less than 746 watts, under 1 hp (two-digit FS)	9	1,884,507	70,564	1,561,325	61,237
36212 1C	746 watts and over, 1 hp and over (two-digit FS) <sup>6</sup>	5	(D)	(D)	(D)	(D)
	6-inch diameter and over:					
36211 18	Less than 746 watts, under 1 hp (two-digit FS)	8	753,093	69,547	768,686	72,431
36212 1D	746 watts and over, 1 hp and over (two-digit FS) <sup>6</sup>	9	(D)	(D)	(D)	(D)

See footnotes at end of table.

Table 23. Quantity and Value of Shipments of Motors and Generators: 1996 and 1995—Con.

[Quantity in number of units. Value in thousands of dollars]

Product code	Product description	Number of companies	1996		1995	
			Quantity	Value	Quantity	Value
3621—	Motor and generators—Con.					
36211—	Fractional horsepower, excluding hermetics and other rotating equipment—Con.					
	All other uses—Con.					
	Ac (noncommutated)—Con.					
	Single phase or polyphase—Con.					
	Single phase—Con.					
	Split phase.....	(NA)	8,153,530	298,766	8,469,503	286,693
36211 30	Less than 3.75-inch diameter.....	2	(D)	(D)	(D)	(D)
36211 31	3.75- to less than 5.375-inch diameter.....	7	(D)	(D)	(D)	(D)
	5.375-to less than 6-inch diameter:					
36211 36	Less than 746 watts, under 1 hp (two-digit FS).....	10	2,600,861	90,460	2,836,094	91,382
36212 3E	746 watts and over, 1 hp and over (two-digit FS) <sup>6</sup> ..	4	(D)	(D)	(D)	(D)
	6-inch diameter and over:					
36211 38	Less than 746 watts, under 1 hp (two-digit FS).....	7	(D)	(D)	(D)	(D)
36212 3F	746 watts and over, 1 hp and over (two-digit FS) <sup>6</sup> ..	4	(D)	(D)	(D)	(D)
	All other single phase.....	(NA)	13,929,086	368,387	15,995,459	462,937
36211 41	Less than 6-inch diameter.....	6	(D)	(D)	(D)	(D)
	6-inch diameter and over:					
36211 48	Less than 746 watts, under 1 hp (two-digit FS).....	4	(D)	(D)	(D)	(D)
36212 4H	746 watts and over, 1 hp and over (two-digit FS) <sup>6</sup> ..	5	(D)	(D)	(D)	(D)
	Polyphase (servo and nonservo).....	(NA)	1,704,471	149,238	1,738,573	148,284
36211 55	Synchronous stepper motors.....	7	413,132	12,106	494,052	19,874
	All other polyphase:					
36211 56	Servo (induction rotor).....	3	(D)	(D)	(D)	(D)
	Nonservo:					
36211 57	Less than 5.375-inch diameter.....	12	(D)	(D)	(D)	(D)
	5.375- to less than 6-inch diameter:					
36211 5T	Less than 736 watts, under 1 hp (two-digit FS) ...	10	561,494	54,777	560,804	54,276
36212 5I	746 watts and over, 1 hp and over (two-digit FS) <sup>8</sup> ..	6	(D)	(D)	(D)	(D)
	6-inch diameter and over:					
36211 5V	Less than 746 watts, under 1 hp (two-digit FS) ...	10	525,254	54,760	535,265	55,502
36212 5J	746 watts and over, 1 hp and over (two-digit FS) <sup>8</sup> ..	7	(D)	(D)	(D)	(D)
	Ac (commutated).....	(NA)	45,338,716	602,387	48,220,613	581,781
	Mechanically commutated (brushes, for example):					
	Cased or sleeved:					
36211 6E	Less than 2.875-inch diameter.....	19	7,661,000	84,366	10,424,303	107,242
36211 6F	2.875- to less than 3.188-inch diameter.....	14	8,813,806	105,224	7,160,468	96,900
36211 6G	3.188- to less than 3.563-inch diameter.....	15	276,902	17,256	378,213	19,040
	3.563-inch diameter and over:					
36211 6H	Less than 746 watts, under 1 hp (two-digit FS).....	13	289,725	37,229	319,062	39,459
36212 6K	746 watts and over, 1 hp and over (two-digit FS) <sup>9</sup> ..	7	(D)	(D)	(D)	(D)
	Uncased:					
36211 6J	Less than 2.875-inch diameter <sup>10</sup> .....	9	(D)	(D)	(D)	(D)
36211 6K	2.875- to less than 3.188-inch diameter <sup>10</sup> .....	7	26,695,152	293,345	28,883,135	271,935
36211 6L	3.188- to less than 3.563-inch diameter.....	1	(D)	(D)	(D)	(D)
36211 6M	3.563- to less than 4.375-inch diameter.....	4	(D)	(D)	(D)	(D)
	4.375-inch diameter and over:					
36211 6N	Less than 746 watts, under 1 hp (two-digit FS).....	2	(D)	(D)	(D)	(D)
36212 6L	746 watts and over, 1 hp and over (two-digit FS) <sup>9</sup> ..	1	(D)	(D)	(D)	(D)
	Dc or universal motors by case size.....	(NA)	10,721,244	543,897	11,322,414	516,811
	By case diameter:					
36211 6C	Less than 4-inch diameter.....	(S)	(S)	(S)	(S)	(S)
36211 6D	4-inch diameter and over.....	(S)	(S)	(S)	(S)	(S)
	Permanent magnet (brushless):					
	Servo:					
36211 8E	Less than 4-inch diameter.....	17	1,277,112	111,015	1,197,843	115,082
36211 8H	4-inch diameter and over.....	13	112,395	51,004	89,373	38,926
	Nonservo:					
36211 8D	Less than 4-inch diameter.....	24	6,786,210	162,917	7,795,418	159,432
36211 8K	4-inch diameter and over.....	13	325,034	46,330	309,151	44,357
36211 8P	Wound field.....	12	132,545	15,367	126,027	17,296
36211 88	Electronically commutated.....	8	1,834,634	110,307	1,574,264	98,659
	All other:					
36211 89	Servo.....	9	197,723	35,714	171,785	32,161
36211 96	Nonservo.....	5	55,591	11,243	58,553	10,898

See footnotes at end of table.

Table 23. Quantity and Value of Shipments of Motors and Generators: 1996 and 1995—Con.

[Quantity in number of units. Value in thousands of dollars]

Product code	Product description	Number of companies	1996		1995	
			Quantity	Value	Quantity	Value
3621—	Motors and generators—Con.					
36212 —	Integral horsepower, excluding hermetics and other rotating equipment . . . . .	(NA)	9,309,621	2,336,865	8,999,560	2,134,705
36212 04	Used in aircraft and spacecraft, excluding generators . . . . .	6	19,180	35,848	16,378	27,876
	All other uses:					
	Ac (noncommutated) . . . . .	(NA)	4,887,762	1,652,592	4,230,003	1,478,169
	Motors (single, polyphase induction, and synchronous):					
	Single phase . . . . .	(NA)	1,636,244	178,655	1,553,467	169,459
36211 1W	Less than 746 watts, under 1 hp (three-digit FS) <sup>1</sup> . . . . .	4	(D)	(D)	(D)	(D)
36212 12	746 watts and over, 1 hp and over (three-digit FS) . . . . .	11	267,950	57,744	256,956	52,502
36212 X4	746 watts and over, 1 hp and over (two-digit FS) <sup>6</sup> . . . . .	(NA)	1,368,294	120,911	1,296,511	116,957
	Polyphase induction, excluding synchronous . . . . .	(NA)	3,246,714	1,438,705	2,673,114	1,282,349
	All motors, including Energy Efficient (EE):					
36211 1X	Less than 0.746 watts, less than 1 hp (three-digit FS) <sup>1</sup> . . . . .	6	(D)	(D)	(D)	(D)
36212 X5	746 watts and over, 1 hp and over (two-digit FS) <sup>8</sup> . . . . .	(NA)	1,016,261	124,454	982,262	120,167
36212 15	0.746 to 3.371 kW, 1 through 5 hp . . . . .	21	1,360,287	205,736	846,850	158,229
36212 16	3.731 to less than 14.921 kW, greater than 5 through 20 hp . . . . .	21	576,180	204,176	571,521	196,235
36212 17	14.921 to less than 37.301 kW, greater than 20 through 50 hp . . . . .	18	168,933	174,323	155,130	152,612
36212 18	37.301 to less than 74.601 kW, greater than 50 through 100 hp . . . . .	17	61,530	135,542	52,912	113,966
36212 19	74.601 to less than 149.201 kW, greater than 100 through 200 hp . . . . .	17	35,209	159,599	32,160	140,043
36212 20	149.601 kW to less than 373.001 kW, greater than 200 through 500 hp . . . . .	19	22,811	244,518	27,363	248,819
36212 27	373.001 to less than 746.001, greater than 500 through 1,000 hp . . . . .	12	2,485	75,387	2,329	61,779
36212 28	746.001 to less than 1865.001 kW, greater than 1,000 through 2,500 hp . . . . .	7	2,754	78,654	2,403	69,766
36212 29	1,865.001 kW and over, greater than 2,500 hp . . . . .	6	266	36,318	186	20,735
	Energy efficient motors, included in product codes 36212 15 to 36212 19 . . . . .	(NA)	335,570	223,910	340,451	213,324
36212 2K	0.746 to 3.371 kW, 1 through 5 hp . . . . .	10	151,316	32,874	157,559	29,147
36212 2L	3.731 to less than 14.921 kW, greater than 5 through 20 hp . . . . .	12	110,256	40,683	108,758	39,378
36212 2M	14.921 to less than 37.301 kW, greater than 20 through 50 hp . . . . .	11	43,202	51,488	43,502	48,375
36212 2N	37.301 to less than 74.601 kW, greater than 50 through 100 hp . . . . .	10	19,934	46,576	20,160	45,165
36212 2P	74.601 to less than 149.201 kW, greater than 100 through 200 hp . . . . .	9	10,862	52,289	10,472	51,259
36212 30	Synchronous (servo and nonservo) . . . . .	6	4,804	35,232	3,422	26,361
	Ac generators (for internal combustion engines) . . . . .	(NA)	116,620	288,693	104,413	256,208
36212 33	Less than 5 kVA . . . . .	3	44,946	23,100	35,009	16,921
36212 38	5 to less than 15 kVA . . . . .	11	19,174	27,620	17,478	27,395
36212 40	15 to less than 75 kVA . . . . .	10	23,269	31,710	23,361	29,632
36212 50	75 to less than 375 kVA . . . . .	7	15,963	51,366	16,383	49,569
36212 51	375 to less than 750 kVA . . . . .	7	7,497	39,914	7,944	45,698
36212 55	750 kVA and over . . . . .	4	5,771	114,983	4,238	86,993
	Dc motors and generators, excluding all arc welding and battery charging generators for internal combustion engines . . . . .	(NA)	4,286,059	359,732	4,648,766	372,452
36212 70	0.746 to less than 3.375 kW, 1 through 5 hp . . . . .	13	4,096,234	166,618	4,458,629	172,343
36212 X6	746 watts and over, 1 hp and over (two-digit FS) <sup>9</sup> . . . . .	(NA)	119,598	51,115	110,908	49,313
36212 72	3.375 to less than 74.601 kW, 5 through 100 hp . . . . .	9	70,227	68,677	79,229	73,989
36212 74	74.601 kW and over, greater than 100 hp . . . . .	6	(S)	73,322	(S)	76,807
36213 —	Motors and generators for land transportation, including those used in associated control equipment <sup>11</sup> . . . . .	10	(S)	(D)	(S)	(D)
36214 —	Prime mover generator sets (except steam or hydraulic turbine and electric motor-driven generator sets) . . . . .	(NA)	577,984	1,397,474	529,702	1,480,651
	Gas/gasoline engine-driven generator sets, ac and dc output . . . . .	(NA)	476,674	447,561	449,762	404,105
36214 03	Under 1.5 kVA <sup>12</sup> . . . . .	3	(D)	(D)	(D)	(D)
36214 04	1.5 to less than 5 kVA <sup>12</sup> . . . . .	19	326,785	172,132	319,759	169,177
36214 05	5 to less than 15 kVA . . . . .	20	132,823	163,822	119,216	132,520
36214 07	15 to less than 50 kVA . . . . .	17	6,310	39,372	6,580	39,652
36214 08	50 to less than 100 kVA . . . . .	14	9,893	27,436	3,452	24,780

See footnotes at end of table.

Table 23. Quantity and Value of Shipments of Motors and Generators: 1996 and 1995—Con.

[Quantity in number of units. Value in thousands of dollars]

Product code	Product description	Number of companies	1996		1995	
			Quantity	Value	Quantity	Value
3621—	Motors and generators—Con.					
36214 —	Prime mover generator sets (except steam or hydraulic turbine and electric motor-driven generator sets)—Con.					
	Gas/gasoline engine-driven generators, ac and dc output—Con.					
36214 10	100 to less than 500 kVA <sup>13</sup> .....	8	(D)	(D)	(D)	(D)
36214 12	500 to less than 1,000 kVA <sup>13</sup> .....	1	(D)	(D)	(D)	(D)
36214 13	1,000 kVA and over <sup>13</sup> .....	1	863	44,799	755	37,976
	Diesel engine-driven generator sets, ac and dc output .....	(NA)	46,321	912,056	57,243	1,054,277
36214 41	Under 15 kVA .....	19	13,034	57,456	16,637	87,710
36214 42	15 to less than 50 kVA .....	25	7,479	62,334	8,048	69,449
36214 43	50 to less than 100 kVA .....	23	6,140	62,201	8,272	78,066
36214 44	100 to less than 200 kVA .....	19	5,393	80,337	8,782	105,924
36214 45	200 to less than 400 kVA .....	18	6,916	144,173	7,982	173,277
36214 46	400 to less than 600 kVA .....	14	3,252	74,228	3,411	81,852
36214 47	600 to less than 800 kVA .....	13	735	48,363	872	60,322
36214 48	800 to less than 1,000 kVA .....	11	1,093	79,509	857	67,265
36214 49	1,000 to less than 2,000 kVA .....	12	2,237	277,664	2,357	303,030
36214 50	2,000 to less than 3,000 kVA <sup>14</sup> .....	3	(D)	(D)	(D)	(D)
36214 51	3,000 kVA and over <sup>14</sup> .....	2	42	25,791	25	27,382
	Dual fuel (oil and gas) engine-driven generator sets, ac and dc output .....	(NA)	54,989	37,857	22,697	22,269
36214 52	Under 2,000 kVA .....	-	-	-	-	-
36214 53	2,000 kVA and over .....	-	-	-	-	-
36214 75	Other generator set units, excluding electric motor-driven generator sets .....	6	54,989	37,857	22,697	22,269
36217, 8	Electric motor-driven generator sets .....	(NA)	24,104,268	1,018,950	23,898,912	944,142
	Electric motor-driven generator sets, including dynamotors, converters, inverters, and frequency changers:					
36218 11	Synchro converters and double current generators, 746 watts or more <sup>15</sup> .....	1	(D)	(D)	(D)	(D)
	Other motor generator sets:					
36217 21	Ac and dc output rated at less than 746 watts <sup>15</sup> .....	6	8,094	6,011	11,554	11,626
36218 30	Ac output, based on the rating of the largest ac generator <sup>16</sup> .....	8	(D)	(D)	(D)	(D)
36218 40	Dc output, based on the rating of the largest dc generator <sup>16</sup> .....	5	5,744	28,543	5,203	23,610
	Other rotating equipment:					
36217 53	Rate generators, resolvers, and combinations (less than 746 watts) <sup>17</sup> .....	11	(D)	(D)	(D)	(D)
36217 57	Synchro-type components, less than 746 watts <sup>17</sup> .....	5	477,928	127,417	647,518	113,257
	All hermetic motors:					
36217 97	5.5-inch stator core diameters, and smaller .....	6	10,149,245	285,938	11,132,429	275,403
36218 97	Over 5.5-inch stator core diameters .....	9	13,392,824	520,084	12,028,258	470,061
	All other rotating equipment:					
36217 98	Rated at less than 746 watts .....	8	53,472	15,573	55,667	13,422
36218 98	Rated at 746 watts or more .....	11	16,961	35,384	18,283	36,763
36219 —	Parts for motors and generators regardless of output rating <sup>11 18</sup> .....	(NA)	(X)	1,018,273	(X)	1,069,837
36219 90	Commutators <sup>18</sup> .....	11	(X)	(D)	(X)	(D)
36219 59	Land transportation <sup>18</sup> .....	5	(X)	(D)	(X)	(D)
36219 95	All other parts <sup>18</sup> .....	59	(X)	(D)	(X)	(D)

- Represents zero. D Withheld to avoid disclosing data for individual companies. FS Frame size. NA Not available. <sup>1</sup>Revised by 5 percent or more from previously published data. S Does not meet publication standards. X Not applicable.

<sup>1</sup>Data were included in product code 36211 X2, 3.

<sup>2</sup>Data for product code 36211 1A are included with product code 36211 1B to avoid disclosing data for individual companies.

<sup>3</sup>Product codes 36211 1J and 36211 1K are combined to avoid disclosing data for individual companies.

<sup>4</sup>Product codes 36211 1M, 36211 1V, and 36211 1W are combined to avoid disclosing data for individual companies.

<sup>5</sup>Product codes 36211 1O and 36211 1P are combined to avoid disclosing data for individual companies.

<sup>6</sup>Data are included in product code 36212 X4.

<sup>7</sup>Data for product code 36211 11 are included with product code 36211 14 to avoid disclosing data for individual companies.

<sup>8</sup>Data are included in product code 36212 X5.

<sup>9</sup>Data are included in product code 36212 X6.

<sup>10</sup>Data for product code 36211 6J are included with product code 36211 6K to avoid disclosing data for individual companies.

<sup>11</sup>Data for industry 36213 are combined with industry 36219 to avoid disclosing data for individual companies.

<sup>12</sup>Data for product code 36214 03 are included with product code 36214 04 to avoid disclosing data for individual companies.

<sup>13</sup>Data for product codes 36214 10 and 36214 12 are included with product code 36214 13 to avoid disclosing data for individual companies.

<sup>14</sup>Data for product code 36214 50 are included with product code 36214 51 to avoid disclosing data for individual companies.

<sup>15</sup>Data for product code 36218 11 are included with product code 36217 21 to avoid disclosing data for individual companies.

<sup>16</sup>Data for product code 36218 30 are included with product code 36218 40 to avoid disclosing data for individual companies.

<sup>17</sup>Data for product code 36217 53 are included with product code 36217 57 to avoid disclosing data for individual companies.

<sup>18</sup>Data for product codes 36219 90, 36219 59, and 36219 95 combined with industry 36219 to avoid disclosing data for individual companies.

**Table 24. Quantity and Value of Total Shipments and Interplant Transfers of Motors and Generators and Quantity of Motors and Generators Produced and Incorporated Into Other Products at the Same Establishment: 1996 and 1995**

[Quantity in number of units. Value in thousands of dollars]

Product code	Product description	Total shipments, including interplant transfers		Interplant transfers		Produced and incorporated (quantity)
		Quantity	Value	Quantity	Value	
<b>1996</b>						
3621—	Motors and generators:					
36211 —	Fractional horsepower motors, excluding hermetics . . . . .	301,648,699	4,932,554	20,729,759	298,240	37,834,104
36212 —	Integral horsepower motors and generators, excluding hermetics . . . . .	9,309,621	2,336,865	4,431,754	112,989	2,736,000
	Alternating current:					
36212 00	Polyphase, induction greater than 1 hp . . . . .	2,230,455	1,314,253	17,809	28,510	5,062
36212 XX	Other . . . . .	1,016,261	124,454	-	-	-
36213 —	Motors and generators for land transportation equipment <sup>1</sup> . . . . .	(S)	(D)	(S)	(D)	(S)
36214 —	Prime mover generator sets (except steam and hydraulic turbine) . . . . .	577,984	1,397,474	(D)	(D)	(D)
36217 —	Electric motor generator sets and other rotating equipment, including hermetics with power rating less than 746 watts <sup>2</sup> . . . . .	10,688,197	431,740	(D)	(D)	(D)
36218 —	Electric motor generator sets and other rotating equipment, including hermetics with a power rating of 746 watts or more <sup>2</sup> . . . . .	13,416,071	587,210	20,465,045	277,078	3,503
36219 —	Parts for motors and generators <sup>1</sup> . . . . .	(X)	1,018,273	(X)	84,714	(X)
<b>1995</b>						
3621—	Motors and generators:					
36211 —	Fractional horsepower motors, excluding hermetics . . . . .	303,475,366	4,766,187	29,494,298	286,161	34,824,930
36212 —	Integral horsepower motors and generators, excluding hermetics . . . . .	8,999,560	2,134,705	5,167,585	<sup>1</sup> 128,256	<sup>1</sup> 2,448,463
	Alternating current:					
36212 00	Polyphase, induction greater than 1 hp . . . . .	1,690,854	1,162,184	12,274	24,490	10,274
36212 XX	Other . . . . .	982,262	120,167	-	-	-
36213 —	Motors and generators for land transportation equipment <sup>1</sup> . . . . .	(S)	(D)	(S)	(D)	(S)
36214 —	Prime mover generator sets (except steam and hydraulic turbine) . . . . .	529,702	1,480,651	(D)	(D)	(D)
36217 —	Electric motor generator sets and other rotating equipment, including hermetics with power rating less than 746 watts <sup>2</sup> . . . . .	11,845,285	405,355	(D)	(D)	(D)
36218 —	Electric motor generator sets and other rotating equipment, including hermetics with a power rating of 746 watts or more <sup>2</sup> . . . . .	<sup>1</sup> 12,053,627	538,787	<sup>1</sup> 21,658,124	<sup>1</sup> 267,392	<sup>1</sup> 5,231
36219 —	Parts for motors and generators <sup>1</sup> . . . . .	(X)	<sup>1</sup> 1,069,837	(X)	<sup>1</sup> 71,513	(X)

- Represents zero. D Withheld to avoid disclosing data for individual companies. <sup>1</sup>Revised by 5 percent or more from previously published data.  
 S Does not meet publication standards. X Not applicable.

<sup>1</sup>Industries 36213 and 36219 are combined to avoid disclosing data for individual companies.

<sup>2</sup>For 1996 and 1995, interplant transfers for industries 36217 and 36218 are combined to avoid disclosing data for individual companies.

Table 25. Shipments, Exports, Imports, and Apparent Consumption of Motors and Generators: 1996 and 1995

[Quantity in number of units. Value in thousands of dollars]

Product code	Product description	Manufacturers' shipments		Exports of domestic merchandise <sup>1</sup> (value at port)	Imports for consumption <sup>2</sup> (value)
		Quantity	Value f.o.b. plant		
<b>1996</b>					
36211 —	Fractional horsepower motors and generators (except hermetics) .....	301,648,699	4,932,554	450,328	1,665,953
36212 —	Integral horsepower motors and generators .....	9,309,621	2,336,865	598,306	826,356
36213 —	Motors and generators for land transportation <sup>3</sup> .....	(S)	(D)	(D)	(D)
36214 —	Prime mover generator sets (except steam or hydraulic and electric motor driven):				
	Gas/gasoline driven:				
	Less than 5 kVA (36214 03, 04) <sup>4</sup> .....	326,785	172,132	(D)	(D)
	5 kVA and over (36214 05 to 08) <sup>4</sup> .....	149,026	230,630	73,179	68,899
	Diesel engine-driven:				
	Less than 400 kVA (36214 41 to 45) <sup>5</sup> .....	38,962	406,501	(D)	(D)
	400 kVA to less than 1,000 kVA (36214 46 to 48) <sup>5</sup> .....	5,080	202,100	(D)	(D)
	1,000 kVA and over (36214 49 to 51) <sup>3</sup> .....	2,279	303,455	624,624	52,881
	Other (36214 to 75) .....	54,989	37,857	372,987	29,741
36217, 8	Electric motor-driven generator sets, hermetics, and other rotating equipment:				
	Synchronous converters, double current generators, and electric motor-driven generator sets (36217 21, 36218 11 to 40) <sup>6</sup> .....	13,838	34,554	(D)	(D)
	Hermetic motors (36217 97, 36218 97) <sup>6</sup> .....	23,542,069	806,022	(D)	(D)
	Other rotating equipment (36217 53, 57, 98, 36218 98) <sup>6</sup> .....	548,361	178,374	12,436	6,039
36219 —	Parts for all electric motors and generators (36219 59 to 95) <sup>3</sup> .....	(X)	1,018,273	769,094	714,809
<b>1995</b>					
36211 —	Fractional horsepower motors and generators (except hermetics) .....	303,475,366	4,766,187	466,932	1,710,795
36212 —	Integral horsepower motors and generators .....	8,999,560	2,134,705	588,900	801,300
36213 —	Motors and generators for land transportation <sup>3</sup> .....	(S)	(D)	(D)	(D)
36214 —	Prime mover generator sets (except steam or hydraulic and electric motor driven):				
	Gas/gasoline driven:				
	Less than 5 kVA (36214 03, 04) <sup>4</sup> .....	319,759	169,177	(D)	(D)
	5 kVA and over (36214 05 to 08) <sup>4</sup> .....	129,248	196,952	40,730	81,949
	Diesel engine-driven:				
	Less than 400 kVA (36214 41 to 45) <sup>5</sup> .....	49,721	514,426	(D)	(D)
	400 kVA to less than 1,000 kVA (36214 46 to 48) <sup>5</sup> .....	5,140	209,439	(D)	(D)
	1,000 kVA and over (36214 49 to 51) <sup>3</sup> .....	2,382	330,412	738,801	53,613
	Other (36214 to 75) .....	22,697	22,269	396,364	45,651
36217, 8	Electric motor-driven generator sets, hermetics, and other rotating equipment:				
	Synchronous converters, double current generators, and electric motor-driven generator sets (36217 21, 36218 11 to 40) <sup>6</sup> .....	16,757	35,236	(D)	(D)
	Hermetic motors (36217 97, 36218 97) <sup>6</sup> .....	23,160,687	745,464	(D)	(D)
	Other rotating equipment (36217 53, 57, 98, 36218 98) <sup>6</sup> .....	721,468	163,442	10,388	4,869
36219 —	Parts for all electric motors and generators (36219 59 to 95) <sup>3</sup> .....	(X)	1,069,837	714,321	281,692

D Withheld to avoid disclosing data for individual companies.      <sup>1</sup>Revised by 5 percent or more from previously published data.      S Does not meet publication standards.      X Not applicable.

<sup>1</sup>Source: Bureau of the Census Report, EM 545, U.S. Exports

<sup>2</sup>Source: Bureau of the Census Report IM 145, U.S. Imports for Consumption.

<sup>3</sup>Data for industry 36213 — combined with industry 36219 to avoid disclosing data for individual companies.

<sup>4</sup>Export and import data for product codes 36214 03, 36214 04, 36214 05, 36214 07, and 36214 08 were combined to avoid disclosing data for individual companies.

<sup>5</sup>Export and import data for product codes 36214 41, 36214 42, 36214 43, 36214 44, 36214 45, 36214 46, 36214 47, 36214 48, 36214 49, 36214 50, and 36214 51 were combined to avoid disclosing data for individual companies.

<sup>6</sup>Export and import data for product codes 36217 21, 36218 11, 36218 30, 36218 40, 36217 97, 36218 97, 36217 53, 36217 57, 36217 98, and 36218 98 were combined to avoid disclosing data for individual companies.

Note: Beginning in 1989, data for exports and imports were classified under a new harmonized system for better comparability.



**HISTORICAL NOTE**

Data on motors and generators have been collected by the Bureau of the Census since 1960. Historical data may be obtained from Current Industrial Reports available at your local Federal Depository Library. Historical data are

also available on microfiche; contact Customer Services, 301-457-4100.

**CONTACT FOR DATA USERS**

For additional information about these data, contact Wanda Sledd, 301-457-4790.

## Chapter 10. Heavy Machinery

### FARM MACHINERY AND LAWN AND GARDEN EQUIPMENT (MA35A)

#### INTRODUCTION

These data cover firms engaged in the manufacture of farm machinery and lawn and garden equipment. Very small firms (generally less than five employees) for which 1992 Census of Manufactures data were derived from administrative records of other government agencies are excluded.

The statistics were collected by mail on Bureau of the Census annual Form MA35A, Farm Machinery and Lawn and Garden Equipment. The survey panel includes all known producers of these products, except the very small firms excluded from the scope of the survey. Approximately 751 companies are included. No estimate is derived for the small firms excluded from the survey.

#### SUMMARY OF FINDINGS

During 1996, factory shipments of farm machinery and equipment, including parts and attachments, produced by original equipment manufactures (OEM), totaled \$12,071.0 million, an increase of 7 percent from 1995 shipments of \$11,251.0 million. Shipments of farm dairy machines, sprayers, dusters, elevators, and farm blowers, and parts totaled \$833.6 million, an increase 9 percent over 1995 total of \$764.7 million. The value of shipments for harvesting machinery increased 11 percent, from \$2,666.8 million in 1995 to \$2,962.0 million in 1996. Haying machinery decreased 9 percent from \$729.4 million in 1995 to \$662.9 million in 1996.

The value of shipments for commercial turf and ground equipment, including parts, was \$1,132.0 million in 1996, a 1-percent increase over the \$1,120.3 million reported for 1995.

The value of shipments of consumer lawn, garden, and snow equipment, including parts and attachments, was \$5,790.6 million in 1996, a 3-percent decrease over the \$5,969.2 million in 1995.

#### EXPLANATION OF TERMS

**Net engine horsepower.** Net engine horsepower (nehp) is defined as net fly wheel performance as measured by the manufacturer, with all standard accessories operated, and corrected to 29.38 inches mercury Hg and temperature of 85° Fahrenheit.

**Lawn tractors and riding mowers.** A self-propelled riding vehicle, generally designed for cutting grass, that is not capable of pulling a plow.

**Garden tractors.** A self-propelled riding vehicle designed for general-purpose lawn and garden work. This vehicle is capable of pulling a plow. All attachments for garden tractors are removable.

**Turf tractors.** A self-propelled riding vehicle, typified by a low center of gravity, equipped with wide turf-tread tires.

**Parts for farm machinery and equipment.** Parts are manufactured components essential to the completeness and proper operation of a machine, vehicle, or apparatus. Parts data include only parts sold for replacement and repair. Parts sold to manufacturers for incorporation in their own products are excluded.

**Attachments for farm machinery and equipment.** Attachments are supplementary devices designed to be attached to a vehicle or apparatus. These supplementary devices either (1) vary or extend the function of the basic unit or (2) add to the convenience or effectiveness of the basic unit.

Table 1. Value of Shipments of Farm Machinery and Lawn and Garden Equipment by Type of Equipment: 1990 to 1996

[Value in millions of dollars]

Product description <sup>1</sup>	1996	1995	1994	1993	1992	1991	1990
Farm dairy machines, sprayers, dusters, elevators, and farm blowers . . . . .	833.6	764.7	709.0	591.1	469.9	449.2	516.0
Planting, seeding, and fertilizing machinery . . . . .	858.7	852.9	949.1	804.6	634.1	601.0	676.2
Harvesting machinery . . . . .	2,962.0	2,666.8	2,201.4	2,036.9	1,863.7	2,158.0	2,302.5
Haying machinery . . . . .	662.9	729.4	748.6	622.5	558.2	659.1	875.1
Plows, harrows, rollers, pulverizers, cultivators, and weeders . . . . .	541.4	512.5	480.4	404.4	380.8	441.1	573.3
Commercial turf and grounds care equipment . . . . .	1,132.0	1,120.3	1,022.0	880.8	781.8	724.8	707.9
Consumer nonriding lawn, garden, and snow equipment . . . . .	2,932.0	3,095.0	3,003.0	2,408.8	2,133.2	1,987.5	1,975.0
Consumer riding lawn, garden and snow equipment . . . . .	2,859.0	2,874.3	2,747.6	2,394.5	2,118.6	1,985.4	2,127.0

<sup>1</sup>Each type of farm machinery, commercial turf and grounds care equipment, and lawn and garden equipment includes parts and attachments.

Table 2. Manufacturers' Shipments of Farm Machinery and Lawn and Garden Equipment by Type: 1996 and 1995

[Quantity in units. Value in thousands of dollars]

Product code	Product description	Number of companies	1996		1995	
			Quantity	Value	Quantity	Value
3523 —	Farm machinery and equipment, including parts and attachments . . . . .	(NA)	(X)	12,070,949	(X)	11,250,849
35231 —	Wheel tractors (except contractors' off-highway wheel tractors, garden tractors, turf tractors, and motor tillers) and attachments . . . . .	17	(X)	2,957,381	(X)	2,623,968
	Wheel tractors, farm-type (PTO hp) . . . . .	(NA)	(D)	(D)	(D)	(D)
35231 01	2-wheel drive, including front wheel assist types . . . . .	7	(D)	(D)	(D)	(D)
35231 30	4-wheel drive, including tractors with equal size tires, front and rear . . . . .	6	(D)	(D)	(D)	(D)
35231 87	Attachments for wheel tractors, farm-type . . . . .	11	(X)	39,433	(X)	33,078
35239 26	Parts for wheel tractors, farm-type . . . . .	12	(X)	272,327	(X)	265,702
35232 —	Farm dairy machines, sprayers, dusters, elevators, and farm blowers . . . . .	(NA)	(X)	722,750	(X)	653,379
35232 pt.	Farm dairy machines and equipment . . . . .	15	(X)	83,957	(X)	81,047
	Mechanical installations:					
35232 04	Milking machines, complete, suspended and floor-type bucket, single and double units . . . . .	3	(D)	(D)	(D)	(D)
35232 08	Pipeline milking units, complete, including claws, shells, inflations, and air tubes, with or without pulsator . . . . .	6	(D)	(D)	(D)	(D)
35232 13	Other farm dairy machines and equipment . . . . .	14	<sup>a</sup> 25,752	<sup>a</sup> 26,685	<sup>a</sup> 27,587	<sup>a</sup> 23,593
35232 16	Attachments for farm dairy machines and equipment . . . . .	5	(X)	(D)	(X)	(D)
35239 30	Parts for farm dairy machines and equipment, replacement units only . . . . .	10	(X)	<sup>a</sup> 28,889	(X)	<sup>a</sup> 26,740
35232 pt.	Sprayers and dusters . . . . .	75	(X)	578,133	(X)	512,262
	Power sprayers, field and row crop types only:					
35232 19	Self-propelled . . . . .	16	4,983	375,244	4,533	306,634
35232 30	Tractor mounted . . . . .	30	7,915	16,239	7,237	16,762
	Other than tractor mounted:					
35232 40	Power take-off driven, piston pump type . . . . .	12	707	4,483	686	4,030
35232 45	Nonpiston pump type . . . . .	15	2,141	7,604	2,366	8,707
35232 48	Other power sprayers, over 4 g.p.m. . . . .	8	576	3,697	2,400	<sup>1</sup> 4,663
	Power sprayers, other than row crop and field types, over 4 g.p.m.:					
35232 47	Power take-off driven . . . . .	12	<sup>a</sup> 731	<sup>b</sup> 2,856	1,539	<sup>b</sup> 5,012
35232 49	Engine-driven . . . . .	15	<sup>c</sup> 3,886	<sup>c</sup> 6,558	<sup>a</sup> 4,407	<sup>c</sup> 9,994
35235 50	Air carried type power sprayers (field, row crop, and orchard types) . . . . .	7	658	<sup>a</sup> 7,584	476	4,382
35235 51	Foggers and mist sprayers, portable . . . . .	6	<sup>b</sup> 14,663	<sup>b</sup> 5,238	<sup>b</sup> 16,410	<sup>b</sup> 5,961
35232 58	Hand-pulled and garden-type 4 g.p.m. and under . . . . .	12	62,375	10,748	47,371	8,340

See footnotes at end of table.

Table 2. **Manufacturers' Shipments of Farm Machinery and Lawn and Garden Equipment by Type: 1996 and 1995—Con.**

[Quantity in units. Value in thousands of dollars]

Product code	Product description	Number of companies	1996		1995	
			Quantity	Value	Quantity	Value
35232 —	Farm dairy machines, sprayers, dusters, elevators, and farm blowers—Con.					
35232 pt.	Sprayers and dusters—Con.					
	Sprayers, agricultural hand:					
35232 59	Under 1 gallon . . . . .	4	534,557	2,840	537,929	2,947
	1 gallon and over:					
35232 61	Compressed air or gas . . . . .	7	6,244,728	104,243	8,244,802	105,012
35232 62	Other, including knapsack, hose end, and flame sprayers, and sprayer pumps . . . . .	9	7,340,445	11,642	5,835,190	9,212
35232 67	Dusters, power, and hand, all types. . . . .	6	81,013	<sup>b</sup> 1,115	91,073	1,298
35232 68	All other sprayers. . . . .	10	(X)	2,808	(X)	<sup>a</sup> 3,355
35232 69	Attachments for sprayers and dusters . . . . .	22	(X)	<sup>a</sup> 15,234	(X)	15,953
35239 35	Parts for sprayers and dusters, replacement units only . . . . .	43	(X)	72,714	(X)	75,392
35232 pt.	Farm elevators and blowers . . . . .	37	(X)	<sup>a</sup> 60,660	(X)	60,070
	Farm elevators, portable:					
35232 70	Single and double chain . . . . .	10	<sup>b</sup> 1,344	<sup>c</sup> 3,643	<sup>a</sup> 1,372	4,114
35232 72	Auger type. . . . .	12	12,416	20,543	12,215	19,233
35232 73	Other farm portable and stationary augers and elevators . . . . .	15	40,101	<sup>b</sup> 21,680	36,075	19,879
35232 74	Other farm blowers, including forage blowers, and combination grain and forage blowers. . . . .	5	1,228	4,681	2,098	7,225
35232 75	Attachments for farm elevators and blowers . . . . .	13	(X)	<sup>a</sup> 10,113	(X)	<sup>a</sup> 9,619
35239 40	Parts for farm elevators and for grain and forage blowers, replacement units only . . . . .	23	(X)	<sup>b</sup> 9,215	(X)	<sup>a</sup> 9,175
35233 —	Planting, seeding, and fertilizing machinery . . . . .	123	(X)	753,774	(X)	742,748
35233 21	Corn planters, corn and cotton planters, and lister planters, pull type and mounted (total rows mounted) . . . . .	9	(D)	(D)	59,099	180,507
35233 24	Grain drills (fixed frame), all types . . . . .	12	10,366	177,812	(D)	(D)
35233 40	Transplanters (pull-type or mounted) and broadcast seeders (end-gate, mounted and drawn) . . . . .	8	13,018	7,585	12,789	6,280
	Fertilizer distributors (pull-type or mounted):					
35233 50	Dry, including lime spreaders . . . . .	32	<sup>a</sup> 5,102	33,043	<sup>a</sup> 5,420	31,570
35233 57	Liquid and anhydrous ammonia . . . . .	19	<sup>b</sup> 8,292	<sup>a</sup> 30,398	<sup>b</sup> 7,547	27,959
35233 61	Manure spreaders, rear discharge . . . . .	13	3,689	23,587	5,566	33,371
35233 65	Manure spreaders, side discharge . . . . .	8	2,267	24,362	2,468	22,304
35233 69	Manure pumps, liquid . . . . .	8	994	3,334	<sup>f</sup> 1,013	<sup>f</sup> 4,063
35233 73	Front and rear tractor-mounted loaders (farm-type), manure and general utility (except beet and sugar cane loaders) . . . . .	15	31,895	85,727	33,340	90,632
35233 77	Row crop unit planters (quantity in rows) . . . . .	8	51,627	40,974	48,334	36,217
35233 79	Other planting, seeding, and fertilizing machinery. . . . .	27	(D)	(D)	(D)	(D)
35233 84	Attachments for planting, seeding, and fertilizing machinery . . . . .	32	(X)	<sup>a</sup> 60,351	(X)	41,048
35239 71	Parts for planting, seeding, and fertilizing machinery, replacement units only . . . . .	73	(X)	104,941	(X)	110,082
35235 —	Harvesting machinery . . . . .	85	(X)	2,681,175	(X)	2,370,889
35235 11	Combines (harvester-threshers), grain-types only (self-propelled and pull type). . . . .	12	(D)	(D)	(D)	(D)
35235 21	Small grain header for combines, all sizes. . . . .	7	(D)	(D)	(D)	(D)
35235 31	Corn heads, all sizes. . . . .	8	5,140	112,929	5,573	114,812
35235 41	Other grain-type combines. . . . .	3	(D)	(D)	(D)	(D)
	Field forage harvesters:					
35235 63	Shear bar, self-propelled type and pull-type (basic machines) . . . . .	4	1,598	26,389	1,788	36,791
35235 67	Attachments for shear bar type forage harvester . . . . .	6	(X)	(D)	(X)	(D)
35235 70	Flail-type (horizontal knives or vertical free-swinging knives or hammers), including discharge spouts. . . . .	5	157	1,317	330	2,202
35235 79	Other harvesting machinery, including potato diggers, cane harvesting equipment, and picker-shellers. . . . .	54	<sup>a</sup> 6,050	<sup>a</sup> 527,597	<sup>a</sup> 5,771	<sup>a</sup> 526,478
35235 83	Attachments for harvesting machinery, including platform and seeder, reel, straw spreaders, load levelers, weed stripper, grate unit, knife grinders, and stalk walkers . . . . .	30	(X)	125,874	(X)	97,631
35239 50	Parts for harvesting machinery, replacement units only . . . . .	61	(X)	280,771	(X)	295,888

See footnotes at end of table.

Table 2. **Manufacturers' Shipments of Farm Machinery and Lawn and Garden Equipment by Type: 1996 and 1995—Con.**

[Quantity in units. Value in thousands of dollars]

Product code	Product description	Number of companies	1996		1995	
			Quantity	Value	Quantity	Value
35236 —	Haying machinery .....	41	(X)	591,188	(X)	632,705
35236 13	Mowers, cutter bar type, including drum and disc .....	7	(D)	(D)	4,479	19,723
35236 23	Mower-conditioners and windrowers with conditioner auger and draper-type (pull-type and self-propelled) .....	8	14,143	170,516	15,415	191,372
35236 31	Rakes, side delivery, cylinder type, and finger wheel type .....	11	9,055	39,225	10,204	39,893
35236 55	Hay balers, hay stackers (field type), hay bale loaders, and bale throwing attachments .....	15	21,241	315,742	24,098	331,114
36236 82	Other haying machinery .....	17	(D)	(D)	36,186	20,437
35236 83	Other attachments for haying machinery (stripper, bale chute, and knife attachments) .....	6	(X)	(D)	(X)	30,166
35239 55	Parts for haying machinery, replacement units only .....	24	(X)	71,639	(X)	96,715
3523C —	Plows, harrows, rollers, pulverizers, cultivators, and weeders ..	(NA)	(X)	443,089	(X)	402,561
3523C pt.	Plows (primary tillage equipment) .....	64	(X)	128,637	(X)	108,892
3523C 15	Subsoilers, deep tillage .....	24	4,148	<sup>a</sup> 26,945	<sup>f</sup> 3,486	21,104
3523C 17	Terracing and ditching plows .....	9	<sup>b</sup> 399	<sup>a</sup> 894	488	1,177
	Chisel plows, deep tillage (chisel or sweep type):					
3523C 19	Pull-type .....	11	1,289	15,827	1,846	21,929
3523C 21	Mounted .....	10	(D)	(D)	512	1,230
3523C 25	Other plows (except snow plows) .....	16	4,679	46,987	<sup>f</sup> 4,054	33,504
3523C 27	Middlebusters and disc bedders .....	11	(D)	(D)	2,334	2,704
3523C 29	Attachments for plows (coulters, jointers, root cutters, subsoilers, fertilizer distributors, etc.), excluding lister planting attachments .....	24	(X)	21,242	(X)	17,968
3523C 31	Plowshares (quantity in thousands of pounds) .....	9	12,864,537	10,234	<sup>f</sup> 12,714,865	9,276
35239 60	Parts for plows (except plowshares), replacement units only .....	26	(X)	<sup>a</sup> 29,552	(X)	37,245
3523C pt.	Harrows, rollers, pulverizers and similar equipment (secondary tillage) .....	92	(X)	179,463	(X)	161,012
3523C 41	Spike-tooth harrow sections and spring-tooth and tine-tooth harrow sections .....	20	<sup>c</sup> 23,000	<sup>b</sup> 13,284	21,250	11,181
3523C 44	Disc harrows, single, tandem, and offset .....	27	10,233	68,805	18,009	57,287
3523C 53	Combination tillage equipment, roller/harrows, disc or coulters/field cultivators, and disc or coulters/spring tooth .....	28	12,023	44,908	14,780	<sup>f</sup> 45,114
3523C 54	Blade terracers or scrapers (farm-size) .....	37	59,775	<sup>a</sup> 24,714	51,596	20,261
3523C 59	Land levelers .....	8	775	1,836	1,038	1,777
3523C 61	Other harrows, rollers, pulverizers, and similar equipment .....	28	<sup>a</sup> 7,385	20,618	<sup>a</sup> 7,856	21,994
3523C 63	Attachments for harrows, rollers, pulverizers, and similar equipment .....	15	(X)	5,298	(X)	3,398
35239 45	Parts for harrows, rollers, pulverizers, and similar equipment, replacement units only .....	43	(X)	29,210	(X)	17,888
3523C pt.	Cultivators and weeders .....	54	(X)	<sup>a</sup> 134,989	(X)	132,657
3523C 70	Corn and cotton type cultivators, shank and sweep type (front and rear mounted) .....	23	8,023	<sup>a</sup> 38,718	<sup>f</sup> 7,319	37,671
3523C 80	Rotary cultivators, ground and power driven .....	9	<sup>a</sup> 1,727	<sup>a</sup> 5,430	1,769	<sup>f</sup> 4,927
3523C 90	Field cultivators .....	14	5,124	57,924	4,903	51,735
3523C 94	Other cultivators and weeders, including tool bars (basic units) .....	19	4,022	<sup>b</sup> 8,961	<sup>f</sup> 4,168	<sup>r</sup> <sup>a</sup> 11,559
3523C 98	Attachments for cultivators and weeders (front mounting frame, disc weeders, rear section, and drawbars) .....	26	(X)	<sup>b</sup> 23,956	(X)	26,765
35239 65	Parts for cultivators and weeders, replacement units only .....	32	(X)	39,568	(X)	54,815
3523E —	All other farm machinery and equipment (except parts) .....	(NA)	(X)	1,564,706	(X)	1,464,139
3523E pt.	Stalk shredders and cutters or rotary mowers (PTO) .....	40	104,983	181,551	115,429	183,242
3523E 01	Flail type (without spout) .....	13	1,881	12,315	<sup>a</sup> 2,155	13,150
	Horizontal blade type:					
3523E 05	66 inches cutting width and under .....	26	55,271	34,661	66,159	40,583
3523E 07	Over 66 inches up to 100 inches cutting width .....	24	34,763	49,087	33,481	45,078
3523E 09	Over 100 inches cutting width .....	16	13,068	85,488	13,634	84,431
35239 85	Parts for stalk shredders, and cutters or rotary mowers (PTO), replacement units only .....	26	(X)	50,284	(X)	41,044

See footnotes at end of table.

Table 2. **Manufacturers' Shipments of Farm Machinery and Lawn and Garden Equipment by Type: 1996 and 1995—Con.**

[Quantity in units. Value in thousands of dollars]

Product code	Product description	Number of companies	1996		1995	
			Quantity	Value	Quantity	Value
3523E —	All other farm machinery and equipment (except parts)—Con.					
3523E pt.	Machines for preparing crops for market or for use .....	81	(X)	255,490	(X)	234,534
3523E 11	Feed grinders and crushers, power .....	12	(D)	(D)	1,864	24,834
3523E 13	Feed mixers, farm-size, stationary and portable .....	20	3,024	43,752	3,006	40,681
3523E 14	Combination grinder-mixers .....	9	759	8,937	940	10,039
	Dryers (grain, hay, and seed):					
3523E 25	Heated air crop dryers .....	17	11,665	70,751	10,309	52,369
3525E 26	Crop drying fans (over 15,000 c.f.m. at approximately 1-inch pressure) .....	9	(D)	(D)	13,237	8,694
3523E 23	Other machines for preparing crops for market or for use .....	42	24,335	89,940	<sup>a</sup> 26,225	<sup>a</sup> 90,496
3523E 24	Attachments for machines for preparing crops for market or for use .....	13	(X)	6,187	(X)	7,421
35239 70	Parts for machines for preparing crops for market or for use, replacement units only .....	44	(X)	31,206	(X)	30,547
3523E pt.	Farm poultry equipment .....	44	(X)	226,534	(X)	214,662
3523E 31	Incubators (quantity represents egg capacity in thousands) .....	9	(D)	(D)	(D)	(D)
3523E 34	Brooders, floor and hanging (gas, electric, oil, coal, wood, and battery) .....	10	145,075	20,323	<sup>f</sup> 147,394	<sup>f</sup> 22,142
3523E 36	Nests and cages .....	9	1,921,908	<sup>a</sup> 28,029	<sup>f</sup> 1,891,858	27,603
3523E 38	Poultry feeders (trough, hanging, and mechanical) and waterers (except turkey feeders and waterers) .....	18	15,352,255	84,307	15,601,033	77,931
3523E 48	Other farm poultry equipment, including turkey waterers, mechanized egg graders, and egg washers .....	20	(D)	(D)	(D)	(D)
3523E 49	Attachments for farm poultry equipment .....	12	(X)	13,518	(X)	11,883
35239 75	Parts for farm poultry equipment, replacement units only .....	14	(X)	14,375	(X)	<sup>f</sup> 14,057
3523E pt.	Hog equipment .....	49	(X)	103,529	(X)	120,617
3523E 50	Feeding equipment .....	30	177,492	27,168	191,162	27,893
3523E 55	Handling equipment .....	15	(D)	37,944	(D)	<sup>f</sup> 51,911
3523E 59	Watering equipment .....	21	792,700	6,393	977,112	6,887
3523E 61	Other hog equipment .....	25	1,037,685	29,891	955,110	<sup>f</sup> 31,797
3523E 62	Attachments for hog equipment .....	14	(X)	<sup>b</sup> 2,133	(X)	<sup>a</sup> 2,129
35239 88	Parts for hog equipment, replacement units only .....	22	(X)	4,788	(X)	<sup>f</sup> 5,365
3523E pt.	Other barn and barnyard equipment .....	97	(X)	179,834	(X)	186,075
3523E 63	Silo and grain bin unloaders, forage and grain, including sealed storage unloaders (farm-type) .....	14	39,822	25,883	36,847	23,181
	Cattle and dairy barn equipment:					
3523E 64	Feeding equipment .....	43	<sup>c</sup> 184,752	<sup>a</sup> 27,202	<sup>b</sup> 220,538	<sup>a</sup> 33,233
3523E 71	Handling equipment .....	31	<sup>c</sup> 1,146,887	<sup>b</sup> 38,286	1,330,248	<sup>a</sup> 41,967
3523E 79	Water equipment .....	31	<sup>b</sup> 415,144	<sup>a</sup> 21,522	416,987	20,497
3523E 85	Other barn and barnyard equipment .....	48	<sup>a</sup> 844,514	<sup>a</sup> 61,763	<sup>a</sup> 771,657	<sup>a</sup> 61,728
3523E 86	Attachments for barn and barnyard equipment .....	16	(X)	5,178	(X)	5,469
35239 80	Parts for barn and barnyard equipment, replacement units only .....	31	(X)	25,976	(X)	25,724
3523E pt.	Farm wagons, and other farm transportation equipment .....	87	(X)	186,600	(X)	184,482
3523E 88	Wagons (chassis only) and trailer gears, excluding motor trucks, 4-wheel .....	35	18,108	32,582	<sup>f</sup> 18,019	<sup>f</sup> 29,800
	Boxes and racks for mounting on wagons and trailer gears:					
3523E 90	Manual unloading or dump .....	10	1,535	6,522	1,654	7,479
3523E 91	Gravity unloading, grain-type only .....	13	10,977	27,158	8,715	18,871
3523E 92	Power unloading .....	20	7,215	51,324	8,502	58,348
3523E 94	Boxes with integral running gear, grain- and forage-type .....	12	3,792	23,566	3,779	20,437
3523E 95	Other farm transportation equipment .....	25	<sup>a</sup> 9,623	<sup>a</sup> 39,174	10,256	41,388
3523E 96	Attachments for farm transportation equipment .....	14	(X)	<sup>c</sup> 6,274	(X)	8,159
35239 89	Parts for farm transportation equipment, including operator cabs for farm tractors .....	44	(X)	91,675	(X)	76,960
3523E pt.	Irrigation systems .....	21	(X)	<sup>a</sup> 431,168	(X)	340,527
3523E 98	Self-propelled irrigation systems, center-pivot (quantity in ten-tower equivalents) .....	10	<sup>b</sup> 11,186	<sup>a</sup> 388,237	8,876	303,992
3523E 99	All other systems using 100-foot flexible hose feeder line and over .....	12	<sup>a</sup> 5,696	<sup>a</sup> 42,931	<sup>f</sup> 5,342	<sup>f</sup> 36,535
35239 82	Parts for irrigation systems, replacement units only .....	8	(X)	67,992	(X)	56,784

See footnotes at end of table.

Table 2. **Manufacturers' Shipments of Farm Machinery and Lawn and Garden Equipment by Type: 1996 and 1995—Con.**

[Quantity in units. Value in thousands of dollars]

Product code	Product description	Number of companies	1996		1995	
			Quantity	Value	Quantity	Value
3523F —	Commercial turf and grounds care equipment, including parts and attachments. . . . .	(NA)	(X)	1,131,764	(X)	1,120,337
3523F pt.	Commercial turf and grounds mowing equipment. . . . .	45	(X)	896,736	(X)	896,673
3523F 01	Powered nonriding mowers . . . . .	20	83,663	115,216	64,005	96,999
3523F 03	Riding reel-type turf mowers, including greens mowers. . .	10	16,839	188,362	16,833	178,428
3523F 07	Riding rotary turf mowers. . . . .	21	49,347	361,830	50,939	323,926
3523F 09	Gang rotary cutting units, reel and rotary, individual sections . . . . .	9	(D)	(D)	45,332	<sup>r</sup> 65,104
3523F 11	Flail mower cutting units, including gang . . . . .	5	(D)	(D)	<sup>r</sup> 2,067	<sup>r</sup> 11,529
3523F 13	Other mowing equipment . . . . .	6	8,058	17,075	35,527	47,474
3523F 17	Parts for commercial turf and grounds mowing equipment . . . . .	34	(X)	101,907	(X)	126,356
3523F 19	Attachments for commercial turf and grounds mowing equipment . . . . .	18	(X)	39,107	(X)	46,857
3523F pt.	Other commercial turf and grounds care equipment. . . . .	49	(X)	235,028	(X)	223,664
3523F 23	Sod cutters and sod harvesters . . . . .	3	3,215	10,670	2,837	9,987
3523F 25	Seeders, spreaders, and top dresser attachments . . . . .	9	<sup>b</sup> 37,013	<sup>a</sup> 16,737	<sup>r</sup> 35,939	<sup>r</sup> <sup>a</sup> 17,064
3523F 27	Aerators, spikers, and pluggers . . . . .	14	<sup>a</sup> 12,256	27,885	10,353	31,806
3523F 29	Dethatchers. . . . .	13	<sup>c</sup> 6,120	<sup>b</sup> 4,987	6,810	5,280
3523F 31	Power brooms, blowers, vacuums, and sweepers . . . . .	14	<sup>c</sup> 23,987	<sup>b</sup> 21,976	23,050	21,572
3523F 33	Irrigation systems (except agricultural and residential). . . . .	5	637,579	24,048	614,990	21,945
3523F 36	Other commercial turf and grounds care equipment, including trap rakes, transport trailers, and turf tractors and trucks . . . . .	26	<sup>e</sup> 52,035	<sup>a</sup> 90,513	48,302	79,666
3523F 41	Parts for other commercial turf and ground care equipment. . . . .	22	(X)	<sup>a</sup> 17,542	(X)	20,770
3523F 43	Attachments for other commercial turf and ground care equipment. . . . .	15	(X)	20,670	(X)	15,574
3524 —	Lawn and garden equipment. . . . .	(NA)	(X)	5,790,556	(X)	5,969,224
35241 —	Consumer nonriding lawn, garden, and snow equipment . . . . .	51	22,874,461	2,674,085	26,124,163	2,748,025
	Lawnmowers:					
35241 02	Push-type: reel (powered and nonpowered) and rotary-gas powered . . . . .	20	4,250,617	563,579	4,089,508	540,968
35241 12	Rotary, self-propelled, gas-powered. . . . .	20	1,892,411	500,867	1,901,676	491,965
35241 15	Electric, all types, including battery-powered . . . . .	2	(D)	(D)	(D)	(D)
35241 20	Rotary garden motor tillers. . . . .	12	380,845	163,650	463,997	189,898
35241 30	2-wheel tractors walking type (except rotary tillers) . . . . .	3	(D)	(D)	(D)	(D)
	Snow throwers (snow blowers) (except attachment-type):					
35241 41	Single stage . . . . .	5	344,796	112,933	<sup>a</sup> 494,251	114,096
35241 42	Dual stage. . . . .	10	611,992	366,636	778,331	329,586
	Powered lawn edgers/trimmers:					
35241 50	Fixed blade . . . . .	13	621,147	71,092	867,065	69,917
35241 52	Other than fixed blades . . . . .	9	8,261,346	524,364	9,598,482	508,096
35241 61	Shredders and shredder-grinders. . . . .	7	(D)	(D)	(D)	(D)
35241 63	Yard vacuums and blowers . . . . .	13	2,628,200	197,403	<sup>a</sup> 3,693,621	280,683
35241 91	Other consumer nonriding lawn, garden, and snow equipment . . . . .	15	3,746,419	120,763	4,012,098	143,340
35244 —	Consumer riding lawn, garden, and snow equipment . . . . .	24	1,795,211	2,362,730	1,780,664	2,359,351
	Lawn tractors and riding mowers, front engine:					
35244 03	Under 10.0 hp (under 7.5 kW) . . . . .	3	(D)	(D)	(D)	(D)
35244 07	10.0 hp and over (7.5 kW and over) . . . . .	11	1,481,684	1,629,366	1,465,098	1,607,803
	Lawn tractors and riding mowers, rear engine:					
35244 09	Under 10.0 hp (under 7.5 kW) . . . . .	9	66,653	70,455	54,297	53,747
35244 11	10.0 hp and over (7.5 kW and over) . . . . .	15	99,147	131,948	92,452	138,989
	Garden tractors:					
35244 13	Under 16.0 hp (under 12.0 kW) . . . . .	6	5,760	16,673	7,988	23,242
35244 17	16.0 hp to 19.9 hp (12.0 kW to 14.9 kW) . . . . .	7	93,787	284,681	112,034	319,555
35244 19	20.0 hp and over (15.0 kW and over) . . . . .	10	39,216	214,039	41,077	205,038
35244 31	Other consumer riding lawn, garden, and snow equipment . . . . .	4	(D)	(D)	(D)	(D)

See footnotes at end of table.

Table 2. **Manufacturers' Shipments of Farm Machinery and Lawn and Garden Equipment by Type: 1996 and 1995—Con.**

[Quantity in units. Value in thousands of dollars]

Product code	Product description	Number of companies	1996		1995	
			Quantity	Value	Quantity	Value
3524 —	Lawn and garden equipment .....	(NA)	(X)	5,790,556	(X)	5,969,224
35246 —	Parts and attachments for consumer lawn, garden, and snow equipment .....	(NA)	(X)	753,741	(X)	861,848
	Nonriding:					
35246 03	Parts .....	33	(X)	175,157	(X)	147,020
35246 05	Attachments .....	18	(X)	82,540	(X)	<sup>r</sup> 199,878
	Riding:					
	Parts:					
35246 11	For tractors and riding mowers .....	24	(X)	232,070	(X)	257,170
35246 13	For other equipment .....	7	(X)	8,482	(X)	8,190
	Attachments:					
35246 15	Rotary mower decks .....	12	(X)	81,211	(X)	84,812
35246 17	Rotary tiller attachments .....	9	(X)	6,380	(X)	7,559
35246 19	Blades, dozer .....	10	(X)	17,493	(X)	16,925
35246 21	Snow throwers .....	8	(X)	20,185	(X)	21,070
35246 23	Carts and wagons .....	10	(X)	22,583	(X)	<sup>a</sup> 22,112
35246 25	All other attachments .....	26	(X)	107,640	(X)	97,112

D Withheld to avoid disclosing data for individual companies. NA Not available. pt. Part. <sup>r</sup>Revised by 5 percent or more from previously published data. X Not applicable.

Note: Percent of estimation of each item is indicated as follows: <sup>a</sup>10 to 25 percent of this item is estimated. <sup>b</sup>25 to 50 percent of this item is estimated. <sup>c</sup>Over 50 percent of this item is estimated.

Table 3. **Shipments, Exports, and Imports of Farm Machinery and Equipment: 1996 and 1995**

[Quantity in units. Value in thousands of dollars]

Product description	Manufacturers' shipments		Exports of domestic merchandise <sup>1</sup>		Imports for consumption <sup>2</sup>		Apparent consumption	
	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
<b>1996</b>								
Farm-type wheel tractors .....	(D)	(D)	43,059	1,000,089	89,120	1,309,552	(D)	(D)
Farm dairy mechanical installations, including milking machine vacuum pumping outfits .....	(D)	(D)	2,620	8,362	12,407	6,830	(D)	(D)
Sprayers and dusters (except aerial types) .....	(X)	562,899	(NA)	126,838	(NA)	29,549	(NA)	465,610
Planting machinery and fertilizer distributors, pull-type or mounted .....	(X)	693,423	29,866	108,529	163,442	81,321	(NA)	666,215
Disc harrows .....	10,233	68,805	2,506	13,047	61,564	26,858	69,291	82,616
Other harrows, rollers, pulverizers, and similar equipment .....	102,958	105,360	8,291	10,577	18,131	7,179	112,798	101,962
Combines .....	(D)	(D)	6,529	524,301	2,077	20,384	(D)	(D)
Other harvesting machines .....	(D)	(D)	4,499	87,572	4,644	39,477	(D)	(D)
Field forage harvesters .....	1,755	27,706	1,057	14,094	276	17,700	974	31,312
Hay mowers, mower-conditioners, and windrowers .....	162,722	373,098	15,813	41,567	34,211	66,408	181,120	397,939
Other haymaking machines .....	(X)	61,505	2,320	28,714	10,474	11,943	(NA)	44,734
Balers, including pickup balers .....	21,241	315,742	5,088	70,000	1,403	8,162	17,556	253,904
Plows .....	(X)	97,161	2,846	11,850	7,382	11,896	(NA)	97,207
Cultivators and weeders .....	18,896	111,033	32,701	22,192	49,208	73,925	35,403	162,766
Machinery for preparing animal feed .....	5,560	80,101	6,149	46,247	28,135	9,675	27,546	43,529

See footnotes at end of table.



Table 3. Shipments, Exports, and Imports of Farm Machinery and Equipment: 1996 and 1995—Con.

[Quantity in units. Value in thousands of dollars]

Product description	Manufacturers' shipments		Exports of domestic merchandise <sup>1</sup>		Imports for consumption <sup>2</sup>		Apparent consumption	
	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
<b>1996—Con.</b>								
Other machines for preparing crops for market or for use .....	47,015	169,202	5,577	23,433	3,089	5,795	44,527	151,564
Farm poultry incubators and brooders ..	(D)	(D)	23,378	26,470	80,437	8,163	(D)	(D)
Nests and cages (poultry equipment) ...	(X)	28,029	204,060	88,997	5,121	7,265	(NA)	(NA)
Other barn and barnyard equipment....	(D)	(D)	13,931	8,758	27,150	3,463	(D)	(D)
Self-propelled irrigation systems, center-pivot .....	11,186	388,237	1,729	48,209	37	57	9,494	340,085
All other self-propelled irrigation systems using 100-foot flexible hose feeder line and over .....	5,696	42,931	(NA)	148,478	(NA)	16,136	(NA)	(NA)
Farm wagons and other farm transportation equipment.....	51,250	180,326	-	-	32,638	5,471	83,888	185,797
Riding turf mowers and flail and gang mowers .....	113,333	623,431	28,076	89,280	8,623	5,021	93,880	539,172
Mowers for lawns, parks, or sports grounds and other commercial and turf grounds mowers .....	5,992,439	2,531,726	860,893	381,947	160,971	42,380	5,292,517	2,192,159
Snowblowers (snowthrowers).....	956,788	479,569	22,854	15,620	64,841	42,317	998,775	506,266
Powered lawn and hedge trimmers.....	8,882,493	595,456	1,296,420	87,258	1,803,875	82,549	9,389,948	590,747
<b>1995</b>								
Farm-type wheel tractors.....	(D)	(D)	40,470	823,754	100,246	1,459,598	(D)	(D)
Farm dairy mechanical installations, including milking machine vacuum pumping outfits .....	(D)	(D)	2,016	6,886	11,496	4,826	(D)	(D)
Sprayers and dusters (except aerial types) .....	(X)	496,309	(NA)	123,655	(NA)	23,734	(NA)	396,388
Planting machinery and fertilizer distributors, pull-type or mounted .....	(X)	701,700	17,362	61,771	116,005	61,655	(NA)	701,584
Disc harrows .....	18,009	57,287	1,702	8,951	66,682	26,356	82,989	74,692
Other harrows, rollers, pulverizers, and similar equipment .....	96,520	100,327	6,010	7,755	11,896	5,286	102,406	97,858
Combines .....	(D)	(D)	4,232	326,743	554	27,935	(D)	(D)
Other harvesting machines.....	(D)	(D)	2,987	63,149	9,884	38,736	(D)	(D)
Field forage harvesters .....	2,118	38,993	983	15,826	204	13,402	1,339	36,569
Hay mowers, mower-conditioners, and windrowers.....	135,323	394,337	19,968	51,070	39,896	74,531	155,251	417,798
Other haymaking machines .....	(X)	60,330	2,942	32,012	15,867	21,988	(NA)	50,306
Balers, including pickup balers.....	24,098	331,114	5,280	67,816	882	7,711	19,700	271,009
Plows.....	(X)	81,648	3,149	8,748	7,857	11,811	(NA)	84,711
Cultivators and weeders .....	18,159	105,892	35,020	19,219	36,237	61,386	19,376	148,059
Machinery for preparing animal feed....	5,810	75,554	4,730	33,415	15,069	9,344	16,149	51,483
Other machines for preparing crops for market or for use .....	49,771	151,559	3,201	16,196	3,445	4,077	50,015	139,440
Farm poultry incubators and brooders ..	(D)	(D)	44,284	31,300	71,847	8,809	(D)	(D)
Nests and cages (poultry equipment) ...	(X)	27,603	231,573	72,307	3,036	4,309	(NA)	(NA)
Other barn and barnyard equipment....	(D)	(D)	11,866	7,055	17,213	2,893	(D)	(D)
Self-propelled irrigation systems, center-pivot .....	8,876	303,992	1,153	24,677	9	105	7,732	279,420
All other self-propelled irrigation systems using 100-foot flexible hose feeder line and over .....	5,342	36,535	(NA)	129,521	(NA)	12,223	(NA)	(NA)
Farm wagons and other farm transportation equipment.....	(D)	(D)	-	-	36,163	4,823	(D)	(D)

See footnotes at end of table.

Table 3. **Shipments, Exports, and Imports of Farm Machinery and Equipment: 1996 and 1995—Con.**

[Quantity in units. Value in thousands of dollars]

Product description	Manufacturers' shipments		Exports of domestic merchandise <sup>1</sup>		Imports for consumption <sup>2</sup>		Apparent consumption	
	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
Riding turf mowers and flail and gang mowers . . . . .	115,171	578,987	24,090	73,280	857	4,131	91,938	509,838
Mowers for lawns, parks, or sports grounds and other commercial and turf grounds mowers . . . . .	5,803,372	2,487,761	1,022,980	441,638	118,217	18,114	4,898,609	2,064,237
Snowblowers (snowthrowers) . . . . .	1,272,582	443,682	20,075	12,095	74,223	41,600	1,326,730	473,187
Powered lawn and hedge trimmers . . . . .	10,465,547	578,013	1,377,914	91,325	455,022	58,422	9,542,655	545,110

- Represents zero. D Withheld to avoid disclosing data for individual companies. NA Not available. 'Revised by 5 percent or more from previously published data. X Not applicable.

<sup>1</sup>Source: Bureau of the Census report EM 545, *U.S. Exports*.

<sup>2</sup>Source: Bureau of the Census report IM 145, *U.S. Imports for Consumption*.

Note: For comparison of SIC-based codes with Schedule B export numbers and HTSUSA import numbers, see "Contact for Data Users" at end of this subsection.

## HISTORICAL NOTE

Data on farm machinery and equipment have been collected by the Bureau of the Census since 1920; data on lawn and garden equipment since 1978. Historical data may be obtained from Current Industrial Reports (called Facts for Industry before 1959) available at your local Federal Depository Library. Historical data are also

available on microfiche; contact Customer Services, 301-457-4100.

## CONTACT FOR DATA USERS

For additional information about these data, contact Brian Appert, 301-457-4748.

## CONSTRUCTION MACHINERY (MA35D)

### INTRODUCTION

These data cover firms engaged in the manufacture of selected types of construction machinery. Very small firms (generally less than five employees) for which 1992 Census of Manufactures data were derived from administrative records of other government agencies are excluded. The statistics were collected by mail on Bureau of the Census annual Form MA35D, Construction Machinery. The survey panel includes all known producers of these types of products covered on the survey, except the very small firms excluded from the scope of the survey. Approximately 260 companies are included. No estimate is derived for the small firms excluded from the survey.

### SUMMARY OF FINDINGS

Shipments of the types of construction machinery included in this report, except rollers and compactors, aerial work platforms, and machinery for mounting on tractors and other prime movers, totaled \$11.9 billion, a 9-percent increase from the 1995 total of \$10.9 billion. Shipments of power cranes, excavators, draglines, and shovels in 1996 totaled \$2,719.5 million, an increase of 6 percent from the 1995 shipments of \$2,561.4 million. The 1996 shipments of mixers, pavers, and related equipment totaled \$1,146.5 million, a decrease of 2 percent from the 1995 total of \$1,168.8 million.

The 1996 shipments of off-highway trucks, trailers, and wagons totaled \$1,632.6 million, an increase of 23 percent from the 1995 total of \$1,326.9 million. The 1996 shipments of tractor shovel loaders totaled \$3,340.1 million, an increase of 10 percent from the 1995 total of \$3,041.8 million. Shipments of crawler tractors, contractors' off-highway-type wheel tractors, dozers, and self-propelled wheeled log skidders in 1996 totaled \$1,690.8 million, an increase of 6 percent from the 1995 shipments of \$1,597.4 million.

Shipments of motor graders and light maintainers in 1996 totaled \$588.4 million, an increase of 23 percent from the 1995 shipments of \$479.9 million. The 1996 shipments of rough-terrain forklifts totaled \$412.3 million, an increase of 16 percent from the 1995 total of \$355.4 million. Shipments of scraper bowls in 1996 totaled \$121.5 million, a decrease of 15 percent from the 1995 shipments of \$142.2 million. The 1996 shipments of self-propelled continuous ditchers and trenchers totaled \$209.1 million, an increase of 8 percent from the 1995 shipments of \$193.5 million.

Shipments of aerial work platforms in 1996 totaled more than \$1.4 billion. The actual estimate is suppressed due to confidentiality but represents an increase of more than 25 percent from the 1995 shipments of \$1,131.1 million. Data for shipments of other products were not published due to confidentiality and revised historic data.

### EXPLANATION OF TERMS

**Wheel tractors, contractors' off-highway type.** Wheel tractors designed primarily to be used as towing units for scrapers, trailers, wagons, and similar types of towed equipment for use on natural terrain. These units may be 2- or 4-wheel type.

**Loaders.** Wheel type, front-end load, integral design, rear engine mount. Complete machines originally conceived and designed as heavy duty, wheel type, front-end loaders, and not as wheel tractors, to receive shovel loading attachments.

**Off-highway vehicles.** Vehicles designed for operation off public highways to transport materials or equipment on mining, construction, logging, petroleum development, and similar project sites. (Vehicles which provide similar functions on smooth surfaces in and around warehouses, depots, and terminals are excluded from this survey.)

**Excavator.** A commercial earth-moving machine equipped with a bucket-mounted front-end attachment mounted on a 360-degree revolving superstructure.

**Crane.** A machine having a front-end lifting attachment and operating machinery mounted on a revolving superstructure.

**Cable-operated.** A machine with front-end attachment functions performed by wire rope.

**Hydraulic excavator.** A machine with front-end attachment functions performed hydraulically.

**Crawler mounted.** A machine with two parallel continuous crawlers or tread belts.

**Truck-mounted (rubber).** A machine that generally has two engines, one to propel the carrier and another to power the work functions. A truck- or carrier-mounted machine has two operator stations and is designed for on- and off-highway travel.

**Self-propelled (rubber).** A machine which has only one engine and one operator station. The engine may be mounted in either the upper or lower works.

**Net engine horsepower (nehp).** Net flywheel performance as measured by manufacturer, with all standard accessories installed, operated, and corrected to 29.38 inches mercury (Hg) and temperature of 85 degrees Fahrenheit.

**Hydraulic crane.** A crane with 360-degree rotation on which the boom is designed primarily for lifting the load by wire rope and can be extended, retracted, raised, and lowered hydraulically.

**Pinned-on telescopic crane.** A hydraulically powered multipurpose rotating crane with fixed or telescoping booms designed to lift and place materials by winch and load line and which is mounted onto a commercially available vehicle having a platform or body.

**Pinned-on articulated crane.** A stationary or vehicle-mounted hydraulically powered multipurpose knuckle boom crane consisting of an inner and outer boom that can fold to a stowable position. Excluded are those machines commonly known as knuckle boom loaders.

**Unmounted cranes.** These cranes are classified under "Construction machinery for mounting."

**ABBREVIATIONS AND METRIC EQUIVALENTS**

- hp horsepower = .7457 kilowatts (kW)
- yd<sup>3</sup> cubic yard = .7646 cubic meters (m<sup>3</sup>)
- kg kilogram = 2.205 pounds (lb)
- ft feet = .305 meters (m)
- st short ton = .907 metric tons
- nehp net engine horsepower
- tph tons per hour
- lb pounds

**Table 4. Value of Shipments of Construction Machinery: 1992 to 1996**

[Millions of dollars]

Product description	1996	1995	1994	1993	1992
Power cranes, draglines, and excavators, including surface mining equipment, and attachments . . . . .	2,719.5	2,561.4	2,252.5	1,719.4	1,582.3
Mixers, pavers, and related equipment . . . . .	1,146.5	1,168.8	1,079.8	877.1	635.8
Off-highway trucks, truck-type trailer chassis, trailers, coal haulers, wagons . . . . .	1,632.6	1,326.9	961.9	876.1	706.9
Track shovel loaders . . . . .	3,340.1	3,041.8	2,632.6	2,354.4	1,833.1
Crawler tractors, contractors' off-highway type wheel tractors, dozers, and self-propelled wheeled log skidders . . . . .	1,690.8	<sup>r</sup> 1,597.4	(D)	(D)	1,099.5
Motor graders and light maintainers . . . . .	588.4	<sup>r</sup> 479.9	445.2	(D)	(D)
Rollers and compactors . . . . .	438.4	<sup>r</sup> (S)	361.3	303.2	240.5
Rough-terrain forklifts . . . . .	412.3	355.4	270.9	201.9	177.5
Scraper bowls . . . . .	121.5	<sup>r</sup> 142.2	124.9	(D)	(D)
Self-propelled ditchers and trenchers (integral units) . . .	209.1	193.5	174.0	143.6	124.1
Construction machinery for mounting on trucks, tractors, etc. . . . .	(X)	<sup>r</sup> (X)	286.6	249.8	256.1
Construction machinery (except winches and other materials-handling equipment) for mounting on trucks, tractors, etc. . . . .	(D)	<sup>r</sup> (D)	(X)	(X)	(X)
Winches and other materials-handling equipment, for mounting on construction machinery . . . . .	(D)	<sup>r</sup> (D)	(X)	(X)	(X)
Aerial work platforms . . . . .	(D)	1,131.1	844.9	637.4	590.3

D Withheld to avoid disclosing data for individual companies.      <sup>r</sup>Revised by 5 percent or more from previously published data.      S Does not meet publication standards.      X Not applicable.

Table 5. Quantity and Value of Shipments of Selected Types of Construction Machinery: 1996 and 1995

[Quantity in number of units. Value in thousands of dollars]

Product code	Product description	Number of companies	1996		1995	
			Quantity	Value	Quantity	Value
3531E —	Power cranes, draglines, and excavators, including surface mining equipment, and attachments . . . . .	(X)	75,560	2,719,544	67,188	2,561,359
	Hydraulic operated excavators:					
	Crawler mounted, rated size in metric tons:					
3531E 05	Not more than 24 metric tons . . . . .	9	10,029	862,353	9,837	827,514
3531E 06	More than 24 but not more than 40 metric tons . . .	6	1,978	249,436	1,474	206,850
3531E 07	More than 40 metric tons . . . . .	6	945	359,705	1,020	343,928
3531E 19	Wheel (rubber) mounted, all sizes . . . . .	3	(D)	(D)	(D)	(D)
	Cranes, lattice boom:					
	Crawler mounted, maximum working load:					
3531E 22	Not more than 110 metric tons . . . . .	4	17	8,313	†(D)	†(D)
3531E 24	More than 110 metric tons . . . . .	3	(D)	(D)	†(D)	†(D)
3531E 35	Wheel (rubber) mounted . . . . .	4	39	29,701	†34	†25,810
	Cranes, hydraulic operated, telescopic boom:					
	Wheel cranes (integral), multiple control stations (rubber mounted), maximum working load of: <sup>1</sup>					
3531E 51	Not more than 20 tons . . . . .	(X)	(X)	(X)	2,169	158,399
3531E 52	More than 20 but not more than 30 tons . . . . .	(X)	(X)	(X)	299	†29,763
3531E 53	More than 30 but not more than 55 tons . . . . .	(X)	(X)	(X)	139	36,082
3531E 54	More than 55 tons . . . . .	(X)	(X)	(X)	116	52,391
	Wheel cranes (integral), multiple control stations (rubber mounted), maximum working load of: <sup>1</sup>					
3531E 42	Not more than 18 metric tons . . . . .	6	2,012	167,469	(X)	(X)
3531E 44	More than 18 but not more than 27 metric tons . . .	5	373	31,915	(X)	(X)
3531E 46	More than 27 but not more than 50 metric tons <sup>2</sup> . .	6	(D)	(D)	(X)	(X)
3531E 48	More than 50 metric tons <sup>2</sup> . . . . .	3	(D)	(D)	(X)	(X)
3531E 57	Pinned on type, telescopic and articulated . . . . .	5	1,845	74,318	2,180	81,608
	Wheel cranes, one control station (self-propelled, rubber mounted), maximum working load of: <sup>1</sup>					
3531E 68	Not more than 18 tons . . . . .	(X)	(X)	(X)	998	59,652
3531E 65	More than 18 tons but not more than 25 tons . . . .	(X)	(X)	(X)	101	14,481
3531E 66	More than 25 tons . . . . .	(X)	(X)	(X)	702	174,704
	Wheel cranes, one control station (self-propelled, rubber mounted), maximum working load of: <sup>1</sup>					
3531E 61	Not more than 16 metric tons . . . . .	7	1,090	69,240	(X)	(X)
3531E 64	More than 16 metric tons but more than 22.7 metric tons . . . . .	5	125	19,583	(X)	(X)
3531E 67	More than 22.7 metric tons . . . . .	4	759	201,455	(X)	(X)
	All-terrain cranes, maximum work loads of:					
3531E 72	Not more than 20 metric tons . . . . .	2	(D)	(D)	†(D)	†(D)
3531E 74	More than 20 metric tons but not more than 35 metric tons . . . . .	(S)	(S)	(S)	†(S)	†(S)
3531E 76	More than 35 metric tons but not more than 110 metric tons . . . . .	(S)	(S)	(S)	†(S)	†(S)
3531E 78	More than 110 metric tons . . . . .	(S)	(S)	(S)	†(S)	†(S)
	Other cranes and excavators:					
3531E 84	Pedestal or shipmounted marine cranes . . . . .	8	81	15,532	91	19,844
3531E 89	All other cranes, excavators, and draglines, n.e.c. . . .	8	791	168,868	†(D)	†(D)
3531E 00	Cranes, excavators, and draglines, n.s.k. <sup>3</sup> . . . . .	3	1,381	27,100	(X)	(X)
	Attachments for power cranes, draglines, and excavators, sold separately:					
3531E 94	Hoe . . . . .	6	13,740	29,839	14,233	31,348
3531E 95	Dragline buckets, all sizes . . . . .	6	94	8,028	†83	†10,105
3531E 97	Clamshell/grapple . . . . .	7	593	14,758	570	†14,358
3531E 98	All other attachments, n.e.c. . . . .	23	40,152	102,237	28,738	92,334
3531F —	Mixers, pavers, and related equipment . . . . .	(X)	123,201	1,146,472	126,282	1,168,775
	For concrete, plaster, or mortar applications:					
3531F 22	Concrete mixers (except plaster and mortar), portable, including truck or other mixer or agitator, all sizes . . . . .	18	8,402	348,170	(D)	315,160
3531F 31	Plaster and mortar mixers, all sizes . . . . .	8	12,717	26,140	14,104	27,719
3531F 33	Slipform concrete paving machines, including multi-purpose, automated curb and gutter and concrete slipform pavers, up to and including 34-foot wide . . .	10	470	52,415	338	45,556

See footnotes at end of table.

Table 5. Quantity and Value of Shipments of Selected Types of Construction Machinery: 1996 and 1995—Con.

[Quantity in number of units. Value in thousands of dollars]

Product code	Product description	Number of companies	1996		1995	
			Quantity	Value	Quantity	Value
3531F —	Mixers, pavers, and related equipment—Con.					
	For concrete, plaster, or mortar applications—Con.					
3531F 39	Concrete trowels . . . . .	7	12,571	23,785	11,904	20,770
3531F 40	Concrete vibrators (electric motor gasoline engine, structural high-cycle, pneumatic, etc.) . . . . .	10	79,485	39,897	81,174	35,220
3531F 42	Concrete screeds (hand-propelled or winch type) . . . . .	6	2,374	5,441	3,067	5,946
3531F 43	Concrete batching plants, bin and batch for concrete aggregate only, and bulk cement . . . . .	16	559	66,997	531	62,782
3531F 50	Concrete pumps, mobile . . . . .	4	(D)	(D)	(D)	(D)
3531F 56	Other concrete, plaster, and mortar mixing and paving machinery . . . . .	4	(D)	(D)	'(D)	'(D)
	For asphalt or bituminous applications:					
3531F 66	Bituminous distributors . . . . .	8	612	21,475	'626	'32,150
	Bituminous pavers, self-propelled:					
3531F 71	21,999 lb gross weight and under (basic unit) . . . . .	9	1,053	48,195	846	'41,397
3531F 75	22,000 lb gross weight and over (basic unit) . . . . .	6	767	123,647	'796	'135,616
	Asphalt plants, including cold mix central plants:					
3531F 82	Less than 7,500 lb (239 tph) . . . . .	4	30	18,914	40	36,288
3531F 84	7,500 lb and over (240 tph and over) . . . . .	5	104	135,377	109	139,025
3531F 85	Bituminous stabilization mixing equipment, including central mixing plants and mix-in-place . . . . .	5	181	45,602	249	58,635
3531F 89	Bituminous cold planers/milling machines (self-propelled) . . . . .	4	75	24,399	111	34,915
3531F 91	Other asphalt and bituminous mixing and paving machinery . . . . .	11	907	15,725	'(D)	'(D)
3531F 95	Other products, for use in either concrete or bituminous applications . . . . .	4	(D)	4,971	'(D)	'(D)
3531G pt.	Off-highway trucks, truck-type tractor chassis, trailers, or wagons . . . . .	(X)	4,801	1,632,585	5,042	1,326,855
3531G 71	Off-highway rear dump haulers . . . . .	7	2,636	1,489,733	(D)	1,181,171
3531G 76	Other . . . . .	13	2,165	142,852	(D)	145,684
3531C —	Tractor shovel loaders . . . . .	(X)	86,629	3,340,124	85,798	3,041
3531C 60	Skid steer loaders, 4-wheel drive skid steer, all sizes . . . . .	7	53,952	840,304	51,244	745,520
	Wheel loaders, rear engine mount, integral design, 4-wheel drive, nonskid steer:					
3531C 71	Under 79 nehp . . . . .	3	(D)	(D)	(D)	(D)
3531C 72	80 through 149 nehp . . . . .	7	5,017	376,701	5,108	376,878
3531C 73	150 through 249 nehp . . . . .	8	3,550	513,497	4,093	496,069
3531C 74	250 nehp and over . . . . .	7	1,862	782,589	2,032	656,788
3531C 82	Crawler loaders . . . . .	1	(D)	(D)	(D)	(D)
3531C 95	Integral design tractor shovel loader/backhoes (wheel tractor-chassis shipped as part of front engine mount contractor tractor) . . . . .	6	21,502	797,644	22,326	727,087
35315 —	Crawler tractors, contractors' off-highway -type wheel tractors, dozers, and self-propelled wheeled log skidders . . . . .	(X)	11,937	1,690,802	'12,111	'1,597,369
35315 37	Wheeled log skidders, self-propelled . . . . .	7	3,086	326,764	2,549	254,743
35315 99	Crawler tractors (except crawler loaders) and tracklaying and other contractors' off-highway-type wheel tractors and dozers . . . . .	12	8,851	1,364,038	'9,562	'1,342,626
3531G pt.	Motor graders and light maintainers . . . . .	(X)	3,762	588,373	'3,766	479,924
3531G 11	Under 144 nehp . . . . .	6	(D)	(D)	'1,338	138,321
3531G 17	145 nehp and over . . . . .	3	(D)	(D)	'2,428	341,603
3531G pt.	Rollers and compactors . . . . .	(X)	7,847	438,414	'(S)	'(S)
	Static smooth steel wheel rollers, tandem:					
3531G 21	Under 3 metric tons . . . . .	5	1,152	11,866	1,132	9,529
3531G 23	At least 3 but less than 5.5 metric tons <sup>4</sup> . . . . .	2	(D)	(D)	(D)	(D)
3531G 26	5.5 metric tons and over <sup>4</sup> . . . . .	5	116	4,919	(D)	(D)
3531G 32	Pneumatic tire rollers . . . . .	6	406	16,261	415	16,305
	Vibratory single drum with one or two drive wheels:					
3531G 37	Under 5 metric tons . . . . .	6	923	28,893	947	25,750
3531G 39	At least 5 but less than 8 metric tons . . . . .	4	961	57,083	807	47,469
3531G 42	8 metric tons and over . . . . .	4	(D)	(D)	'(D)	'(D)
	Vibratory double drum, two drums vibrating:					
3531G 46	Under 5 metric tons . . . . .	4	(D)	(D)	(D)	(D)
3531G 49	At least 5 but less than 8 metric tons . . . . .	3	(D)	(D)	(D)	(D)
3531G 52	8 metric tons and over . . . . .	3	(D)	(D)	(D)	(D)

See footnotes at end of table.

Table 5. Quantity and Value of Shipments of Selected Types of Construction Machinery: 1996 and 1995—Con.

[Quantity in number of units. Value in thousands of dollars]

Product code	Product description	Number of companies	1996		1995	
			Quantity	Value	Quantity	Value
3531G pt 3531G 56	Rollers and compactors—Con. All other compaction equipment (except handheld); including, embankment and landfill compactors, towed roller and double drum compactors with one drum vibrating .....	3	(D)	(D)	(D)	(D)
3531G pt. 3531G 81	Rough terrain forklifts (integral units only) .....	(X)	6,803	412,330	6,288	355,386
3531G 83	Vertical mast, 2-wheel drive .....	9	2,604	152,943	2,913	156,029
3531G 85	Vertical mast, 4-wheel drive .....	7	294	8,911	253	7,153
3531G 02	Telescopic handlers, 2- and 4-wheel drive .....	5	3,905	250,476	3,122	192,204
3531G 02	Scraper bowls .....	4	2,013	121,467	<sup>r</sup> 2,100	<sup>r</sup> 142,243
3531J —	Ditchers and trenchers, self-propelled (integral units only) .....	(X)	10,098	209,120	9,410	193,528
	Ladder-type digging element:					
3531J 14	Under 2,000 lb gross weight .....	4	(D)	(D)	(D)	(D)
3531J 15	2,000 to 4,999 lb gross weight .....	4	(D)	50,607	(D)	51,948
3531J 16	5,000 lb gross weight and over .....	4	3,728	127,901	2,620	110,318
3531J 18	Wheel-type digging element .....	3	(D)	(D)	(D)	(D)
3531Q —	Construction machinery for mounting on trucks, tractors, and other prime movers (except winches, hoists, and other materials-handling equipment) .....	(X)	54,020	228,887	<sup>r</sup> (D)	<sup>r</sup> (D)
3531Q 12	Backhoes, either shipped for mounting separately or already mounted on an integral unit .....	9	13,448	87,448	13,793	80,187
3531Q 99	All other construction machinery for mounting, including sidebooms, pipehandlers, dozers, front-end loaders, shovel loaders, logging arches, rippers, rooters, continuous ditching and trenching attachments, forklift attachments, cranes, cable power control units, hydraulic power control units, etc. ....	29	40,572	141,439	<sup>r</sup> (D)	<sup>r</sup> (D)
3531W pt. 3531W 90	Winches and materials-handling equipment for mounting. Winches (towing, logging, and oil field types) .....	(X)	(D)	(D)	<sup>r</sup> (D)	<sup>r</sup> (D)
3531W 99	Other equipment .....	7	(D)	91,069	(D)	87,420
		2	(D)	(D)	<sup>r</sup> (D)	<sup>r</sup> (D)
3531W pt. 3531W 81	Aerial work platforms .....	(X)	(D)	(D)	60,761	1,131,112
3531W 83	Boom type, self-propelled .....	8	13,763	714,362	9,692	485,842
3531W 85	Scissors type, self-propelled .....	11	24,927	365,192	(D)	(D)
3531W 87	Not self-propelled, boom and scissors type .....	6	(D)	(D)	(D)	(D)
	Truck mounted .....	13	10,965	339,144	9,621	284,278

D Withheld to avoid disclosing data for individual companies. n.e.c. Not elsewhere classified. neh Net engine horsepower. <sup>r</sup>Revised by 5 percent or more from previously published data. S Does not meet publication standards. tph tons per hour. X Not applicable.

<sup>1</sup>Seven categories of hydraulic-operated, telescopic boom cranes, which had been designated with English system weight criteria for 1995 and earlier, were replaced for 1996 by nearly equivalent categories designated with metric system criteria. Working load correspondences are, in metric tons to English tons (or short tons): 18:00 to 19.84, 27.00 to 29.76, 50.00 to 55.12, 16.00 to 17.64, and 22.70 to 25.02.

<sup>2</sup>For 1996, quantity and value for product codes 3531E 46 and 3531E 48 are 323 and 121,618 respectively.

<sup>3</sup>For 1996, several new categories were created from one former category of "All other" products in product class 3531E. Estimates for three companies did not meet publication standards for any of the resulting categories and are placed in product code 3531E 00.

<sup>4</sup>For 1995, quantity and value for product codes 3531G 23 and 3531G 26 are 366 and 11,582 respectively.

Table 6. Shipments, Exports, and Imports of Construction Machinery: 1996 and 1995

[Quantity in units. Value in thousands of dollars]

Product description <sup>1</sup>	Manufacturers' shipments		Export shipments <sup>2</sup>		Imports for consumption <sup>3</sup>	
	Quantity	Value <sup>1</sup>	Quantity	Value as reported	Quantity	Value <sup>4</sup>
<b>1996</b>						
Wheel tractors, contractors' off-highway type, 2- and 4-wheel for use on natural terrain.....	(D)	(D)	2,822	47,231	5,375	31,848
Rubber-tired dozers .....	(D)	(D)	303	12,090	32	3,561
Wheeled log skidders, self-propelled.....	3,086	326,764	1,019	61,339	588	59,359
Crawler tractors (except crawler loaders).....	(D)	(D)	1,873	337,147	4,541	296,965
Wheel loaders, rear engine mount, integral design 4-wheel drive, nonskid steer .....	(D)	(D)	15,355	584,447	4,592	304,415
Skid steer loaders .....	53,952	840,304	1,074	79,176	1,633	64,039
Crawler loaders .....	(D)	(D)	72	4,899	1,156	131,261
Excavators, hydraulic operated, crawler mounted .....	12,952	1,471,494	2,016	246,279	7,025	586,480
Excavators, hydraulic operated, wheel (rubber) mounted .....	(D)	(D)	48	8,181	1,253	110,723
Cranes, lattice boom, wheel (rubber) mounted ...	39	29,701	165	24,427	31	25,875
Cranes, wheel (integral), hydraulic operated, telescopic boom, multiple control stations (rubber mounted), including pinned on type, telescopic and articulated .....	(D)	(D)	513	68,082	157	83,349
Cranes, wheel, hydraulic operated, telescopic boom, one control station (self-propelled, rubber mounted) .....	1,974	290,278	991	102,200	153	20,544
Cranes, pedestal or ship mounted.....	81	15,532	306	7,010	132	25,856
Cranes, other .....	(D)	(D)	691	93,009	378	46,124
Clamshell/grapple attachments.....	593	14,758	3,142	6,102	1,971	5,879
Dragline buckets (attachments) .....	94	8,028	-	-	2,966	784
Concrete mixers.....	8,961	441,307	1,426	15,992	32,371	17,961
Concrete pavers, finishers, and spreaders.....	94,900	121,538	841	20,647	628	3,151
Concrete pumps .....	(D)	(D)	1,617	16,879	7,073	15,572
Bituminous pavers, finishers, and spreaders.....	2,507	217,716	573	27,094	94	537
Asphalt plants and bituminous stabilization mixing equipment .....	315	199,893	368	13,973	37	1,108
Scraper bowls .....	2,013	121,467	140	141	1,058	12,618
Motor graders and light maintainers .....	3,762	588,373	2,114	195,435	474	39,175
Self-propelled vibratory compaction equipment... (integral units), ladder-type digging element ...	(D)	(D)	1,707	65,832	4,358	93,058
Self-propelled static compaction equipment..... (integral units), wheel-type digging element.....	(D)	(D)	489	34,914	424	16,176
Off-highway rear dump haulers, trucks, and truck trailers, including ridged and articulated.....	2,636	1,489,733	3,133	495,297	191	46,806
Off-highway trucks, truck-type tractor chassis, trailers, and wagons .....	2,165	142,852	1,469	251,441	1,345	208,353
Winches for mounting (towing, logging, and oilfield types) .....	(D)	91,069	282,728	70,005	2,106,101	56,776
Backhoes for mounting.....	13,448	87,448	1,688	5,701	2,008	2,069
Other construction machinery for mounting..... (D)	(D)	(D)	29,095	50,774	41,597	60,756
Self-propelled continuous ditchers and trenchers (integral units), ladder-type digging element ...	(D)	(D)	978	13,501	-	-
Self-propelled continuous ditchers and trenchers (integral units), wheel-type digging element.....	(D)	(D)	321	10,220	58	1,731
<b>1995</b>						
Wheel tractors, contractors' off-highway type, 2- and 4-wheel for use on natural terrain.....	(D)	(D)	1,714	51,548	5,312	30,902
Rubber-tired dozers .....	(D)	(D)	270	14,830	69	9,707
Wheeled log skidders, self-propelled.....	2,549	254,743	1,135	71,152	844	69,223
Crawler tractors (except crawler loaders).....	(D)	(D)	2,192	326,359	5,195	356,838
Wheel loaders, rear engine mount, integral design 4-wheel drive, nonskid steer .....	(D)	(D)	15,402	567,546	6,166	348,812
Skid steer loaders .....	51,244	745,520	1,276	86,123	5,311	199,689
Crawler loaders .....	(D)	(D)	77	4,090	1,147	128,767
Excavators, hydraulic operated, crawler mounted .....	12,331	1,378,292	1,960	250,621	7,930	691,143
Excavators, hydraulic operated, wheel (rubber) mounted .....	(D)	(D)	23	2,811	1,336	114,076

See footnotes at end of table.



Table 6. Shipments, Exports, and Imports of Construction Machinery: 1996 and 1995—Con.

[Quantity in units. Value in thousands of dollars]

Product description <sup>1</sup>	Manufacturers' shipments		Export shipments <sup>2</sup>		Imports for consumption <sup>3</sup>	
	Quantity	Value <sup>1</sup>	Quantity	Value as reported	Quantity	Value <sup>4</sup>
<b>1995—Con.</b>						
Cranes, lattice boom, wheel (rubber) mounted . . .	'34	'25,810	106	15,992	63	12,738
Cranes, wheel (integral), hydraulic operated, telescopic boom, multiple control stations (rubber mounted), including pinned on type, telescopic and articulated . . . . .	4,903	358,243	491	65,248	181	61,124
Cranes, wheel, hydraulic operated, telescopic boom, one control station (self-propelled, rubber mounted) . . . . .	1,801	248,837	598	66,696	76	13,152
Cranes, pedestal or ship mounted . . . . .	91	19,844	685	21,447	70	7,505
Cranes, other . . . . .	(D)	(D)	215	54,242	447	44,220
Clamshell/grapple attachments . . . . .	570	'14,358	5,886	11,309	2,731	5,688
Dragline buckets (attachments) . . . . .	'83	'10,105	-	-	179	212
Concrete mixers . . . . .	(D)	405,661	1,997	17,371	29,923	14,580
Concrete pavers, finishers, and spreaders . . . . .	(D)	(D)	758	17,709	370	4,703
Concrete pumps . . . . .	(D)	(D)	1,836	28,765	1,199	13,876
Bituminous pavers, finishers, and spreaders . . . . .	(D)	(D)	368	22,667	181	1,173
Asphalt plants and bituminous stabilization mixing equipment . . . . .	398	233,948	760	30,852	66	1,819
Scraper bowls . . . . .	'2,100	'142,243	65	339	543	12,902
Motor graders and light maintainers . . . . .	'3,766	479,924	1,778	171,729	1,045	82,356
Self-propelled vibratory compaction equipment . . . . .	5,599	331,042	1,679	62,207	6,372	96,255
Self-propelled static compaction equipment . . . . .	1,913	37,416	1,170	46,505	234	8,749
Off-highway rear dump haulers, trucks, and truck trailers, including rigid and articulated . . . . .	(D)	1,181,171	2,501	296,916	188	29,693
Off-highway trucks, truck-type tractor chassis, trailers, and wagons . . . . .	(D)	145,684	1,762	242,315	883	141,384
Winches for mounting (towing, logging, and oil-field types) . . . . .	(D)	87,420	213,374	67,163	1,364,312	44,420
Backhoes for mounting . . . . .	13,793	80,187	1,368	5,219	3,175	2,022
Other construction machinery for mounting . . . . .	(D)	'(D)	27,916	48,748	26,371	56,642
Self-propelled continuous ditchers and trenchers (integral units), ladder-type digging element . . . . .	(D)	(D)	1,088	20,487	1	59
Self-propelled continuous ditchers and trenchers (integral units), wheel-type digging element . . . . .	(D)	(D)	348	6,513	30	1,889

- Represents zero. D Withheld to avoid disclosing data for individual companies. 'Revised by 5 percent or more from previously published data.

<sup>1</sup>Value f.o.b. plant.<sup>2</sup>Source: Bureau of the Census report EM 545, *U.S. Exports*.<sup>3</sup>Source: Bureau of the Census reports IM 145, *U.S. General Imports*, and IM 146, *U.S. Imports for Consumption*.<sup>4</sup>Value represents c.i.f. (cost, insurance, and freight) value at first port of entry in the United States plus import duties.

## HISTORICAL NOTES

Data on construction machinery have been collected by the Bureau of the Census since 1942. Historical data may be obtained from Current Industrial Reports (called Facts for Industry before 1959) available at your local Federal

Depository Library. Historical data are also available on microfiche; contact Customer Services, 301-457-4100.

## CONTACT FOR DATA USERS

For additional information about these data, contact Richard Wiesler, 301-457-4746.

## MINING MACHINERY AND MINERAL PROCESSING EQUIPMENT (MA35F)

### INTRODUCTION

These data cover firms engaged in the manufacture of underground mining machinery; mineral processing equipment; crushing, pulverizing, and screening machinery; portable oil and gas and water drilling rigs; and related mining machinery and equipment, including underground drills and breakers, and mine cars.

The statistics were collected by mail on Bureau of the Census annual Form MA35F, Mining Machinery and Mineral Processing Equipment. The survey panel includes all known manufacturers of mining machinery and mineral processing equipment, approximately 122 companies.

### SUMMARY OF FINDINGS

In 1996, the manufacturers' value of shipments of selected types of mining machinery and related equipment totaled \$1.8 billion, an increase of 7.5 percent from the 1995 figure of \$1.6 billion. The 1996 total included shipments of \$97.0 million of portable crushing, pulverizing, and screening machinery, which was an 0.7-percent increase from the 1995 total of \$96.4 million. Underground mining machinery equipment totaled \$433.6 million in 1996, a 6.4-percent decrease from the 1995 total of \$463.1 million. In 1996, stationary, crushing, pulverizing, and screening machinery totaled \$332.0 million, a 12.4-percent increase from the \$295.3 million reported in 1995. Drills and other mining machinery totaled \$445.6 million in 1996, a 16.7-percent increase from the \$381.8 million reported in 1995. Portable drilling rigs totaled \$443.0 million in 1996, a 12.8-percent increase from the \$392.6 million reported in 1995.

### EXPLANATION OF TERMS

**Mining machinery.** Heavy machinery and equipment used by the mining industry in the exploration and development of solid mineral properties. Mining is used here in the broad

sense to include the extraction of solid minerals occurring naturally such as coal and ores. The term mining also includes quarrying, milling (crushing, screening, washing, flotation, etc.), and other preparations customarily done at the mine site or as a part of mining activity. Portable drilling rigs for use in oil and gas fields or for drilling water wells are also included for the purpose of this survey.

**Auger drills.** Machines that use continuous flight auger bits for removing cuttings.

**Bucket drills.** Machines that rotate a bucket and remove cuttings by lifting the bucket to be dumped.

**Cable tools.** Machines using percussion-type tools and those that clean the hole using tubular-type bailing tools.

**Portable drilling rigs.** Drills mounted on a carrier and used on the surface (above ground).

**Pull-back capacity.** Lifting capacity of drawworks or hoisting capacity of taphead.

**Pull-down capacity.** Capacity to apply bit pressure.

**Reverse circulation.** Machines using a rotary drilling process where the drill cuttings and fluid return to the surface inside the drill stem (large diameter holes, 18" or larger).

**Rotary drills.** Machines using rotary drill pipe, continuous fluid, and a mud pump, air compressor, or combination to clear the hole of filling.

**Screens, vibrating.** Machines used for dry or wet screening applications such as sizing, washing, and dewatering of ores, coal, sand, and gravel.

**Unit.** Complete rig, including carrier.

Table 7. **Manufacturers' Shipments of Mining Machinery and Mineral Processing Equipment by Type: 1996 and 1995**

[Quantity in units except as specified. Value in thousands of dollars]

Product code	Product description	Number of companies	1996		1995	
			Quantity	Value	Quantity	Value
3531K —	Mining machinery and mineral processing equipment. . . . .	(X)	(X)	1,751,236	(X)	1,629,285
	Portable crushing, screening, washing, and combination plants . . . . .	17	676	97,018	649	96,376
	Crushing plants (classification based upon the type of crusher first in the processing flow):					
3531K 41	Gyratory . . . . .	5	72	20,064	81	23,671
3531K 42	Impact . . . . .	8	25	6,532	44	10,169
3531K 43	Jaw <sup>1</sup> . . . . .	10	(D)	(D)	(D)	(D)
3531K 44	Roll <sup>1</sup> . . . . .	1	88	25,779	78	24,594
3531K 47	Screening, washing, and other plants. . . . .	11	491	44,643	446	37,942
35325 —	Underground mining machinery (except parts sold separately) . . . . .	34	6,838	433,588	4,396	463,094
35325 41	Continuous mining machines, borer, ripper, auger, and drum, including roadheading machines <sup>2</sup> . . . . .	7	(D)	(D)	179	141,749
35325 56	Face haulage vehicles, rubber-tired, self-propelled <sup>2</sup> . . . . .	6	347	184,805	207	48,064
35325 70	Support vehicles, rubber-tired or track-mounted. . . . .	17	300	22,418	445	33,957
35325 97	All other underground mining machinery, n.e.c. . . . .	22	<sup>a</sup> 6,191	<sup>b</sup> 226,365	<sup>c</sup> 3,565	<sup>c</sup> 239,324
35327 —	Crushing, pulverizing, and screening (except portable machinery (except parts sold separately). . . . .	46	4,026	332,022	3,871	295,337
	Crushers, stationary type, including skid-mounted:					
35327 11	Gyratory . . . . .	5	279	79,075	249	73,340
35327 13	Impact . . . . .	15	336	26,292	375	29,270
35327 17	Jaw . . . . .	10	113	17,645	121	16,956
35327 19	Roll <sup>3</sup> . . . . .	8	(D)	(D)	(D)	(D)
35327 31	Grinding mills and pulverizers <sup>3</sup> . . . . .	5	245	102,556	153	70,574
	Screens, vibrating, stationary:					
35327 56	Horizontal . . . . .	16	<sup>b</sup> 919	34,039	923	34,153
35327 57	Inclined . . . . .	18	<sup>a</sup> 1,758	56,289	1,675	51,933
53527 58	Other, including trommell. . . . .	7	104	2,816	148	7,100
35327 59	Other crushing, pulverizing, and screening machinery, n.e.c. . . . .	8	272	13,310	227	12,011
35328 —	Drills and other mining machinery, n.e.c. (except parts) . . . . .	30	16,735,391	445,574	13,473,018	381,833
	Drills and breakers (rotary and percussion):					
35328 11	Rock drills, air and hydraulic powered <sup>4</sup> . . . . .	6	(D)	(D)	25,330	79,668
35328 15	Coal drills and core drills <sup>4</sup> . . . . .	3	(D)	(D)	(D)	(D)
35328 50	Roof bolters <sup>4</sup> . . . . .	4	10,257,752	171,369	9,642,137	69,961
35328 75	All other mining machinery and equipment (except parts sold separately) . . . . .	21	6,477,639	<sup>a</sup> 274,205	3,805,551	232,204
3533A —	Portable drilling rigs and parts . . . . .	30	2,267,380	443,034	2,155,275	392,645
	Rotary, trailer- and truck-mounted with pull-back capacity:					
3533A 21	Up to 14,999 lb . . . . .	4	65	4,126	57	3,808
3533A 23	15,000 to 29,999 lb . . . . .	9	105	19,076	143	21,940
3533A 25	30,000 to 59,999 lb <sup>5</sup> . . . . .	5	(D)	(D)	(D)	(D)
3533A 28	60,000 lb and over <sup>5</sup> . . . . .	3	162	53,321	263	58,725
	Rotary blasthole drills, truck-, trailer-, or track-mounted:					
3533A 35	Up to 59,999 lb . . . . .	5	232	76,068	142	64,824
3533A 38	60,000 lb and over . . . . .	5	71	93,639	57	70,663
3533A 40	Construction drills . . . . .	10	1,746	16,649	9,950	17,254
3533A 49	Other portable drilling rigs, including workover (service) rigs <sup>6</sup> . . . . .	7	(D)	63,032	(D)	49,929
3533A 78	Parts for portable drilling rigs <sup>6</sup> . . . . .	21	2,264,999	117,123	2,144,663	105,502

D Withheld to avoid disclosing data for individual companies. n.e.c. Not elsewhere classified. <sup>c</sup>Revised by 5 percent or more from previously published data. X Not applicable.

<sup>1</sup>Product codes 3531K 43 and 3531K 44 are combined to avoid disclosing data for individual companies.

<sup>2</sup>1996 data for product codes 35325 41 and 35325 56 are combined to avoid disclosing data for individual companies.

<sup>3</sup>Product codes 35327 19 and 35327 31 are combined to avoid disclosing data for individual companies.

<sup>4</sup>Product codes 35328 11, 35328 15, and 35328 50 are combined to avoid disclosing data for individual companies.

<sup>5</sup>Product codes 3533A 25 and 3533A 28 are combined to avoid disclosing data for individual companies.

<sup>6</sup>Product codes 3533A 49 and 3533A 78 were combined to avoid disclosing individual company data.

Note: Percent estimation of each item is indicated as follows: <sup>a</sup>15 to 25 percent of this item is estimated. <sup>b</sup>26 to 50 percent of this item is estimated.

Table 8. **Shipments, Exports, and Imports of Selected Mining Machinery and Mineral Processing Equipment: 1996 and 1995**

[Value in thousands of dollars]

Product description	Manufacturers' shipments (value f.o.b. plant)	Exports of domestic merchandise <sup>1 2</sup> (value at port)	Value of imports for consumption <sup>1 3 4</sup>
<b>1996</b>			
Portable crushing plants and stationary grinding machines.....	114,104	91,982	36,748
Sorting, screening, separating, or washing machines.....	151,097	53,331	69,720
Rock breaking machines, coal or rock cutters, and tunneling machinery and rock drilling and earth boring tools.....	315,908	138,816	165,693
Mine wagon pushers, locomotive or wagon tracers, wagon tippers, and similar railway wagon handling equipment.....	62,684	5,079	3,155
Stationary crushing machines.....	137,243	14,914	35,407
<b>1995</b>			
Portable crushing plants and stationary grinding machines.....	90,338	73,439	31,198
Sorting, screening, separating, or washing machines.....	143,139	61,262	48,242
Rock breaking machines, coal or rock cutters, and tunneling machinery and rock drilling and earth boring tools.....	291,378	393,071	223,902
Mine wagon pushers, locomotive or wagon tracers, wagon tippers, and similar railway wagon handling equipment.....	82,021	6,861	641
Stationary crushing machines.....	124,396	19,031	34,680

<sup>1</sup>For comparison of SIC-based codes with Schedule B export numbers and HTSUSA import numbers, see "Contact for Data Users" at end of this subsection.

<sup>2</sup>Source: Bureau of the Census report FT 446, *U.S. Exports*.

<sup>3</sup>Source: Bureau of the Census report IM 145, *U.S. Imports for Consumption*.

<sup>4</sup>Dollar value represents c.i.f. (cost, insurance, and freight) value at first port of entry in the United States plus U.S. import duties.

## HISTORICAL NOTE

Data on mining machinery and equipment have been collected by the Bureau of the Census since 1961. Historical data may be obtained from Current Industrial Reports available at your local Federal Depository Library.

Historical data are also available on microfiche; contact Customer Services, 301-457-4100.

## CONTACT FOR DATA USERS

For additional information about these data, contact Larry Blumberg, 301-457-4744.

## INTERNAL COMBUSTION ENGINES (MA35L)

### INTRODUCTION

These data cover manufacturers of internal combustion engines in the United States, except outboard, aircraft, military tank, and nondiesel automotive engines.

The statistics were collected by mail on Bureau of the Census annual Form MA35L, Internal Combustion Engines. The survey panel includes all known domestic manufacturers of the specified types of internal combustion engines, approximately 38 companies.

### SUMMARY OF FINDINGS

In 1996, a total of 23,559,395 internal combustion engines (except outboard, nondiesel automotive, aircraft and military tank) were shipped or produced and incorporated at the same plant, representing a 1-percent increase from the 23,273,684 produced in 1995. Gasoline or gas-gasoline engines totaled 22,621,124 in 1996, 1.5 percent above the figure of 22,287,050 for 1995. The number of nonautomotive diesel, semidiesel, and dual-fuel engines produced in 1996 amounted to 242,472, a 1-percent decrease from the 245,762 reported in 1995. There were 686,707 automotive diesel, semidiesel, and dual-fuel engines produced in 1996, 6 percent less than the 732,148 produced in 1995. Production of gas engines (LPG and natural) was 9,092 in 1996, 4 percent more than the 8,724 produced in 1995.

### EXPLANATION OF TERMS

**Total number of engines produced.** Represents all production of engines for sale to other companies, for transfer to other plants of the same company or for the incorporation into other products produced at the plant.

**Shipments to distributors and other companies.** Represents all shipments to affiliated and nonaffiliated distributors, plus all other shipments to nonaffiliated companies.

**Interplant transfers.** Represents the number and value of engines transferred to other plants of the reporting company for incorporation into machinery or equipment in those plants. Shipments to distributors (whether affiliated with the company or not affiliated) are excluded. Transfers to other plants of the same company are reported at market value.

**Produced and incorporated.** Represents engines produced and incorporated into other products in the same plant such as construction and farm machinery (including tractors); engine-driven generator sets; and other products incorporating an engine manufactured in the same plant.

**Horsepower.** A unit for measuring the power of motors or engines, equal to 746 watts or to a rate of 33,000 foot-pounds per minute (the force required to raise 33,000 pounds at the rate of 1 foot per minute).

**Piston displacement.** The volume (measured in cubic inches) displaced by a stroke of a piston (one cubic inch is approximately 16.387 cubic centimeters).

**End application.** The end application or use to which the engine was destined. Engines may not be used ultimately for the specific application intended or supposed by the producer.

**Table 9. Internal Combustion Engines by Type of Engine: 1996 and 1995**

[Engines and quantity in units. Value in thousands of dollars]

Product description	Engines produced <sup>1</sup>	Total shipments and interplant transfers		Shipments to other companies		Interplant transfers		Engines produced and incorporated <sup>2</sup>
		Quantity	Value f.o.b. plant	Quantity	Value f.o.b. plant	Quantity	Value f.o.b. plant	
<b>1996</b>								
<b>Total .....</b>	<b>23,559,395</b>	<b>14,710,073</b>	<b>9,703,650</b>	<b>13,845,207</b>	<b>(D)</b>	<b>864,866</b>	<b>(D)</b>	<b>8,849,322</b>
Gasoline (except automotive).....	22,621,124	13,791,894	2,245,119	(D)	1,953,413	(D)	291,706	8,829,230
Nonautomotive diesel.....	242,472	(D)	2,078,860	158,783	1,421,027	(D)	657,833	(D)
Automotive diesel .....	686,707	686,707	5,053,074	522,074	4,128,865	164,633	924,209	-
Natural gas and liquefied petroleum gas.....	9,092	(D)	326,597	(D)	(D)	(D)	(D)	(D)
<b>1995</b>								
<b>Total .....</b>	<b>23,273,684</b>	<b>14,170,402</b>	<b>9,995,615</b>	<b>(D)</b>	<b>(D)</b>	<b>(D)</b>	<b>(D)</b>	<b>9,103,282</b>
Gasoline (except automotive).....	22,287,050	13,207,118	2,116,980	12,392,142	1,849,751	814,976	267,229	9,079,932
Nonautomotive diesel.....	245,762	(D)	1,900,655	165,341	1,348,968	(D)	551,687	(D)
Automotive diesel .....	732,148	732,148	5,833,563	557,904	4,672,846	174,244	1,160,717	-
Natural gas and liquefied petroleum gas.....	8,724	(D)	323,967	(D)	(D)	(D)	(D)	(D)

- Represents zero. D Withheld to avoid disclosing data for individual companies.

<sup>1</sup>Represents total number of engines produced; incorporated into products at same establishment or shipped.

<sup>2</sup>Represents engines produced and incorporated (in same plant) into products such as construction machinery, farm machinery, tractors, engine-generator sets, and other products.

**Table 10. Gasoline Engines by Horsepower Rating: 1996 and 1995**

[Engines and quantity in units. Value in thousands of dollars]

Product code	Product description	Number of companies	Engines produced <sup>1</sup>	Total shipments and interplant transfers		Shipments to other companies		Interplant transfers		Engines produced and incorporated <sup>2</sup>
				Quantity	Value f.o.b. plant	Quantity	Value f.o.b. plant	Quantity	Value f.o.b. plant	
<b>1996</b>										
35191 —	Gasoline engines .....	23	22,621,124	13,791,894	2,245,119	13,155,600	1,953,413	636,294	291,706	8,829,230
35191 01	Under 11 hp .....	14	20,274,687	11,477,394	1,103,094	(D)	(D)	(D)	(D)	8,797,293
35191 02	11 to under 21 hp ...	6	1,966,672	(D)	652,082	(D)	(D)	(D)	(D)	(D)
35191 03	21 to under 61 hp ...	7	126,538	(D)	103,432	101,089	(D)	(D)	(D)	(D)
35191 07	61 hp and over .....	8	253,227	253,277	386,511	(D)	(D)	(D)	(D)	-
<b>1995</b>										
35191 —	Gasoline engines .....	23	22,287,050	13,207,118	2,116,980	12,392,142	1,849,751	814,976	267,229	9,079,932
35191 01	Under 11 hp .....	13	19,863,445	(D)	(D)	(D)	(D)	633,022	57,132	(D)
35191 02	11 to under 21 hp ...	6	(D)	(D)	(D)	(D)	(D)	38,468	15,612	(D)
35191 03	21 to under 61 hp ...	8	102,011	100,938	99,238	(D)	(D)	(D)	(D)	(D)
35191 07	61 hp and over .....	8	(D)	(D)	(D)	(D)	(D)	(D)	(D)	-

- Represents zero. D Withheld to avoid disclosing data for individual companies.

<sup>1</sup>Represents total number of engines produced; incorporated into products at same establishment or shipped.

<sup>2</sup>Represents engines produced and incorporated (in same plant) into products such as construction machinery, farm machinery, tractors, engine-generator sets, and other products.

Note: Horsepower is defined as maximum published horsepower rating at maximum recommended revolutions per minute (r/min).

Table 11. Nonautomotive Diesel Engines by Horsepower Rating: 1996 and 1995

[Engines and quantity in units. Value in thousands of dollars]

Product code	Product description	Number of companies	Engines produced <sup>1</sup>	Total shipments and interplant transfers		Shipments to other companies		Interplant transfers		Engines produced and incorporated <sup>2</sup>
				Quantity	Value f.o.b. plant	Quantity	Value f.o.b. plant	Quantity	Value f.o.b. plant	
<b>1996</b>										
35193 —	Nonautomotive diesel engines ..	18	242,472	222,491	2,078,860	158,783	1,421,027	63,708	657,833	19,981
35193 31	Under 101 hp.....	9	18,112	(D)	(D)	15,438	54,071	(D)	(D)	(D)
35193 33	101 to under 151 hp.....	6	(D)	71,056	235,093	(D)	(D)	(D)	(D)	(D)
35193 35	151 to under 176 hp.....	6	(D)	39,080	193,184	(D)	(D)	(D)	(D)	(D)
35193 37	176 to under 251 hp.....	6	37,933	(D)	(D)	19,388	112,137	(D)	(D)	(D)
35193 39	251 to under 301 hp.....	6	19,827	(D)	(D)	11,652	121,303	(D)	(D)	(D)
35193 41	301 to under 401 hp.....	7	(D)	13,897	181,058	9,370	122,126	4,527	58,932	(D)
35193 43	401 to under 451 hp.....	5	6,598	6,598	125,126	4,421	76,918	2,177	48,208	-
35193 45	451 to under 601 hp.....	3	10,433	(D)	(D)	8,330	178,170	(D)	(D)	(D)
35193 47	601 to under 701 hp.....	4	(D)	2,573	71,522	(D)	(D)	(D)	(D)	(D)
35193 49	701 to under 801 hp.....	3	4,709	(D)	(D)	1,486	47,529	(D)	(D)	(D)
35193 51	801 to under 1,501 hp.....	4	(D)	2,920	168,326	(D)	(D)	(D)	(D)	(D)
35193 28	1,501 hp and over.....	6	3,718	(D)	(D)	1,061	250,515	(D)	(D)	(D)
<b>1995</b>										
35193 —	Nonautomotive diesel engines ..	16	245,762	(D)	1,900,655	165,341	1,348,968	(D)	551,687	(D)
35193 31	Under 101 hp.....	9	17,687	(D)	42,751	(D)	(D)	(D)	(D)	3,645
35193 33	101 to under 151 hp.....	6	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
35193 35	151 to under 176 hp.....	7	36,787	(D)	(D)	20,408	87,383	(D)	(D)	(D)
35193 37	176 to under 251 hp.....	7	66,245	(D)	(D)	43,778	224,850	(D)	(D)	(D)
35193 39	251 to under 301 hp.....	6	17,668	(D)	(D)	8,759	85,898	(D)	(D)	(D)
35193 41	301 to under 401 hp.....	6	(D)	11,314	158,236	7,955	107,290	3,359	50,946	(D)
35193 43	401 to under 451 hp.....	3	6,594	(D)	(D)	6,055	99,015	(D)	(D)	(D)
35193 45	451 to under 601 hp.....	3	5,011	(D)	(D)	(D)	(D)	(D)	(D)	(D)
35193 47	601 to under 701 hp.....	3	3,247	(D)	(D)	(D)	(D)	(D)	(D)	(D)
35193 49	701 to under 801 hp.....	3	(D)	(D)	(D)	1,224	43,221	(D)	(D)	(D)
35193 51	801 to under 1,501 hp.....	5	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
35193 28	1,501 hp and over.....	6	3,641	(D)	(D)	813	247,101	(D)	(D)	(D)

- Represents zero. D Withheld to avoid disclosing data for individual companies. <sup>1</sup>Revised by 5 percent or more from previously published data.

<sup>1</sup>Represents total number of engines produced; incorporated into products at same establishment or shipped.

<sup>2</sup>Represents engines produced and incorporated (in same plant) into products such as construction machinery, farm machinery, tractors, engine-generator sets, and other products.

Note: Horsepower is defined as maximum published horsepower rating at maximum recommended revolutions per minute (r/min).

Table 12. **Automotive Diesel Engines by Horsepower Rating: 1996 and 1995**

[Engines in units. Value in thousands of dollars]

Product code	Product description	Number of companies	1996		1995	
			Engines <sup>1</sup>	Value <sup>2</sup>	Engines <sup>1</sup>	Value <sup>2</sup>
35194 —	Automotive diesel engines.....	9	686,707	5,053,074	732,148	5,833,563
35194 11	Under 226 hp.....	9	431,779	2,030,348	(D)	(D)
35194 14	226 to under 251 hp.....	7	19,247	130,618	(D)	(D)
35194 15	251 hp and over.....	7	235,681	2,892,108	277,588	3,578,789

D Withheld to avoid disclosing data for individual companies.

<sup>1</sup>Represents total number of engines shipped, including interplant transfers.<sup>2</sup>Represents value of all engines shipped, including interplant transfers.

Note: Horsepower is defined as maximum published horsepower rating at maximum recommended revolutions per minute (r/min).

Table 13. **Gas Engines (Except Automotive) by Horsepower Rating: 1996 and 1995**

[Engines and quantity in units. Value in thousands of dollars]

Product code	Product description	Number of companies	Engines produced <sup>1</sup>	Total shipments including interplant transfers		Engines produced and incorporated <sup>2</sup>
				Quantity	Value f.o.b. plant	
<b>1996</b>						
35196 —	Natural gas and liquefied petroleum gas engines..	12	9,092	(D)	326,597	(D)
35196 11	Under 501 hp.....	10	(D)	7,418	47,220	(D)
35196 12	501 hp and over.....	4	(D)	1,563	279,377	-
<b>1995</b>						
35196 —	Natural gas and liquefied petroleum gas engines..	9	8,724	(D)	323,967	(D)
35196 11	Under 501 hp.....	7	(D)	7,117	47,346	(D)
35196 12	501 hp and over.....	4	(D)	(D)	276,621	-

- Represents zero. D Withheld to avoid disclosing data for individual companies.

<sup>1</sup>Represents total number of engines produced; incorporated into products at same establishment or shipped.<sup>2</sup>Represents engines produced and incorporated (in same plant) into products such as construction machinery, farm machinery, tractors, engine-generator sets, and other products.

Note: Horsepower is defined as maximum published horsepower rating at maximum recommended revolutions per minute (r/min).

Table 14. **Engines Produced by Piston Displacement and Fuel System: 1996 and 1995**

Piston displacement	1996	1995
<b>Total.....</b>	<b>23,550,303</b>	<b>23,264,960</b>
Gasoline.....	22,621,124	22,287,050
Under 251 cc.....	19,839,752	19,420,463
251 cc and over.....	2,781,372	2,866,535
Nonautomotive diesel.....	242,472	245,762
Under 251 cc.....	2,225	2,450
251 to 3,700 cc.....	25,884	28,701
3,701 cc and over.....	214,363	214,611
Automotive diesel.....	686,707	732,148
Under 251 to 3,700 cc.....	161,272	188,641
3,701 cc and over.....	525,435	542,717

cc Cubic centimeters.



Table 15. **Engines Produced (Except Outboard, Automotive, and Aircraft) by Type of Engine and End Application: 1996 and 1995**

End application	Gasoline engines		Nonautomotive diesel engines	
	1996	1995	1996	1995
<b>Total</b> .....	<b>22,621,124</b>	<b>22,287,050</b>	<b>242,472</b>	<b>245,762</b>
Oilfield and petroleum-related generating and stationary equipment .....	-	-	(D)	(D)
Other generator sets .....	(D)	(D)	36,494	34,342
Irrigation .....	(D)	(D)	(D)	(D)
Agricultural vehicular .....	(D)	(D)	(D)	(D)
Off-highway mobile construction equipment .....	(D)	(D)	128,196	120,394
Marine (except outboard) .....	(D)	(D)	13,443	12,573
Railroad, motive power type .....	-	-	1,361	1,375
Chain saws .....	2,521,025	2,125,956	-	-
Garden tractors .....	(D)	(D)	-	-
Lawn, home, and recreational equipment .....	15,745,817	15,891,589	-	-
Other general industrial .....	1,158,277	1,204,412	25,761	25,406

- Represents zero. D Withheld to avoid disclosing data for individual companies. \*Revised by 5 percent or more from previously published data.

Table 16. **Production, Exports, and Imports of Internal Combustion Engines: 1996 and 1995**

[Quantity in units. Value in thousands of dollars]

Product code	Product description	Manufacturers' production		Exports of domestic merchandise <sup>2</sup>		Imports for consumption <sup>3</sup>	
		Quantity	Value of shipments f.o.b. plant <sup>1</sup>	Quantity	Value at port	Quantity	Value
<b>1996</b>							
	<b>Total</b> .....	<b>14,710,073</b>	<b>9,846,255</b>	<b>1,891,809</b>	<b>2,025,455</b>	<b>2,440,382</b>	<b>2,014,290</b>
35194	Automotive diesel engines .....	686,707	5,053,074	65,199	600,789	18,202	115,488
35193	Nonautomotive diesel engines .....	(D)	2,078,860	73,544	1,062,311	300,720	822,549
35191	Gasoline engines .....	13,791,894	2,245,119	1,750,109	301,032	2,105,317	1,056,756
35196	Gas and liquefied petroleum gas engines ...	(D)	326,597	2,957	61,323	16,143	19,497
<b>1995</b>							
	<b>Total</b> .....	<b>14,145,049</b>	<b>10,174,977</b>	<b>2,186,163</b>	<b>2,067,020</b>	<b>2,846,935</b>	<b>2,112,537</b>
35194	Automotive diesel engines .....	734,061	5,844,031	87,815	781,015	12,000	83,794
35193	Nonautomotive diesel engines .....	(D)	1,905,851	61,155	920,458	295,109	876,393
35191	Gasoline engines .....	13,183,133	2,101,128	2,034,854	318,461	2,507,685	1,122,814
35196	Gas and liquefied petroleum gas engines ...	(D)	323,967	2,339	47,086	32,141	29,536

D Withheld to avoid disclosing data for individual companies.

<sup>1</sup>Value of shipments f.o.b. plant of production; quantities shipped as engines, including interplant transfers.

<sup>2</sup>Source: Bureau of the Census report EM 545, *U.S. Exports*.

<sup>3</sup>Source: Bureau of the Census report IM 145, *U.S. General Imports*. These data include both import value and duty value.

## HISTORICAL NOTE

Data on internal combustion engines have been collected by the Bureau of the Census since 1943. Historical data may be obtained from Current Industry Reports (called Facts for Industry before 1959) available at your local Federal Depository Library. Historical data are also

available on microfiche; contact Customer Services, 301-457-4100.

## CONTACT FOR DATA USERS

For additional information about these data, contact J. Stanis Batton, 301-457-4750.

## METALWORKING MACHINERY (MQ35W)

### INTRODUCTION

These data cover all companies engaged in the manufacture of industrial type metal cutting and metal forming types of metalworking machinery, including numerical control types.

The statistics were collected by mail on Bureau of the Census quarterly Form MQ35W, Metalworking Machinery. The survey panel includes all known manufacturers of metal cutting and metal forming machinery. Approximately 396 companies are included.

### SUMMARY OF FINDINGS

Shipments of metalworking machinery during 1996 totaled \$4,607.8 million, a 1-percent increase from the \$4,547.1 million shipments for 1995. Exports during the year were valued at \$713.1 million, a 14-percent increase from exports valued at \$626.7 million during 1995. The value of unfilled orders on December 31, 1996 totaled \$2,347.1 million. The December 31, 1995 unfilled orders were valued at \$2,405.9 million.

Shipments of metal cutting type machine tools in 1996 totaled \$3,141.1 million, a 3-percent increase from the \$3,036.6 million shipped during 1995. For 1996, shipments of lathes accounted for \$451.1 million; grinding and polishing machines, \$541.3 million; milling machines, \$199.7 million; and boring and drilling machines, \$188.4 million. The corresponding figures for 1995 were: lathes, \$478.0 million; grinding and polishing machines, \$549.6 million; milling machines, \$194.8 million; and boring and drilling machines, \$251.4 million.

### EXPLANATION OF TERMS

**Exports.** Includes both shipments for direct export and shipments to agent or exporters for shipment to foreign countries.

**Metal cutting type machine tools.** These are defined as new, industrial type, power-driven, complete machine tools, not supported in the hands of an operator when in use. They are used for removing metal in the form of chips, turnings, and borings. Also included are honing machines, lapping machines, grinders, and machines which cut using electrical techniques. Excluded are machine tools designed

primarily for home workshops, laboratories, garages, and services shops. These are small, low-priced machine tools of light construction. Also excluded are rolling mill machinery, power-driven hand tools, wood working machinery, and rebuilt machinery.

**Metal forming type machine tools.** These are defined as new, industrial type, power-driven, complete machine tools, not supported in the hands of an operator when in use. They are used to press, forge, emboss, hammer, extrude, blank, spin, shear, or bend metal into shape.

### Numerically Controlled Machines by Type:

*Positioning.* Machines equipped with positioning numerical control systems activated by direct data input (DNC); e.g., punched tape, punched cards, magnetic tape, cassette, or manual data input (MDI). Included in this group are all machines that have been equipped with control systems in which point-to-point positioning and cutting or forming (regardless of the number of movement "axes" or auxiliary functions) are controlled automatically via numerical programs inserted into the systems. If a machine has been equipped with a control system that permits positioning and continuous path operations, it is classified as continuous path.

*Continuous path or computer numerical control.* Machine equipped with continuous path numerical program control systems activated by direct data input (CNC); e.g., punched tape, punched cards, magnetic tape, cassette, or manual data input (MDI). Included in this group are all machines equipped with control systems in which, in addition to point-to-point positioning, the path of cutting is automatically controlled by means of numerical programs inserted into the systems. If a machine has been equipped with a control system that permits positioning and continuous path operations, it is classified as continuous path.

*Digital readout systems including dial or plugboard.* Machines equipped with digital readout systems or dial or plugboard type of prerecorded motion program control systems. Included in this group are all machines equipped with control systems in which positioning or continuous path are automatically commanded by numerical programs fed into the system, by an operator, through dials, plugs, switches, or any other numerical method.

Table 17. Value of Shipments, Including Exports of Metalworking Machinery by Class of Product: 1987 to 1996

[Thousands of dollars]

Product code	Product description	1996	1995	1994	1993	1992	1991	1990	1989	1988	1987
	<b>Metalworking machinery . . . . .</b>	<b>4,607,757</b>	<b>4,547,133</b>	<b>3,780,074</b>	<b>3,222,456</b>	<b>3,073,862</b>	<b>3,171,748</b>	<b>3,426,081</b>	<b>3,514,224</b>	<b>2,858,174</b>	<b>2,668,685</b>
	Metal cutting type <sup>1</sup> . . . . .	3,141,128	3,036,592	2,463,001	2,084,864	1,999,668	2,138,713	2,371,266	2,428,520	1,734,781	1,780,737
3541D	Boring machines <sup>2</sup> . . . . .	88,929	172,417	129,835	84,667	97,975	77,655	(D)	(D)	(D)	(D)
3541D	Drilling machines <sup>2</sup> . . . . .	99,453	78,936	51,987	37,076	37,472	37,374	184,118	183,151	133,860	154,665
35413	Gear cutting machines . . . . .	164,258	137,121	100,612	87,662	79,600	115,226	102,678	97,304	48,897	59,608
35414	Grinding and polishing machines (except gear- tooth grinding, lapping, polishing, and buffing machines) . . . . .	541,277	549,580	443,262	360,894	335,121	378,946	433,574	419,754	359,821	384,711
35415	Lathes <sup>3</sup> . . . . .	451,115	478,003	390,407	305,488	258,885	317,087	355,632	343,223	282,480	283,505
35416	Milling machines <sup>4</sup> . . . . .	199,667	194,757	138,852	180,174	210,403	201,137	214,254	206,248	184,482	206,910
3541A	Machining centers (multifunction numerically controlled machines) . . . . .	779,433	698,780	552,358	485,375	377,941	361,799	436,999	442,226	334,469	217,839
3541B	Station type machines . . . . .	498,592	477,021	455,138	374,772	434,705	450,366	502,066	562,887	225,376	299,570
3541C	Other metal cutting machine tools (except those designed primarily for home workshops, laboratories, etc.) . . . . .	315,977	246,237	200,114	166,248	166,535	195,654	141,945	173,727	165,396	173,929
	Metal forming type . . . . .	1,466,629	1,510,541	1,317,073	1,139,581	1,073,994	1,033,035	1,080,181	1,085,704	1,123,393	887,948
35421 pt.	Punching and shearing machines . . . . .	331,382	326,318	294,441	213,402	172,872	180,756	200,050	200,104	167,347	141,965
35421 pt.	Bending and forming machines . . . . .	283,020	256,882	253,219	255,299	270,044	204,357	222,861	217,891	204,939	173,380
35422	Presses (except forging) . . . . .	401,990	379,203	376,398	345,653	288,248	297,889	308,338	316,549	356,528	265,630
35423 pt.	Forging machines <sup>5</sup> . . . . .	(D)	(D)	(D)	(D)	(D)	(D)	73,947	58,478	(D)	42,735
35423 pt.	Other metal forming type machines <sup>5</sup> . . . . .	450,237	548,138	393,015	325,227	342,830	350,033	274,985	292,682	394,579	264,238

D Withheld to avoid disclosing data for individual companies. pt. Part.

<sup>1</sup>Data for "All lathes, turning machines" and "All milling machines, valued at under \$3,025 each" are included with "Metal cutting type" for 1995 and 1996.<sup>2</sup>For 1987 through 1990, data for boring machines were combined with drilling machines to avoid disclosing individual company data.<sup>3</sup>For 1991 through 1996, product code 35415, Lathes, excludes the value for product code 35415 09, All Lathes valued under \$3,025 each.<sup>4</sup>For 1991 through 1996, product code 35416, Milling machines, excludes value for product code 35416 09, All Milling machines valued under \$3,025 each.<sup>5</sup>For 1991 through 1996, and 1988 data for forging machines have been combined with other metal forming machines to avoid disclosing individual company data.

Table 18. Total Shipments and Unfilled Orders: 1996 and 1995

[Quantity in units. Value in thousands of dollars]

Product code	Product description	Company count	1996			1995		
			Total shipments		Unfilled orders (value)	Total shipments		Unfilled orders (value)
			Quantity	Value		Quantity	Value	
	Metalworking machinery	(X)	179,955	4,607,757	2,347,109	174,683	4,547,133	2,405,916
	Total metal cutting type machine tools	(X)	110,770	3,141,128	1,589,988	117,743	3,036,592	1,544,323
	Total metal forming type machine tools	(X)	69,185	1,466,629	757,121	56,940	1,510,541	861,593
	Metal cutting type machine tools valued at \$3,025 each or more	(X)	35,057	3,093,895	1,587,623	36,353	2,984,910	1,541,056
	Metal cutting type machine tools valued under \$3,025 <sup>1 2 3</sup>	(X)	75,713	47,233	2,365	81,390	51,682	3,267
3541D 00	Boring and drilling machines	43	7,927	188,382	113,869	10,465	251,353	103,351
3541D 10	All boring machines valued under \$3,025 each	-	(X)	(X)	(X)	(X)	(X)	(X)
3541D 16	Boring machines valued at \$3,025 each or more:							
	Horizontal boring, drilling, and milling machines, including floor, table, and rail mounted <sup>4</sup>	5	(D)	(D)	(D)	(D)	(D)	(D)
3541D 40	Precision boring machines, including horizontal and vertical boring machines <sup>4</sup>	9	(D)	(D)	(D)	(D)	(D)	(D)
3541D 46	Jig boring and all other boring machines (except boring lathes) <sup>4</sup>	1	<sup>a</sup> 879	88,929	57,100	<sup>c</sup> 1,374	172,417	<sup>a</sup> 63,210
3541D 05	All drilling machines valued under \$3,025 each	16	5,595	7,736	115	7,299	<sup>a</sup> 9,421	253
3541D 15	Drilling machines valued at \$3,025 each or more:							
	Vertical upright drilling machines, including plain upright and heavy duty	7	278	2,086	214	426	4,210	484
3541D 25	Radial drilling machines, including plain and universal	-	(X)	(X)	(X)	(X)	(X)	(X)
3541D 35	Deep hole drilling machines	4	<sup>b</sup> 89	<sup>a</sup> 12,102	<sup>a</sup> 4,565	<sup>c</sup> 96	<sup>b</sup> 13,851	<sup>c</sup> 3,692
	Multiple spindle drilling machines:							
3541D 45	Adjustable joint and fixed center types <sup>5</sup>	6	(D)	(D)	(D)	288	<sup>a</sup> 4,066	(D)
3541D 55	All other automatic multiple spindle drilling machines <sup>5</sup>	6	(D)	(D)	(D)	70	9,905	(D)
3541D 65	All other drilling machines, n.e.c. <sup>5</sup>	8	<sup>a</sup> 1,086	<sup>b</sup> 77,529	51,875	<sup>c</sup> 912	<sup>c</sup> 37,483	<sup>b</sup> 35,712
35413 00	Gear cutting machines, including gear hobbors, shapers, teeth finishing, bevel gear generators, and all other gear cutting machines	10	471	164,258	128,793	421	137,121	94,917
35414 00	Grinding, polishing, buffing, honing, and lapping machines	86	65,737	541,277	281,000	66,439	549,580	309,778
35414 10	All grinding, polishing, buffing, honing, and lapping machines valued under \$3,025 each <sup>1</sup>	20	59,099	24,274	(D)	59,890	23,475	1,699
	All grinding, polishing, buffing, honing, and lapping machines valued at \$3,025 each or more:							
	External cylindrical grinding machines:							
35414 11	Plain, including angular wheel types <sup>6</sup>	3	(D)	(D)	(D)	(D)	(D)	(D)
35414 13	Universal <sup>6</sup>	3	106	29,848	17,452	137	37,263	19,004
35414 14	Roll, chucking, centerless, and other cylindrical grinding machines	14	<sup>b</sup> 715	<sup>a</sup> 165,098	142,867	<sup>b</sup> 628	170,878	129,000
35414 33	Surface grinding machines, rotary table type, horizontal and vertical <sup>7</sup>	6	<sup>c</sup> 381	<sup>b</sup> 12,564	(D)	<sup>c</sup> 682	<sup>b</sup> 19,902	<sup>b</sup> 14,492
35414 34	Surface grinding machines, reciprocating table type, including face grinders, horizontal and vertical <sup>8</sup>	9	(D)	(D)	(D)	(D)	(D)	(D)
35414 37	Surface grinding machines, reciprocating table type, including face grinders, hand surface type <sup>9</sup>	3	1,226	<sup>a</sup> 19,921	3,610	1,140	19,540	<sup>b</sup> 8,151
35414 42	All other disc grinders, including bench, floor, snag, double spindle grinders, and abrasive belt grinders <sup>7 9</sup>	5	(D)	(D)	17,560	<sup>b</sup> 524	22,081	(D)
35414 52	Tool and cutter grinding machines	15	1,031	117,143	19,832	746	85,184	40,569
35414 53	Drill point grinders <sup>10</sup>	6	(D)	(D)	1,368	(X)	(X)	(X)
35414 55	All other grinding machines, n.e.c., including internal cylindrical type, planer type, and thread grinding machines <sup>10</sup>	23	<sup>b</sup> 1,423	<sup>a</sup> 67,574	34,805	<sup>b</sup> 1,012	<sup>b</sup> 67,502	<sup>a</sup> 33,046
35414 75	Honing and lapping machines, internal, including combination bore, hone, and external <sup>11</sup>	6	163	16,361	(D)	(D)	(D)	(D)
35414 79	Flat surface lapping machines (except gear lapping) <sup>11</sup>	4	956	<sup>b</sup> 46,241	<sup>b</sup> 14,540	969	<sup>a</sup> 62,905	<sup>c</sup> 31,971
35414 84	All other honing and lapping machines or polishing and buffing machines, including speed lathes and multistation type	16	<sup>a</sup> 637	42,253	28,966	711	40,850	31,846

See footnotes at end of table.

Table 18. Total Shipments and Unfilled Orders: 1996 and 1995—Con.

[Quantity in units. Value in thousands of dollars]

Product code	Product description	Company count	1996			1995		
			Total shipments		Unfilled orders (value)	Total shipments		Unfilled orders (value)
			Quantity	Value		Quantity	Value	
	Metalworking machinery—Con.							
	Metal cutting type machine tools valued at \$3,025 and under —Con.							
35415 00	Lathes	(X)	4,190	451,115	122,838	4,643	478,003	152,098
	Numerically controlled:							
	Horizontal	15	2,985	304,871	62,208	3,416	351,234	83,661
35415 15	Multiple spindle NC turning machine <sup>12</sup>	3	(D)	(D)	(D)	(X)	(X)	(X)
	Single spindle NC turning machines:							
35415 19	Chuck sizes up to and including 6" <sup>13</sup>	3	(D)	(D)	(D)	(X)	(X)	(X)
35415 21	Chuck sizes over 6" but less than 10" <sup>13</sup>	9	2,019	166,803	31,287	(X)	(X)	(X)
35415 11	Chuck sizes from 10" but less than 15"	9	917	115,247	18,270	(X)	(X)	(X)
35415 12	Chuck sizes 15" and over <sup>12</sup>	4	49	22,821	12,651	(X)	(X)	(X)
35415 22	Vertical NC turning machines	7	222	90,288	36,940	234	74,007	46,017
	Nonnumerically controlled turning machines <sup>2</sup>	13	983	55,956	23,690	993	52,762	22,420
35415 09	All lathes (turning machines) valued under \$3,025 each <sup>2</sup>	1	(D)	(D)	(D)	(D)	(D)	(D)
	All lathes (turning machines) valued at \$3,025 each or more:							
35415 23	Engine or toolroom lathes, all types <sup>14</sup>	4	(D)	(D)	3,241	(D)	(D)	(D)
	Automatic lathes:							
35415 83	Single spindle <sup>14</sup>	3	(D)	(D)	(D)	(D)	(D)	(D)
	Multiple spindle:							
35415 88	Bar (screw) machines <sup>14</sup>	2	(D)	(D)	(D)	(D)	(D)	(D)
35415 67	Chucking machines <sup>14</sup>	1	(D)	(D)	(D)	(D)	(D)	(D)
35415 57	All other horizontal turning machines, including turret lathes and automatic between center lathes <sup>14</sup>	4	(D)	(D)	(D)	(D)	(D)	(D)
35415 86	All vertical turning machines <sup>14</sup>	1	<sup>b</sup> 983	<sup>c</sup> 55,956	<sup>b</sup> 20,449	<sup>a</sup> 993	<sup>b</sup> 52,762	<sup>c</sup> 22,420
35416 00	Milling machines <sup>3</sup>	25	4,102	199,667	191,985	4,747	194,757	119,738
35416 09	All milling machines valued under \$3,025 each <sup>3</sup>	6	(D)	(D)	(D)	(D)	(D)	(D)
	All milling machines valued at \$3,025 or more:							
35416 23	General-purpose, knee milling machines all types <sup>15</sup>	7	(D)	(D)	(D)	(D)	(D)	(D)
	Automatic and manufacturing:							
35416 32	Single spindle, multiple spindle, and special-purpose machines <sup>15</sup>	5	(D)	(D)	(D)	(D)	(D)	(D)
35416 53	Profile machines and duplicators <sup>15</sup>	3	(D)	(D)	(D)	(D)	(D)	(D)
35416 62	All other milling machines, n.e.c., including planer type and thread milling machines <sup>15</sup>	12	4,102	199,667	191,985	4,747	194,757	119,738
3541A 00	Machining centers	24	8,442	779,433	147,229	7,305	698,780	193,791
	Drill, mill, and bore, vertical (automatic tool change):							
3541A 05	Y-axis travel less than 20 inches	11	3,447	205,277	17,013	2,978	173,766	36,965
3541A 07	Y-axis travel 20 inches through 26 inches	9	2,832	231,114	19,314	2,503	204,959	34,475
3541A 09	Y-axis travel over 26 inches	7	678	87,846	11,140	542	74,572	22,709
	Drill, mill, and bore, horizontal (automatic tool change):							
3541A 12	400mm pallet and smaller <sup>16</sup>	4	(D)	(D)	12,688	(X)	(X)	(X)
3541A 14	401mm-500mm pallet <sup>16</sup>	4	363	80,886	20,376	(X)	(X)	(X)
3541A 16	501mm-630mm pallet <sup>17</sup>	4	(D)	(D)	(D)	(X)	(X)	(X)
3541A 17	631mm-800mm pallet <sup>17</sup>	4	169	80,187	21,484	(X)	(X)	(X)
3541A 18	801mm-1000mm pallet <sup>18</sup>	3	(D)	(D)	7,221	(X)	(X)	(X)
3541A 21	1000mm pallet <sup>18 19</sup>	4	60	58,696	(D)	(X)	(X)	(X)
3541A 19	All other machining centers including special machining centers, special adapting of standard machining centers, and machining centers with indexing turret <sup>19</sup>	7	893	35,427	37,993	629	31,250	27,421
3541B 00	Station type machines	22	413	498,592	521,008	464	477,021	480,353
3541B 31	Dial or rotary, trunnion, and center column	12	168	225,747	101,042	242	256,932	174,943
3541B 35	Transfer <sup>20</sup>	12	(D)	(D)	(D)	(D)	(D)	(D)
3541B 37	Other station type, n.e.c. <sup>20</sup>	5	<sup>a</sup> 245	272,845	419,966	<sup>b</sup> 222	220,089	305,410

See footnotes at end of table.

Table 18. Total Shipments and Unfilled Orders: 1996 and 1995—Con.

[Quantity in units. Value in thousands of dollars]

Product code	Product description	Company count	1996			1995		
			Total shipments		Unfilled orders (value)	Total shipments		Unfilled orders (value)
			Quantity	Value		Quantity	Value	
	Metalworking machinery—Con.							
3541C 00	Metal cutting type machine tools valued at \$3,025 and under —Con.							
3541C 41	Other metal cutting machine tools . . . . .	66	17,013	315,977	81,613	18,696	246,237	90,104
	Other metal cutting machine tools, n.e.c., valued under \$3,025 . . . . .	15	<sup>b</sup> 8,544	<sup>b</sup> 12,796	597	<sup>b</sup> 9,638	<sup>b</sup> 15,046	1,122
	Other metal cutting machine tools, n.e.c., valued at \$3,025 each or more:							
3541C 51	Broaching machines . . . . .	6	<sup>c</sup> 97	<sup>c</sup> 10,656	<sup>c</sup> 4,158	<sup>c</sup> 89	<sup>c</sup> 10,641	<sup>c</sup> 7,983
	Sawing and cutoff machines:							
3541C 53	Power hack saws <sup>21</sup> . . . . .	2	(D)	(D)	(D)	(D)	(D)	(D)
3541C 55	Circular cutoff saws (cold) <sup>21</sup> . . . . .	5	148	<sup>a</sup> 6,833	(D)	188	8,371	(D)
3541C 59	Band saws <sup>21</sup> . . . . .	12	3,657	50,810	(D)	4,201	52,654	(D)
3541C 61	All other sawing and cutoff machines <sup>21</sup> . . . . .	12	765	33,481	24,436	609	25,061	<sup>c</sup> 35,562
3541C 64	Spark erosion, ultrasonic, and electrolytic machines, all types . . . . .	8	1,152	80,435	7,084	1,156	70,590	12,635
3541C 91	Miscellaneous metal cutting machine tools . . . . .	27	<sup>a</sup> 2,650	120,966	45,338	<sup>b</sup> 2,815	<sup>b</sup> 63,874	32,802
	Metal forming type machine tools valued over \$3,025 . . . . .	(X)	19,864	1,427,686	754,830	22,854	1,482,874	859,238
	Metal forming type machine tools valued at \$3,025 and under . . . . .	(X)	49,321	38,943	2,291	34,086	27,667	2,355
35421 00	Punching, shearing, bending, and forming machines . . . . .	81	15,540	614,402	221,514	15,654	583,200	237,913
35421 08	All punching and shearing machines valued under \$3,025 each . . . . .	12	<sup>c</sup> 711	<sup>b</sup> 1,264	<sup>c</sup> 132	<sup>c</sup> 866	<sup>b</sup> 1,497	<sup>c</sup> 131
	All punching and shearing machines valued at \$3,025 each or more:							
	Power operated only:							
35421 11	Punches, including combination punching and shearing machines . . . . .	16	<sup>a</sup> 3,200	<sup>a</sup> 45,774	12,977	<sup>b</sup> 3,341	<sup>a</sup> 44,888	5,222
35421 16	Punching machines fixed position and two axes positioning table . . . . .	7	566	130,015	14,399	584	<sup>a</sup> 145,822	<sup>a</sup> 26,468
	Plate shearing machines:							
35421 12	Mechanical <sup>22 23</sup> . . . . .	6	(D)	(D)	(D)	223	42,567	(D)
35421 14	Hydraulic <sup>22 23</sup> . . . . .	12	(D)	(D)	<sup>a</sup> 4,820	<sup>b</sup> 1,164	<sup>b</sup> 37,118	<sup>a</sup> 55,937
35421 19	Other power-operated punching and shearing machines <sup>22</sup> . . . . .	8	3,157	154,329	61,088	1,471	54,426	15,685
35421 33	All bending and forming machines, power operated, valued under \$3,025 each . . . . .	8	2,304	3,691	420	2,271	<sup>a</sup> 4,084	<sup>a</sup> 315
	All bending and forming machines, power operated, valued at \$3,025 each or more:							
35421 34	Press brakes, all types . . . . .	8	<sup>a</sup> 1,141	<sup>a</sup> 67,954	21,201	<sup>b</sup> 1,429	<sup>b</sup> 72,342	15,136
35421 37	Bending rolls, sheet, and plate <sup>24</sup> . . . . .	7	<sup>b</sup> 484	<sup>b</sup> 12,563	(D)	<sup>c</sup> 464	<sup>b</sup> 7,658	<sup>a</sup> 998
35421 35	Bending rolls, angles, bars, shapes, and tubes <sup>24</sup> . . . . .	5	(D)	(D)	(D)	(D)	(D)	(D)
35421 43	Rotary bending and forming machines, including rotary head <sup>24</sup> . . . . .	10	<sup>b</sup> 818	77,162	<sup>a</sup> 32,231	<sup>b</sup> 867	63,006	<sup>b</sup> 42,176
35421 47	Ram and press bending machines <sup>25</sup> . . . . .	5	(D)	(D)	(D)	250	5,025	(D)
35421 49	Other bending and forming machines, including folders <sup>25</sup> . . . . .	22	3,159	121,650	<sup>b</sup> 74,246	2,724	<sup>a</sup> 104,767	<sup>b</sup> 75,845
35422 00	Presses (except forgings) . . . . .	48	11,023	401,990	334,302	5,045	379,203	376,502
35422 01	All presses valued under \$3,025 each <sup>26</sup> . . . . .	6	<sup>a</sup> 8,072	5,004	(D)	(D)	(D)	(D)
	All presses valued at \$3,025 each or more:							
	Mechanical presses:							
	Open back inclinable, gap type:							
35422 12	50 tons and under . . . . .	7	367	6,647	964	347	5,872	1,912
35422 02	51 tons to 120 tons . . . . .	6	111	7,214	2,271	154	9,264	3,137
35422 03	121 tons and over <sup>26</sup> . . . . .	3	(D)	(D)	(D)	39	4,432	(D)
	Vertical straight sided and arch frame single action:							
35422 16	Single point <sup>27</sup> . . . . .	2	(D)	(D)	(D)	(D)	(D)	(D)
	Two point:							
35422 17	300 tons and under <sup>27</sup> . . . . .	5	127	31,472	8,485	211	42,748	21,874
35422 18	301 tons and over <sup>26</sup> . . . . .	3	(D)	(D)	13,341	46	29,086	19,528
35422 45	Automatic presses, strip or coil field <sup>26</sup> . . . . .	8	452	122,892	(D)	426	117,524	77,610
35422 53	All other mechanical presses <sup>26</sup> . . . . .	5	130	131,319	237,402	1,864	69,292	166,298

See footnotes at end of table.

Table 18. Total Shipments and Unfilled Orders: 1996 and 1995—Con.

[Quantity in units. Value in thousands of dollars]

Product code	Product description	Company count	1996			1995		
			Total shipments		Unfilled orders (value)	Total shipments		Unfilled orders (value)
			Quantity	Value		Quantity	Value	
35422 00	Metalworking machinery—Con. Metal forming type machine tools valued at \$3,025 and under—Con. Presses (except forgings)—Con. All presses valued under \$3,025 each or more—Con. Hydraulic presses:							
35422 56	Vertical single action, all tonnages: Housing or straight side type <sup>28</sup> .....	6	(D)	(D)	(D)	(D)	(D)	(D)
35422 57	Column type (open rod) <sup>28</sup> .....	8	130	39,127	37,640	<sup>b</sup> 176	<sup>b</sup> 41,485	26,046
35422 58	Gap or C-frame: 15 tons and under.....	8	634	6,365	582	<sup>b</sup> 683	<sup>b</sup> 7,847	<sup>b</sup> 544
35422 59	16 tons to 35 tons <sup>29</sup> .....	6	119	5,056	2,666	<sup>b</sup> 101	<sup>a</sup> 4,683	(D)
35422 60	Over 35 tons.....	8	90	7,967	<sup>a</sup> 5,876	<sup>b</sup> 76	<sup>b</sup> 6,007	2,398
35422 92	Other hydraulic and pneumatic presses, including horizontal <sup>29</sup> .....	14	<sup>b</sup> 791	38,927	<sup>b</sup> 25,075	<sup>b</sup> 922	<sup>b</sup> 40,963	<sup>b</sup> 57,155
35423 20	Forging machines, including forging presses and die stamping presses <sup>30</sup> .....	5	(D)	(D)	(D)	(D)	(D)	(D)
35423 00	All other metal forming type machine tools.....	48	42,622	450,237	201,305	36,241	548,138	247,178
35423 97	All other metal forming type machine tools valued under \$3,025 each <sup>30</sup> .....	5	38,234	28,984	(D)	30,949	22,086	1,909
35423 43	All other metal forming type machine tools valued at \$3,025 each or more:							
35423 30	Thread rolling machinery.....	6	<sup>a</sup> 128	<sup>b</sup> 20,578	<sup>b</sup> 4,854	<sup>b</sup> 167	<sup>c</sup> 28,967	<sup>c</sup> 3,493
35423 55	Metal container-making machinery.....	8	877	100,923	57,567	1,149	168,961	85,905
35423 49	Die casting machines, all types <sup>31</sup> .....	5	130	83,777	4,344	(D)	(D)	19,202
35423 93	Riveting machines <sup>31</sup> .....	9	<sup>b</sup> 1,009	<sup>a</sup> 13,982	<sup>b</sup> 2,164	<sup>b</sup> 1,258	117,494	<sup>c</sup> 2,177
35423 93	All other metal forming type machine tools, n.e.c. <sup>30</sup> .....	26	<sup>b</sup> 2,244	201,993	132,376	<sup>b</sup> 2,718	210,630	134,492

- Represents zero. D Withheld to avoid disclosing data for individual companies. n.e.c. Not elsewhere classified. X Not applicable.

<sup>1</sup>Unfilled orders for product code 35414 10 are included in total for "Metal cutting type machine tools valued under \$3,025."  
<sup>2</sup>Product code 35415 09 is included in total for "Metal cutting type machines tools valued under \$3,025."  
<sup>3</sup>Product code 35416 09 is included in total for "Metal cutting type machine tools valued under \$3,025."  
<sup>4</sup>Product codes 3541D 16, 3541D 40, and 3541D 46 were combined to avoid disclosing data for individual companies.  
<sup>5</sup>Product codes 3541D 45, 3541D 55, and 3541D 65 were combined to avoid disclosing data for individual companies.  
<sup>6</sup>Product codes 35414 11 and 35414 13 are combined to avoid disclosing data for individual companies.  
<sup>7</sup>Unfilled orders for product code 35414 33 and product code 35414 42 are combined to avoid disclosing data for individual companies.  
<sup>8</sup>Product codes 35414 34 and 35414 37 were combined to avoid disclosing data for individual companies.  
<sup>9</sup>Product codes 35414 42 and 35414 52 are combined to avoid disclosing data for individual companies.  
<sup>10</sup>Product codes 35414 53 and 35414 55 are combined to avoid disclosing data for individual companies.  
<sup>11</sup>Product code 35414 75 and product code 35414 79 were combined to avoid disclosing data for individual companies.  
<sup>12</sup>Product code 35415 15 and product code 35415 12 were combined to avoid disclosing data for individual companies.  
<sup>13</sup>Product codes 35415 19 and 35415 21 were combined to avoid disclosing data for individual companies.  
<sup>14</sup>Product codes 35415 23, 35415 83, 35415 88, 35415 57, and 35415 86 were combined to avoid disclosing data for individual companies.  
<sup>15</sup>Product codes 35416 23, 35416 32, 35416 53, and 3541 62 were combined to avoid disclosing data for individual companies.  
<sup>16</sup>Product codes 3541A 12 and 3541A 14 were combined to avoid disclosing data for individual companies.  
<sup>17</sup>Product codes 3541A 16 and 3541A 17 were combined to avoid disclosing data for individual companies.  
<sup>18</sup>Product codes 3541A 18 and 3541A 21 were combined to avoid disclosing data for individual companies.  
<sup>19</sup>Unfilled orders for product codes 3541A 21 and 3541A 19 were combined to avoid disclosing data for individual companies.  
<sup>20</sup>Product codes 3541B 35 and 3541B 37 were combined to avoid disclosing data for individual companies.  
<sup>21</sup>Product codes 3541C 53, 3541C 55, 3541C 59, and 3541C 61 were combined to avoid disclosing data for individual companies.  
<sup>22</sup>Product codes 35421 12, 35421 14, and 35421 19 were combined to avoid disclosing data for individual companies.  
<sup>23</sup>Unfilled orders for product codes 35421 12 and 35421 14 were combined to avoid disclosing data for individual companies.  
<sup>24</sup>Product codes 35421 37, 35421 35, and 35421 43 were combined to avoid disclosing data for individual companies.  
<sup>25</sup>Product codes 35421 47 and 35421 49 were combined to avoid disclosing data for individual companies.  
<sup>26</sup>Product codes 35422 01, 35422 03, 35422 18, 35422 45, and 35422 53 were combined to avoid disclosing data for individual companies.  
<sup>27</sup>Product codes 35422 16 and 35422 17 were combined to avoid disclosing individual company data.  
<sup>28</sup>Product codes 35422 56 and 35422 57 were combined to avoid disclosing individual company data.  
<sup>29</sup>Unfilled orders for product codes 35422 59 and 35422 92 were combined to avoid disclosing individual company data.  
<sup>30</sup>Product codes 35423 20, 35423 97, and 35423 93 were combined to avoid disclosing individual company data.  
<sup>31</sup>Product codes 35423 55 and 35423 49 were combined to avoid disclosing individual company data.

Note: Percent of estimation of each item is indicated as follows: <sup>a</sup>16 to 25 percent of this item is estimated. <sup>b</sup>26 to 50 percent of this item is estimated. <sup>c</sup>Over 50 percent of this item is estimated.

Table 19. Total Shipments of Numerically Controlled Machines and Exports: 1996 and 1995

[Quantity in units. Value in thousands of dollars]

Product description	1996			1995		
	Shipments of numerically controlled machines		Export shipments (value) <sup>1</sup>	Shipments of numerically controlled machines		Export shipments (value) <sup>1</sup>
	Quantity	Value		Quantity	Value	
Metalworking machinery .....	17,021	2,230,287	713,070	17,052	2,196,526	626,653
Metal cutting type machine tools .....	15,052	1,915,702	423,235	14,845	1,902,410	364,192
Boring and drilling machines .....	75	35,805	2,208	243	87,050	5,586
Gear cutting machines .....	308	134,165	84,659	298	117,547	48,616
Grinding, polishing, buffing, and lapping machines .....	692	239,207	75,559	923	252,801	76,942
Valued under \$3,025 each, external cylindrical grinding machines (plain and universal) and surface grinding machines, all types .....	557	225,977	54,280	820	244,723	59,026
Honing, lapping, polishing and buffing machines .....	135	13,230	21,279	103	8,078	17,916
Horizontal NC turning machines, valued at \$3,025 or more .....	2,985	304,871	31,578	3,416	351,235	21,038
Single spindle NC turning machines:						
Chuck sizes up to and including 6" <sup>2</sup> .....	(D)	(D)	(D)	(X)	(X)	(X)
Chuck sizes over 6" but less than 10" <sup>2</sup> .....	2,019	166,803	20,137	(X)	(X)	(X)
Chuck sizes from 10" but less than 15" .....	917	115,247	8,329	(X)	(X)	(X)
Chuck sizes 15" and over, and multiple spindle .....	49	22,821	3,112	(X)	(X)	(X)
Vertical NC turning machines, valued at \$3,025 or more .....	222	90,288	1,443	234	74,007	8,798
Nonnumerically controlled turning machines, valued at \$3,025 or more .....	(X)	(X)	2,753	(X)	(X)	4,780
Milling machines .....	1,649	160,867	22,332	1,760	153,577	21,397
Machining centers <sup>3</sup> .....	8,442	779,433	149,179	7,305	698,780	137,308
Drill, mill, and bore, vertical (automatic tool change) .....	6,957	524,237	108,165	6,023	453,297	88,334
Y-axis travel less than 20 inches .....	3,447	205,277	(D)	2,978	173,766	(D)
Y-axis travel 20 inches through 26 inches .....	2,832	231,114	43,242	2,503	204,959	38,898
Y-axis travel over 26 inches .....	678	87,846	(D)	542	74,572	(D)
Drill, mill, and bore, horizontal (automatic tool change) .....	592	219,769	38,419	653	214,233	34,036
400mm pallet and smaller <sup>4</sup> .....	(D)	(D)	(D)	(X)	(X)	(X)
401mm-500mm pallet <sup>4</sup> .....	363	80,886	(D)	(X)	(X)	(X)
501mm-630mm pallet <sup>5</sup> .....	(D)	(D)	(D)	(X)	(X)	(X)
631mm-800mm pallet <sup>5</sup> .....	169	80,187	(D)	(X)	(X)	(X)
801mm-1000mm pallet <sup>6</sup> .....	(D)	(D)	(D)	(X)	(X)	(X)
Over 1000mm pallet <sup>6</sup> .....	60	58,696	(D)	(X)	(X)	(X)
All other machining centers <sup>3</sup> .....	893	35,427	(D)	629	31,250	(D)
Station type machines, and other metal cutting machine tools, n.e.c. ....	679	171,066	53,524	666	167,413	39,727
Metal forming type machine tools .....	1,969	314,585	289,835	2,207	294,116	262,461
Punching, shearing, bending, and forming machines .....	1,099	229,850	117,835	1,243	217,496	95,052
Punching and shearing machines .....	710	180,729	47,727	716	155,503	42,696
All bending and forming machines, power operated .....	389	49,121	70,108	527	61,993	52,356
Presses (except forging) .....	171	57,874	48,694	162	46,084	33,869
Forging machines, all other metal forming type machine tools .....	699	26,861	123,306	802	30,536	133,540

D Withheld to avoid disclosing data for individual companies. n.e.c. Not elsewhere classified. X Not applicable.

<sup>1</sup>Data include value of all types of machines exported, as reported by MQ35W survey panel.<sup>2</sup>Data included in "Chuck sizes over 6" but less than 10".<sup>3</sup>Data included in total for machining centers.<sup>4</sup>Data included in 401mm-500mm pallet.<sup>5</sup>Data included in 631mm-800mm pallet.<sup>6</sup>Data included in over 1000mm pallet.



Table 20. Shipments, Exports, and Imports of Metalworking Machinery: 1996 and 1995

[Quantity in units. Value in thousands of dollars]

Product description	Manufacturers' shipments		Exports of domestic merchandise <sup>1 2</sup>		Imports for consumption <sup>1 3</sup>	
	Quantity	Value	Quantity	Value at port	Quantity	Value <sup>4</sup>
<b>1996</b>						
Boring and drilling machines, excluding multifunction NC machines, machining centers:						
Boring machines:						
Valued under \$3,025 each.....	(X)	(X)	2,350	469	2,828	2,680
Valued at \$3,025 each or more .....	879	88,929	599	26,318	893	92,462
Drilling machines:						
Valued under \$3,025 each.....	5,595	7,736	5,477	3,368	165,823	19,427
Valued at \$3,025 each or more .....	1,453	91,717	715	21,331	1,491	55,605
Gear cutting machines .....	471	164,258	826	7,768	681	44,349
Grinding, polishing, buffing, honing, and lapping machinery (except gear tooth grinding, lapping, polishing, and buffing machines):						
Valued under \$3,025 each.....	59,099	24,274	25,474	7,185	805,906	32,290
Valued at \$3,025 each or more .....	6,638	517,003	1,214	95,705	8,352	362,110
Lathes (turning machines) under \$3,025 .....	(D)	(D)	412	567	14,593	12,384
Horizontal NC turning machines.....	2,985	304,871	437	40,667	8,067	696,777
Vertical NC turning machines .....	222	90,288	73	8,711	339	46,400
Nonnumerically controlled turning machines:						
Engine or toolroom lathes, all types <sup>5</sup> .....	(D)	(D)	54	706	5,365	58,213
Single spindle automatic lathes <sup>5</sup> .....	(D)	(D)	12	146	326	6,630
Multiple spindle automatic lathes <sup>5</sup> .....	(D)	(D)	67	4,815	74	13,723
All other horizontal turning machines <sup>5</sup> .....	(D)	(D)	241	3,731	212	5,209
All vertical lathes and vertical boring machines <sup>5</sup> .....	983	55,956	275	8,391	779	34,124
Milling machines:						
Valued under \$3,025 each.....	(D)	(D)	8,754	11,729	10,163	10,793
Valued at \$3,025 each or more .....	4,102	199,667	1,106	43,795	8,500	142,493
Machining centers (multifunction NC machines):						
Drill, mill, and bore, vertical (automatic tool change):						
Y-axis travel less than 20 inches and 20 inches through 26 inches.....	6,279	436,391	608	64,908	3,420	309,383
Y-axis travel 26 inches and over .....	678	87,846	40	8,401	351	71,376
Drill, mill, and bore, horizontal (automatic tool change).....	592	219,769	38	12,975	1,456	425,224
Other machining centers .....	893	35,427	586	48,245	153	59,088
Station type machines .....	413	498,592	146	62,364	520	215,155
Other metal cutting machine tools:						
Valued under \$3,025 each.....	8,544	12,796	(NA)	(NA)	(NA)	(NA)
Valued at \$3,025 each or more .....	8,469	303,181	5,909	159,491	6,188	288,487
Punching and shearing machines:						
Valued under \$3,025 each.....	711	1,264	1,260	760	9,087	3,156
Valued at \$3,025 each or more .....	6,923	330,118	1,545	63,558	2,073	163,757
Bending and forming machines:						
Valued under \$3,025 each.....	2,304	3,691	10,528	5,825	29,194	5,040
Valued at \$3,025 each or more .....	5,602	279,329	2,007	76,636	4,491	246,884
Presses (except forging presses).....	11,023	401,990	1,745	1,725	5,131	242,108
Forging machines, including presses <sup>6</sup> .....	(D)	(D)	482	101,681	1,268	109,394
All other metal forming type machine tools:						
Valued under \$3,025 each.....	38,234	28,984	(NA)	(NA)	(NA)	(NA)
Machines valued at \$3,025 each or more:						
Die casting machines .....	130	83,777	1,976	16,301	1,267	66,674
Thread rolling machines.....	128	20,578	52	2,023	122	9,890
Other metal forming machines <sup>6</sup> .....	2,244	201,993	(NA)	(NA)	(NA)	(NA)

See footnotes at end of table.

Table 20. Shipments, Exports, and Imports of Metalworking Machinery: 1996 and 1995—Con.

[Quantity in units. Value in thousands of dollars]

Product description	Manufacturers' shipments		Exports of domestic merchandise <sup>1 2</sup>		Imports for consumption <sup>1 3</sup>	
	Quantity	Value	Quantity	Value at port	Quantity	Value <sup>4</sup>
<b>1995</b>						
Boring and drilling machines, excluding multifunction NC machines, machining centers:						
Boring machines:						
Valued under \$3,025 each.....	(X)	(X)	4,683	1,263	3,575	3,139
Valued at \$3,025 each or more .....	1,374	172,417	726	46,577	1,221	68,629
Drilling machines:						
Valued under \$3,025 each.....	7,299	9,421	7,664	4,238	180,832	20,565
Valued at \$3,025 each or more .....	1,792	69,515	567	23,865	1,393	48,814
Gear cutting machines .....	421	137,121	594	8,947	852	53,819
Grinding, polishing, buffing, honing, and lapping machinery (except gear tooth grinding, lapping, polishing, and buffing machines):						
Valued under \$3,025 each.....	59,890	23,475	26,647	8,732	837,029	29,482
Valued at \$3,025 each or more .....	5,838	485,255	1,529	93,464	9,438	332,412
Lathes (turning machines) under \$3,025 .....	(D)	(D)	647	585	11,774	9,991
NC turning machines (horizontal).....	3,416	351,234	393	42,547	6,834	680,505
Vertical NC turning machines .....	234	74,007	161	26,286	366	55,971
Nonnumerically controlled turning machines:						
Engine or toolroom lathes, all types <sup>5</sup> ....	(D)	(D)	124	3,303	4,991	47,223
Single spindle automatic lathes <sup>5</sup> .....	85	7,045	25	789	280	4,677
Multiple spindle automatic lathes .....	249	29,324	48	5,449	102	17,671
All other horizontal turning machines ...	531	6,860	336	4,495	333	12,583
All other vertical turning machines.....	128	9,533	218	6,071	887	25,690
Milling machines:						
Valued under \$3,025 each.....	(D)	(D)	6,663	9,513	11,030	13,042
Valued at \$3,025 each or more .....	4,747	194,757	762	34,562	6,950	90,297
Machining centers (multifunction NC machines):						
Drill, mill, and bore, vertical (automatic tool change):						
Y-axis travel less than 20 inches and 20 inches through 26 inches.....	5,481	378,725	235	26,467	3,325	289,729
Y-axis travel 26 inches and over .....	542	74,572	33	7,304	470	63,276
Drill, mill, and bore, horizontal (automatic tool change).....	653	214,233	21	5,201	982	278,519
Other machining centers .....	629	31,250	424	36,313	269	99,673
Station type machines .....	464	477,021	192	63,204	300	76,178
Other metal cutting machine tools:						
Valued under \$3,025 each.....	9,638	15,046	(NA)	(NA)	(NA)	(NA)
Valued at \$3,025 each or more .....	9,058	231,191	4,660	124,881	6,558	311,130
Punching and shearing machines:						
Valued under \$3,025 each.....	866	1,497	5,019	1,893	5,407	1,937
Valued at \$3,025 each or more .....	6,783	324,821	1,344	62,878	2,043	137,730
Bending and forming machines:						
Valued under \$3,025 each.....	2,271	4,084	12,581	6,543	22,670	4,292
Valued at \$3,025 each or more .....	5,734	252,798	2,084	71,169	4,101	210,214
Presses (except forging presses).....	5,045	379,203	2,507	2,923	4,369	194,051
Forging machines, including presses .....	(D)	(D)	334	68,726	1,364	128,941

See footnotes at end of table.

Table 20. Shipments, Exports, and Imports of Metalworking Machinery: 1996 and 1995—Con.

[Quantity in units. Value in thousands of dollars]

Product description	Manufacturers' shipments		Exports of domestic merchandise <sup>1 2</sup>		Imports for consumption <sup>1 3</sup>	
	Quantity	Value	Quantity	Value at port	Quantity	Value <sup>4</sup>
<b>1995—Con.</b>						
All other metal forming type machine tools:						
Valued under \$3,025 each. . . . .	30,949	22,086	(NA)	(NA)	(NA)	(NA)
Valued at \$3,025 each or more:						
Die casting machines . . . . .	(D)	(D)	498	18,120	1,495	75,277
Thread rolling machines. . . . .	167	28,967	60	4,258	63	5,457
Other metal forming machines . . . . .	2,718	210,630	(NA)	(NA)	(NA)	(NA)

D Withheld to avoid disclosing data for individual companies. NA Not available. X Not applicable.

<sup>1</sup>For comparison of SIC-based product codes, schedule B export numbers, and HTSUSA import numbers, see "Contact for Data Users" at end of this subsection.<sup>2</sup>Source: Bureau of the Census report EM 545, *U.S. Exports*.<sup>3</sup>Source: Bureau of the Census report IM 145, *U.S. General Imports for Consumption*.<sup>4</sup>Dollar value represents c.i.f. (cost, insurance, and freight) value at first port of entry in the United States plus import duties.<sup>5</sup>Manufacturers' shipments for "Engine or toolroom lathes, all types" have been combined with "Single spindle automatic lathes."<sup>6</sup>Data included with "Other metal forming machines."

## HISTORICAL NOTE

Data on metalworking machinery have been collected by the Bureau of the Census since 1942. Historical data may be obtained from Current Industrial Reports (called Facts for Industry before 1959) available at your local Federal Depository Library. Historical data are also available on microfiche; contact Customer Services, 301-457-4100.

## FUNDING

The survey is funded, in part, by the Association for Manufacturing Technologies.

## CONTACT FOR DATA USERS

For additional information about these data, contact Larry Blumberg, 301-457-4744.

## TRUCK TRAILERS (M37L)

### INTRODUCTION

These data cover all companies engaged in the manufacture, in the United States, of truck trailers with a rating of 10,000 pounds or more per axle. Truck trailers with a rating of less than 10,000 pounds per axle are excluded.

The statistics were collected by mail on Bureau of the Census monthly Form M37L, Truck Trailers. The panel for this survey consists of all known manufacturers of truck trailers meeting the required specifications, approximately 156 companies.

Participation in the monthly survey is voluntary. However, annual reports are required from those companies that do not report monthly. The annual summary includes revisions of monthly data originally estimated for companies that only report annually.

### SUMMARY OF FINDINGS

The value of factory shipments of complete truck trailers was \$3,844.7 million in 1996, an decrease of 34 percent from shipments of \$5,151.2 million in 1995. Quantity of complete truck trailer shipments for 1996 was 202,912 units, a decrease of 38 percent from shipments of 279,144 in 1995.

Complete trailer vans shipped in 1996 decreased 48 percent in quantity and 23 percent in value from the 1995 levels. The quantity of tank-type trailers shipped in 1996 decreased 2 percent and their value decreased 24 percent from the 1995 levels.

### EXPLANATION OF TERMS

**Truck trailers.** A property-carrying vehicle, or chassis thereof, drawn by a truck or truck-tractor and having one or more axles. Only trailers with a rating of 10,000 pounds or more per axle are included in this survey. Trailers that are produced on a purchased or leased chassis are included. The value of these trailers includes the value of the purchased or leased chassis.

**Complete trailers.** A trailer in which the body is permanently attached on the chassis. New trailer chassis shipped with detachable trailers are not included.

**Detachable trailer bodies.** A detachable trailer generally is designed to be used with trailer chassis, except when transported on ships or rail cars (minimum size 8'x 8'x 10'). This includes all trailer bodies that are manufactured separately as trailer bodies without chassis or running gear.

**Detachable trailer chassis and running gear.** Includes all trailer chassis and running gear manufactured for use with detachable trailer bodies, whether shipped with such trailer bodies or not.

Table 21. **Quantity of Shipments of Truck Trailers: 1987 to 1996**

[Number of units]

Product code	Product description	1996	1995	1994	1993	1992	1991	1990	1989	1988	1987
37151	Complete trailers .....	202,912	279,144	234,287	185,741	165,268	122,361	149,117	181,478	186,483	180,142
	Vans .....	146,350	215,420	174,237	141,764	127,205	84,626	103,894	130,163	131,991	135,380
	Tank .....	5,386	5,492	4,758	3,877	3,750	4,113	4,444	4,789	5,075	4,636
	Platform .....	18,193	22,797	21,459	16,102	13,432	11,585	13,479	18,411	17,648	14,975
	All other complete trailers.....	32,983	35,435	33,833	23,998	20,881	22,037	27,300	28,115	31,769	25,151
	Detachable trailer bodies <sup>1</sup> .....	6,789	7,757	2,598	12,207	(D)	(D)	(D)	(D)	5,223	438
	Detachable trailer chassis <sup>1</sup> .....	27,602	46,979	57,570	25,483	23,408	24,491	17,214	24,779	37,729	23,014
	Dollies and converter gear.....	2,739	4,601	2,986	2,486	3,899	3,097	2,272	2,668	2,917	4,614

D Withheld to avoid disclosing data for individual companies.

<sup>1</sup>Data for "detachable trailer bodies" and "detachable trailer chassis" were combined for 1989 through 1992 to avoid disclosing data for individual companies.

Table 22. Quantity of Shipments of Truck Trailers by Month and Type of Trailer: 1996

[Number of units]

Product code	Product description	Number of companies	Total	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
	Complete trailers and chassis (except detachables)	168	202,912	18,118	18,104	16,936	16,980	16,942	16,635	15,764	17,073	17,100	17,055	15,814	16,391
	Vans	(NA)	146,350	13,426	13,110	12,106	11,910	11,859	11,775	11,093	12,396	12,584	12,326	11,653	12,112
	Closed top:														
	Insulated (refrigerated)	(NA)	25,499	'2,201	2,170	2,075	2,166	2,047	1,930	1,905	2,209	2,336	2,396	2,001	2,063
37151 02	Steel <sup>1</sup>	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
37151 14	Aluminum <sup>1</sup>	7	25,499	2,201	2,170	2,075	'2,166	2,047	1,930	1,905	2,209	2,336	2,396	2,001	2,063
37151 60	FRP <sup>3</sup>	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Semi-insulated (nonrefrigerated)	(NA)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
37151 04	Steel <sup>1</sup>	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
37151 16	Aluminum <sup>2</sup>	4	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
37151 62	FRP <sup>3</sup>	-	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
	Drop frame type (12 inches or more drop)	(NA)	2,889	'270	121	269	'287	258	264	227	469	273	172	127	152
37151 05	Steel	-	-	-	-	-	-	-	-	-	-	-	-	-	-
37151 15	Aluminum <sup>2</sup>	5	2,889	270	121	269	'287	258	264	227	469	273	172	127	152
37151 64	FRP <sup>3</sup>	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
	Livestock	(NA)	1,673	'137	'138	'130	'132	'119	'167	'134	'142	'154	'135	'142	'143
37151 07	Steel <sup>4</sup>	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
37151 17	Aluminum <sup>4</sup>	7	1,673	'137	'138	'130	'132	'119	'167	'134	'142	'154	'135	'142	'143
	All other closed-top dry freight vans, including curtain	(NA)	109,152	10,291	10,146	9,152	8,820	8,998	8,769	8,255	8,855	9,013	8,913	8,735	9,205
	Steel	(NA)	3,604	323	'314	'314	319	'331	'339	'306	'330	'366	292	125	245
37151 10	Less than 30 feet long <sup>5</sup>	2	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
37151 11	30 feet or greater <sup>5</sup>	7	3,604	'323	'314	'314	'319	'331	'339	'306	'330	'366	292	125	245
	Aluminum	(NA)	96,409	9,266	9,007	8,128	7,743	7,873	7,742	7,279	7,818	7,864	7,755	7,700	8,234
37151 23	Less than 30 feet long	15	10,763	'1,285	'1,020	'763	'842	920	835	857	803	810	853	856	919
37151 25	30 feet or greater	20	85,646	'7,981	'7,987	'7,365	'6,901	6,953	'6,907	'6,422	'7,015	'7,054	6,902	6,844	7,315
	FRP	(NA)	9,139	'702	'825	'710	758	'794	'688	'670	'707	'783	'866	'910	'726
37151 67	Less than 30 feet long <sup>3</sup>	6	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
37151 69	30 feet or greater <sup>3</sup>	11	9,139	'702	'825	'710	758	'794	'688	'670	'707	'783	'866	'910	'726
	Open tops, including lowside grain and fruit	(NA)	7,137	527	535	'480	505	437	645	'572	721	808	710	648	549
37151 12	Steel <sup>6</sup>	5	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
37151 26	Aluminum <sup>6</sup>	17	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
37151 70	FRP <sup>6</sup>	2	7,137	527	535	'480	505	437	645	'572	721	808	710	648	549
	Tanks	(NA)	5,386	454	502	491	473	462	445	463	428	440	438	390	400
37151 27	For flammable liquids (except casing head transport, including aircraft refuelers), all material	7	1,416	'125	'124	'119	'119	'125	'124	'113	'111	'115	'110	'117	'114
37151 30	Coated for chemicals and acids, all materials	7	1,779	'172	'200	'177	'175	'139	'118	158	'142	'114	153	'107	'124
37151 28	For asphalt, all materials	6	378	'19	'41	r/45	'49	64	44	32	'22	'24	'15	'12	'11
37151 32	All other, including noncoated for chemicals and acids, high pressure, food and milk, sanitary, and cryogenics, all materials	12	1,813	'138	'137	'150	130	'134	'159	'160	'153	'187	'160	'154	'151
37151 33	Bulk commodity and dry materials, including xpneumatic and mechanical discharge, both tank and hopper types (except van)	13	1,969	'170	'170	'165	'165	'165	166	163	162	159	160	162	162
37151 35	Pole, logging, and pipe	15	952	'92	'77	'78	'83	87	'78	'73	70	'80	'82	83	'69
37151 37	Platform	24	18,193	1,601	'1,535	'1,443	'1,515	1,558	1,488	1,473	1,551	1,544	1,658	1,428	1,399
	Low-bed heavy haulers, over 10-ton capacity, excluding tilt-bed trailers	(NA)	11,969	'879	'977	'1,028	'1,135	1,117	1,007	1,016	1,050	939	1,045	883	893
37151 38	Under 40-ton capacity	36	8,942	'656	'706	'765	'858	854	750	765	816	723	782	633	634
37151 39	40-ton capacity and over	31	3,027	'223	'271	'263	'277	263	257	251	234	216	263	250	259
	Dump trailers and dump chassis, highway type (rear, side, and bottom dump, including nonpneumatic hoppers)	(NA)	10,359	747	869	876	'1,016	'983	936	931	884	775	820	730	792
37151 40	For materials	38	7,968	'617	'676	'684	'778	'720	'705	'694	'638	'609	'640	'575	'632
37151 42	For other, including demolition and excavation	17	2,391	130	193	'192	'238	'263	'231	'237	'246	'166	'180	'155	'160

See footnotes at end of table.

Table 22. Quantity of Shipments of Truck Trailers by Month and Type of Trailer: 1996—Con.

[Number of units]

Product code	Product description	Number of companies	Total	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
37151 44	Complete trailers and chassis (except detachables)—Con. Automobile transport trailers . . . . .	12	865	'72	'75	'74	75	'78	'84	'59	'73	'62	'69	72	'72
37151 49	All other trailers and chassis (except detachable trailers and detachable trailer chassis). . . . .	37	6,869	677	'789	'675	608	633	656	493	459	517	457	413	492
37151 53	Detachable trailer bodies (containers), sold separately . . . . .	9	6,789	'507	'628	'655	'648	'679	'616	'534	'547	'544	'507	'459	465
37151 54	Detachable trailer chassis and running gear, sold separately. . . . .	19	27,602	'2,421	'2,718	'2,819	'2,362	'2,742	'2,607	'2,226	'2,010	'1,935	1,840	'2,129	1,793
37151 45	Dollies and converter gear . . . . .	21	2,739	'212	'215	'228	'241	'219	'203	'215	'210	'179	310	237	270

- Represents zero. D Withheld to avoid disclosing data for individual companies. FRP Fiberglass reinforced plastics plywood. NA Not available. ' Revised by 5 percent or more from previously published data.

<sup>1</sup>Product codes 37151 02 and 37151 04 are combined with product code 37151 14 to avoid disclosing data for individual companies.  
<sup>2</sup>Product code 37151 16 is combined with product code 37151 15 to avoid disclosing data for individual companies.  
<sup>3</sup>Product codes 37151 62, 37151 64, and 37151 67 are combined with product code 37151 69 to avoid disclosing data for individual companies.  
<sup>4</sup>Product code 37151 07 is combined with product code 37151 17 to avoid disclosing data for individual companies.  
<sup>5</sup>Product code 37151 10 is combined with product code 37151 11 to avoid disclosing data for individual companies.  
<sup>6</sup>Product codes 37151 12 and 37151 26 are combined with product code 37151 70 to avoid disclosing data for individual companies.

Table 23. Value of Shipments of Truck Trailers by Month and Type of Trailer: 1996

[Thousands of dollars]

Product code	Product description	Number of companies	Total	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
	Complete trailers and chassis (except detachables) . . . . .	168	3,844,670	338,944	334,847	318,835	326,884	320,922	313,296	299,139	325,437	322,435	327,842	302,503	313,586
	Vans . . . . .	(NA)	2,652,252	242,531	232,597	217,427	217,747	216,480	211,839	196,707	224,817	228,908	227,686	213,521	221,992
	Closed top:														
	Insulated (refrigerated) . . . . .	(NA)	632,657	'54,954	'51,915	'50,381	'53,175	'51,536	'47,742	'45,393	54,329	56,559	60,898	52,135	53,640
37151 02	Steel <sup>1</sup> . . . . .	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
37151 14	Aluminum <sup>1</sup> . . . . .	7	632,657	'54,954	'51,915	'50,381	'53,175	'51,536	'47,742	'45,393	54,329	56,559	60,898	52,135	53,640
37151 60	FRP . . . . .	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Semi-insulated (nonrefrigerated) . . . . .	(NA)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
37151 04	Steel <sup>1</sup> . . . . .	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
37151 16	Aluminum <sup>2</sup> . . . . .	4	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
37151 62	FRP <sup>3</sup> . . . . .	-	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
	Drop frame type (12 inches or more drop) . . . . .	(NA)	66,111	'7,020	'2,367	'6,874	'7,559	'6,814	'6,812	'5,082	9,329	'5,320	'3,465	'2,599	'2,870
37151 05	Steel . . . . .	-	-	-	-	-	-	-	-	-	-	-	-	-	-
37151 15	Aluminum <sup>2</sup> . . . . .	5	66,111	'7,020	'2,367	'6,874	'7,559	'6,814	'6,812	'5,082	9,329	'5,320	'3,465	'2,599	'2,870
37151 64	FRP <sup>3</sup> . . . . .	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
	Livestock . . . . .	(NA)	49,372	'3,901	'4,000	'3,732	'3,799	'3,375	'5,153	'3,879	'4,300	'4,729	'4,032	'4,216	4,256
37151 07	Steel <sup>4</sup> . . . . .	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
37151 17	Aluminum <sup>4</sup> . . . . .	7	49,372	'3,901	'4,000	'3,732	'3,799	'3,375	'5,153	'3,879	'4,300	'4,729	'4,032	'4,216	4,256
	All other closed-top dry freight vans, including curtain . . . . .	(NA)	1,727,571	163,042	160,619	144,243	140,665	143,195	136,258	128,624	139,780	142,738	142,353	139,021	147,033
	Steel . . . . .	(NA)	58,061	5,274	'5,083	'5,138	'5,260	'5,480	'5,728	4,918	5,427	'6,196	4,284	1,846	3,427
37151 10	Less than 30 feet long <sup>5</sup> . . . . .	2	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
37151 11	30 feet or greater <sup>5</sup> . . . . .	7	58,061	'5,274	'5,083	'5,138	'5,260	'5,480	'5,728	4,918	5,427	'6,196	4,284	1,846	3,427
	Aluminum . . . . .	(NA)	1,570,024	150,420	146,413	131,545	127,017	128,990	123,459	117,001	127,014	127,871	128,020	126,323	135,951
37151 23	Less than 30 feet long . . . . .	15	119,506	'14,445	'10,440	'8,956	'9,881	10,084	'8,916	'9,116	'8,767	'9,468	10,316	9,157	9,960
37151 25	30 feet or greater . . . . .	20	1,450,518	'135,975	135,973	'122,589	'117,136	'118,906	'114,543	'107,885	'118,247	'118,403	117,704	117,166	'125,991
37151 67	FRP . . . . .	(NA)	99,486	'7,348	'9,123	'7,560	'8,388	'8,725	'7,071	6,705	'7,339	'8,671	'10,049	'10,852	'7,655
37151 69	Less than 30 feet long <sup>3</sup> . . . . .	6	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
	30 feet or greater <sup>7</sup> . . . . .	11	99,486	'7,348	'9,123	'7,560	'8,388	'8,725	'7,071	6,705	'7,339	'8,671	'10,049	'10,852	'7,655
	Open tops, including low-side grain and fruit . . . . .	(NA)	176,541	13,614	13,696	12,197	'12,549	11,560	15,874	'13,729	17,079	19,562	16,938	15,550	14,193
37151 12	Steel <sup>6</sup> . . . . .	5	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
37151 26	Aluminum <sup>6</sup> . . . . .	17	176,541	'13,614	'13,696	12,197	'12,549	11,560	15,874	'13,729	17,079	19,562	16,938	15,550	14,193
37151 70	FRP <sup>6</sup> . . . . .	2	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
37151 27	Tanks . . . . .	(NA)	196,028	17,216	18,551	17,887	17,872	16,827	15,742	16,731	15,609	15,516	15,872	13,842	14,363
	For flammable liquids (except casing head transport, including aircraft refuelers), all materials . . . . .	7	67,288	'5,852	'5,775	'5,639	'5,756	'5,986	'5,857	'5,461	'5,325	'5,412	'5,319	'5,560	'5,346
37151 30	Coated for chemicals and acids, all materials . . . . .	7	79,578	'7,852	'8,731	7,730	'8,088	'5,934	'5,037	6,986	'6,429	'5,005	7,100	'4,917	'5,769
37151 28	For asphalt, all materials . . . . .	6	13,737	'911	1,481	1,581	'1,713	2,277	1,709	'1,241	'760	'810	'452	'434	'368
37151 32	All other, including noncoated for chemicals and acids, high pressure, food and milk, sanitary, and cryogenics, all materials . . . . .	12	35,425	'2,601	'2,564	2,937	'2,315	2,630	'3,139	'3,043	'3,095	'4,289	'3,001	'2,931	'2,880
37151 33	Bulk commodity and dry materials, including pneumatic and mechanical discharge, both tank and hopper types (except van) . . . . .	13	66,592	'5,823	'5,801	'5,609	'5,554	5,531	5,599	5,558	5,528	'5,372	'5,383	5,431	5,403
37151 35	Pole, logging, and pipe . . . . .	15	11,845	'1,295	'921	'1,024	'1,004	1,102	'990	869	'823	'1,011	'1,004	981	821
37151 37	Platform . . . . .	24	292,282	24,854	24,147	23,962	24,668	23,460	23,636	24,431	25,318	24,635	27,088	23,353	22,730

See footnotes at end of table.

Table 23. Value of Shipments of Truck Trailers by Month and Type of Trailer: 1996—Con.

[Thousands of dollars]

Product code	Product description	Number of companies	Total	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
	Complete trailers and chassis (except detachables)—Con.														
	Low-bed heavy haulers, over 10-ton capacity, excluding tilt-bed trailers. . . . .	(NA)	268,927	21,626	21,661	23,029	25,160	24,029	22,851	23,089	23,148	20,652	23,023	19,910	20,749
37151 38	Under 40-ton capacity . . . . .	36	149,137	'11,548	11,727	'13,179	14,387	13,486	12,408	12,733	13,636	12,292	12,639	10,328	10,774
37151 39	40-ton capacity and over. . . . .	31	119,790	10,078	9,934	9,850	10,773	10,543	10,443	10,356	9,512	8,360	10,384	9,582	9,975
	Dump trailers and dump chassis, highway type (rear, side, and bottom dump, including non-pneumatic hoppers) . . . . .	(NA)	263,337	18,147	22,585	22,131	26,487	24,558	23,917	24,587	22,964	18,904	20,709	18,325	20,023
37151 40	For materials . . . . .	38	192,563	'14,278	'16,178	'16,660	'19,410	'17,541	'17,115	'17,072	'15,606	'14,333	'15,484	'13,794	15,092
37151 42	For other, including demolition and excavation . . . . .	17	70,774	3,869	6,407	5,471	7,077	7,017	6,802	7,515	7,358	4,571	5,225	4,531	4,931
37151 44	Automobile transport trailers. . . . .	12	30,792	'2,484	'2,663	'2,584	'2,726	'2,616	'2,854	'2,049	'2,587	'2,060	'2,406	'2,911	'2,852
37151 49	All other trailers and chassis (except detachable trailers and detachable trailer chassis) . . . . .	37	62,615	4,968	5,921	5,182	5,666	6,319	5,868	5,118	4,643	5,377	4,671	'4,229	4,653
37151 53	Detachable trailer bodies (containers), sold separately . . . . .	9	86,207	'6,164	'7,814	'8,143	'8,066	'8,466	'7,659	'7,121	7,165	'7,099	'6,353	'5,958	'6,199
37151 54	Detachable trailer chassis and running gear, sold separately . . . . .	19	193,068	'16,431	'24,877	'22,778	'19,165	'16,783	'16,635	'13,637	'12,782	'12,223	11,878	'13,694	12,185
37151 45	Dollies and converter gear . . . . .	21	16,024	'1,268	'1,098	'1,276	'1,636	'1,418	'1,131	'1,194	'1,222	'1,033	1,758	1,184	1,806

- Represents zero. D Withheld to avoid disclosing data for individual companies. FRP Fiberglass reinforced plastics/plywood. NA Not available. 'Revised by 5 percent or more from previously published data.

<sup>1</sup>Product codes 37151 02 and 37151 04 are combined with product code 37151 14 to avoid disclosing data for individual companies.  
<sup>2</sup>Product codes 37151 16 and 37151 15 are combined to avoid disclosing data for individual companies.  
<sup>3</sup>Product codes 37151 62, 37151 64, and 37151 67 are combined with product code 37151 69 to avoid disclosing data for individual companies.  
<sup>4</sup>Product code 37151 07 is combined with product code 37151 17 to avoid disclosing data for individual companies.  
<sup>5</sup>Product code 37151 10 is combined with product code 37151 11 to avoid disclosing data for individual companies.  
<sup>6</sup>Product codes 37151 12 and 37151 70 are combined with product code 37151 26 to avoid disclosing data for individual companies.



Table 24. Quantity of Shipments of Truck Trailers by Month and Type of Trailer: 1995

[Number of units]

Product code	Product description	Number of companies	Total	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
	Complete trailers and chassis (except detachables)	156	279,144	22,564	22,910	28,957	23,033	24,848	24,259	20,776	23,142	23,358	22,609	22,032	20,656
	Vans	(NA)	215,420	17,262	17,532	22,496	17,317	18,682	18,773	15,918	18,056	18,348	17,600	17,087	16,349
	Closed top:														
	Insulated (refrigerated)	(NA)	31,715	2,643	2,581	2,903	2,485	3,016	2,866	2,229	2,788	2,509	2,907	2,509	2,279
37151 02	Steel <sup>1</sup>	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
37151 14	Aluminum <sup>1</sup>	7	31,715	2,643	2,581	2,903	2,485	3,016	2,866	2,229	2,788	2,509	2,907	2,509	2,279
37151 60	FRP	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Semi-insulated (non-refrigerated)	(NA)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
37151 04	Steel <sup>1</sup>	-	-	-	-	-	-	-	-	-	-	-	-	-	-
37151 16	Aluminum <sup>2</sup>	3	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
37151 62	FRP	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Drop frame type (12 inches or more drop) <sup>2</sup>	(NA)	6,481	620	432	777	569	734	531	723	754	350	317	347	327
37151 05	Steel	-	-	-	-	-	-	-	-	-	-	-	-	-	-
37151 15	Aluminum <sup>2</sup>	3	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
37151 64	FRP <sup>3</sup>	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
	Livestock	(NA)	1,708	139	136	156	135	130	122	158	154	159	148	137	134
37151 07	Steel <sup>4</sup>	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
37151 17	Aluminum <sup>4</sup>	5	1,708	139	136	156	135	130	122	158	154	159	148	137	134
	All other closed-top dry freight vans, including curtain	(NA)	167,648	13,301	13,788	17,976	13,537	14,187	14,577	12,073	13,592	14,471	13,530	13,499	13,117
	Steel	(NA)	4,995	420	392	448	381	423	570	389	375	391	388	435	383
37151 10	Less than 30 feet long <sup>5</sup>	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
37151 11	30 feet or greater <sup>5</sup>	4	4,995	420	392	448	381	423	570	389	375	391	388	435	383
	Aluminum	(NA)	152,685	12,069	12,611	16,482	12,265	12,924	13,195	10,847	12,435	13,234	12,287	12,294	12,042
37151 23	Less than 30 feet long	9	17,185	1,171	1,382	2,000	1,442	1,517	1,763	1,373	1,754	1,337	1,215	1,146	1,085
37151 25	30 feet or greater	13	135,500	10,898	11,229	14,482	10,823	11,407	11,432	9,474	10,681	11,897	11,072	11,148	10,957
	FRP	(NA)	9,968	812	785	1,046	891	840	812	837	782	846	855	770	692
37151 67	Less than 30 feet long <sup>3</sup>	3	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
37151 69	30 feet or greater <sup>3</sup>	9	9,968	812	785	1,046	891	840	812	837	782	846	855	770	692
	Open tops including low-side grain and fruit	(NA)	7,868	559	595	684	591	615	677	735	768	859	698	595	492
37151 12	Steel <sup>6</sup>	2	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
37151 26	Aluminum <sup>6</sup>	14	7,868	559	595	684	591	615	677	735	768	859	698	595	492
37151 70	FRP <sup>6</sup>	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
37151 27	Tanks	(NA)	5,492	439	486	546	499	481	491	462	488	428	378	417	377
	For flammable liquids (except casing head transport, including aircraft refuelers), all materials	6	1,675	140	144	144	144	140	136	142	142	138	140	143	122
37151 30	Coated for chemicals and acids, all materials	5	2,405	187	201	243	240	242	240	211	248	168	119	160	146
37151 28	For asphalt, all materials	4	500	49	59	90	52	43	48	37	29	32	17	23	21
37151 32	All other, including non-coated for chemicals and acids, high pressure, food and milk, sanitary, and cryogenics, all materials	8	912	63	82	69	63	56	67	72	69	90	102	91	88
37151 33	Bulk commodity and dry materials, including pneumatic and mechanical discharge, both tank and hopper types (except van)	12	2,589	219	219	221	215	217	215	211	216	214	213	214	215
37151 35	Pole, logging, and pipe	10	1,596	97	123	103	142	136	128	148	130	137	148	160	144
37151 37	Platform	24	22,797	1,900	1,924	2,437	2,038	2,202	1,972	1,680	1,840	1,939	1,809	1,754	1,302
	Low-bed heavy haulers, over 10-ton capacity, excluding tilt-bed trailers	(NA)	13,054	1,190	1,138	1,354	1,237	1,309	1,038	891	1,010	947	1,038	973	929
37151 38	Under 40-ton capacity	33	8,707	777	764	923	863	907	694	562	665	620	702	633	597
37151 39	40-ton capacity and over	20	4,347	413	374	431	374	402	344	329	345	327	336	340	332

See footnotes at end of table.

Table 24. Quantity of Shipments of Truck Trailers by Month and Type of Trailer: 1995—Con.

[Number of units]

Product code	Product description	Number of companies	Total	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
	Complete trailers and chassis (except detachables)—Con.														
	Dump trailers and dump chassis, highway type (rear, side, and bottom dump, including nonpneumatic hoppers) . . . . .	(NA)	9,552	756	812	1,023	862	1,048	947	771	713	607	689	703	621
37151 40	For materials . . . . .	32	7,147	558	604	755	647	743	705	564	556	489	552	502	472
37151 42	For other, including demolition and excavation . . . . .	15	2,405	198	208	268	215	305	242	207	157	118	137	201	149
37151 44	Automobile transport trailers . . . . .	7	892	76	73	78	73	74	76	73	78	74	72	77	68
37151 49	All other trailers and chassis (except detachable trailers and detachable trailer chassis) . . . . .	31	7,752	625	603	699	650	699	619	622	611	664	662	647	651
37151 53	Detachable trailer bodies (containers), sold separately . . . . .	8	7,757	733	694	739	609	608	646	531	644	608	643	696	606
37151 54	Detachable trailer chassis and running gear, sold separately . . . . .	20	46,979	3,339	3,917	5,798	4,366	4,384	4,087	3,030	3,656	4,013	3,405	3,283	3,701
37151 45	Dollies and converter gear . . . . .	15	4,601	403	395	412	406	427	412	387	348	366	380	350	315

- Represents zero. D Withheld to avoid disclosing data for individual companies. FRP Fiberglass reinforced plastics/plywood. NA Not available.

<sup>1</sup>Product codes 37151 02 and 37151 04 are combined with product code 37151 14 to avoid disclosing data for individual companies.  
<sup>2</sup>Product codes 37151 16 and 37151 15 are combined with "Drop frame type (12 inches)" to avoid disclosing data for individual companies.  
<sup>3</sup>Product codes 37151 64 and 37151 67 are combined with 37151 69 to avoid disclosing data for individual companies.  
<sup>4</sup>Product code 37151 07 is combined with product code 37151 17 to avoid disclosing data for individual companies.  
<sup>5</sup>Product code 37151 10 is combined with product code 37151 11 to avoid disclosing data for individual companies.  
<sup>6</sup>Product codes 37151 12 and 37151 70 are combined with product code 37151 26 to avoid disclosing data for individual companies.

Table 25. Value of Shipments of Truck Trailers by Month and Type of Trailer: 1995

[Thousands of dollars]

Product code	Product description	Number of companies	Total	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
	Complete trailers and chassis (except detachables) . . . . .	156	5,151,187	413,270	417,891	513,780	421,091	459,500	445,600	385,977	430,934	431,711	426,976	416,921	387,536
	Vans . . . . .	(NA)	3,770,056	298,217	301,448	375,965	298,179	325,993	325,014	277,846	318,953	326,190	319,748	308,927	293,576
	Closed top:														
	Insulated (refrigerated) . . . . .	(NA)	769,872	61,006	61,343	68,143	58,277	72,392	70,153	53,984	68,625	62,603	72,099	63,556	57,691
37151 02	Steel <sup>1</sup> . . . . .	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
37151 14	Aluminum <sup>1</sup> . . . . .	7	769,872	61,006	61,343	68,143	58,277	72,392	70,153	53,984	68,625	62,603	72,099	63,556	57,691
37151 60	FRP . . . . .	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Semi-insulated (non-refrigerated) . . . . .	(NA)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
37151 04	Steel <sup>1</sup> . . . . .	-	-	-	-	-	-	-	-	-	-	-	-	-	-
37151 16	Aluminum <sup>2</sup> . . . . .	3	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
37151 62	FRP . . . . .	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Drop frame type (12 inches or more drop) . . . . .	(NA)	126,829	12,033	8,610	14,255	10,964	13,528	10,582	12,971	13,096	7,605	7,193	8,234	7,758
37151 05	Steel . . . . .	-	-	-	-	-	-	-	-	-	-	-	-	-	-
37151 15	Aluminum <sup>2</sup> . . . . .	3	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
37151 64	FRP <sup>3</sup> . . . . .	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
	Livestock . . . . .	(NA)	50,981	4,035	3,952	4,711	3,918	3,768	3,500	4,914	4,728	4,999	4,576	4,017	3,863
37151 07	Steel <sup>4</sup> . . . . .	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
37151 17	Aluminum <sup>4</sup> . . . . .	5	50,981	4,035	3,952	4,711	3,918	3,768	3,500	4,914	4,728	4,999	4,576	4,017	3,863
	All other closed-top dry freight vans, including curtain . . . . .	(NA)	2,642,111	207,274	213,724	274,126	211,602	222,455	226,616	189,462	215,464	232,677	219,792	218,961	209,958
	Steel . . . . .	(NA)	73,595	6,200	5,775	6,743	5,613	6,242	8,552	5,729	5,490	5,756	5,635	6,457	5,403
37151 10	Less than 30 feet long <sup>5</sup> . . . . .	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
37151 11	30 feet or greater <sup>5</sup> . . . . .	4	73,595	6,200	5,775	6,743	5,613	6,242	8,552	5,729	5,490	5,756	5,635	6,457	5,403
	Aluminum . . . . .	(NA)	2,441,925	190,762	197,931	253,648	194,633	205,894	207,964	173,294	199,776	215,970	203,687	202,500	195,866
37151 23	Less than 30 feet long . . . . .	9	204,132	13,687	15,718	23,072	17,244	17,639	21,187	16,408	21,141	16,237	15,022	14,152	12,625
37151 25	30 feet or greater . . . . .	13	2,237,793	177,075	182,213	230,576	177,389	188,255	186,777	156,886	178,635	199,733	188,665	188,348	183,241
	FRP . . . . .	(NA)	126,591	10,312	10,018	13,735	11,356	10,319	10,100	10,439	10,198	10,951	10,470	10,004	8,689
37151 67	Less than 30 feet long <sup>3</sup> . . . . .	3	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
37151 69	30 feet or greater <sup>3</sup> . . . . .	9	126,591	10,312	10,018	13,735	11,356	10,319	10,100	10,439	10,198	10,951	10,470	10,004	8,689
	Open tops, including low side grain and fruit . . . . .	(NA)	180,263	13,869	13,819	14,730	13,418	13,850	14,163	16,515	17,040	18,306	16,088	14,159	14,306
37151 12	Steel <sup>6</sup> . . . . .	2	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
37151 26	Aluminum <sup>6</sup> . . . . .	14	180,263	13,869	13,819	14,730	13,418	13,850	14,163	16,515	17,040	18,306	16,088	14,159	14,306
37151 70	FRP <sup>6</sup> . . . . .	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
	Tanks . . . . .	(NA)	236,186	18,731	20,310	22,686	21,399	21,025	21,064	19,820	20,831	18,697	16,898	18,266	16,459
37151 27	For flammable liquids (except casing head transport, including aircraft refuelers), all materials . . . . .	6	74,382	6,175	6,371	6,358	6,330	6,101	5,958	6,248	6,319	6,155	6,430	6,524	5,413
37151 30	Coated for chemicals and acids, all materials . . . . .	5	106,336	8,204	8,641	10,389	10,584	10,737	10,538	9,251	10,540	7,561	5,592	7,381	6,918
37151 28	For asphalt, all materials . . . . .	4	15,534	1,495	1,732	2,692	1,614	1,495	1,502	1,172	872	1,088	535	661	676
37151 32	All other, including non-coated for chemicals and acids, high pressure, food and milk, sanitary, and cryogenics, all materials . . . . .	8	39,934	2,857	3,566	3,247	2,871	2,692	3,066	3,149	3,100	3,893	4,341	3,700	3,452
37151 33	Bulk commodity and dry materials, including pneumatic and mechanical discharge, both tank and hopper types (except van) . . . . .	12	70,331	5,897	5,875	5,951	5,827	5,898	5,834	5,736	5,895	5,873	5,825	5,863	5,857
37151 35	Pole, logging, and pipe . . . . .	10	17,399	1,093	1,358	1,178	1,513	1,463	1,373	1,638	1,440	1,447	1,544	1,852	1,500
37151 37	Platform . . . . .	24	361,263	29,479	30,038	37,647	32,044	35,268	31,004	27,341	29,021	31,198	29,357	27,873	20,993
	Low-bed heavy haulers, over 10-ton capacity, excluding tilt-bed trailers . . . . .	(NA)	332,504	30,254	28,617	33,041	30,589	31,849	26,564	24,023	26,631	24,321	25,771	26,024	24,820
37151 38	Under 40-ton capacity . . . . .	33	146,485	13,056	12,621	14,831	14,740	14,847	11,657	9,576	11,688	10,249	11,558	11,286	10,376
37151 39	40-ton capacity and over . . . . .	20	186,019	17,198	15,996	18,210	15,849	17,002	14,907	14,447	14,943	14,072	14,213	14,738	14,444

See footnotes at end of table.

Table 25. Value of Shipments of Truck Trailers by Month and Type of Trailer: 1995—Con.

[Thousands of dollars]

Product code	Product description	Number of companies	Total	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
	Complete trailer and chassis (except detachables)—Con.														
	Dump trailers and dump chassis, highway type (rear, side, and bottom dump), including nonpneumatic hoppers . . . . .	(NA)	250,219	19,478	21,131	27,675	22,173	28,032	24,835	20,281	18,773	14,907	18,686	19,043	15,205
37151 40	For materials . . . . .	32	177,762	13,728	14,791	19,843	16,234	18,760	18,189	14,383	13,698	11,467	13,877	11,975	10,817
37151 42	For other, including demolition and excavation . . . . .	15	72,457	5,750	6,340	7,832	5,939	9,272	6,646	5,898	5,075	3,440	4,809	7,068	4,388
37151 44	Automobile transport trailers . . . . .	7	42,085	3,539	3,409	3,572	3,465	3,476	3,582	3,495	3,558	3,524	3,444	3,658	3,363
37151 49	All other trailers and chassis (except detachable trailers and detachable trailer chassis) . . . . .	31	71,144	6,582	5,705	6,065	5,902	6,496	6,330	5,797	5,832	5,554	5,703	5,415	5,763
37151 53	Detachable trailer bodies (containers), sold separately . . . . .	8	97,465	8,918	8,509	9,262	7,624	7,441	8,033	6,599	8,042	7,704	8,353	9,216	7,764
37151 54	Detachable trailer chassis and running gear, sold separately . . . . .	20	329,255	23,137	26,986	39,299	30,130	29,630	29,408	21,195	26,072	29,074	24,311	23,467	26,546
37151 45	Dollies and converter gear . . . . .	15	42,874	3,871	3,771	3,828	3,573	3,777	3,652	3,460	3,450	3,374	3,546	3,455	3,117

- Represents zero. D Withheld to avoid disclosing data for individual companies. FRP Fiberglass reinforced plastics/plywood NA Not available.  
<sup>1</sup>Product codes 37151 02 and 37151 04 are combined with product code 37151 14 to avoid disclosing data for individual companies.  
<sup>2</sup>Product codes 37151 16 and 37151 15 are combined to avoid disclosing data for individual companies.  
<sup>3</sup>Product codes 37151 64 and 37151 67 are combined with product code 37151 69 to avoid disclosing data for individual companies.  
<sup>4</sup>Product code 37151 07 is combined with product code 37151 17 to avoid disclosing data for individual companies.  
<sup>5</sup>Product code 37151 10 is combined with product code 37151 11 to avoid disclosing data for individual companies.  
<sup>6</sup>Product codes 37151 12 and 37151 70 are combined with product code 37151 26 to avoid disclosing data for individual companies.

Table 26. Quantity and Value of Shipments of Truck Trailers and Vans by Type of Material: 1996 and 1995

[Quantity in units. Value in thousands of dollars]

Month	Total		FRP		Steel		Aluminum	
	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
<b>1996</b>								
<b>Total .....</b>	<b>146,350</b>	<b>2,652,252</b>	<b>9,261</b>	<b>104,519</b>	<b>4,986</b>	<b>93,210</b>	<b>132,103</b>	<b>2,454,523</b>
January .....	13,426	242,531	713	7,779	458	8,807	12,255	225,945
February .....	13,110	232,597	836	9,555	423	7,839	11,851	215,203
March .....	12,106	217,427	720	7,977	414	7,628	10,972	201,822
April .....	11,910	217,747	768	8,805	416	7,642	10,726	201,300
May .....	11,859	216,480	804	9,142	433	8,031	10,622	199,307
June .....	11,775	211,839	698	7,488	466	8,889	10,611	195,462
July .....	11,093	196,707	680	7,122	465	9,053	9,948	180,532
August .....	12,396	224,817	717	7,756	448	8,558	11,231	208,503
September .....	12,584	228,908	793	9,088	485	9,325	11,306	210,495
October .....	12,326	227,686	876	10,466	401	6,998	11,049	210,222
November .....	11,653	213,521	920	11,269	232	4,550	10,501	197,702
December .....	12,112	221,992	736	8,072	345	5,890	11,031	208,030
<b>1995</b>								
<b>Total .....</b>	<b>215,420</b>	<b>3,770,056</b>	<b>9,968</b>	<b>126,591</b>	<b>4,995</b>	<b>73,595</b>	<b>200,457</b>	<b>3,569,870</b>
January .....	17,262	298,217	812	10,312	420	6,200	16,030	281,705
February .....	17,532	301,448	785	10,018	392	5,775	16,355	285,655
March .....	22,496	375,965	1,046	13,735	448	6,743	21,002	355,487
April .....	17,317	298,179	891	11,356	381	5,613	16,045	281,210
May .....	18,682	325,993	840	10,319	423	6,242	17,419	309,432
June .....	18,773	325,014	812	10,100	570	8,552	17,391	306,362
July .....	15,918	277,846	837	10,439	389	5,729	14,692	261,678
August .....	18,056	318,953	782	10,198	375	5,490	16,899	303,265
September .....	18,348	326,190	846	10,951	391	5,756	17,111	309,483
October .....	17,600	319,748	855	10,470	388	5,635	16,357	303,643
November .....	17,087	308,927	770	10,004	435	6,457	15,882	292,466
December .....	16,349	293,576	692	8,689	383	5,403	15,274	279,484

**HISTORICAL NOTE**

Data on truck trailers have been collected by the Bureau of the Census since 1942. Historical data may be obtained from Current Industrial Reports (called Facts for Industry before 1959) available at your local Federal Depository

Library. Historical data are also available on microfiche; contact Customer Services, 301-457-4100.

**CONTACT FOR DATA USERS**

For additional information about these data, contact Milbren Thomas, 301-457-4781.

# Chapter 11.

## Aerospace Industry

### AEROSPACE INDUSTRY (ORDERS, SALES, AND BACKLOG) (M37G AND FORMERLY MA37D)

#### INTRODUCTION

The data in Tables 1 through 4 cover the manufacture of complete civilian aircraft and aircraft engines in the United States. Parts sold separately are excluded.

The data in Tables 5 through 8 cover establishments primarily engaged in the development and/or manufacture of aerospace products, including aircraft, aircraft engines, aircraft parts and accessories, missiles and space vehicle systems, missile and space vehicle engines or propulsion units, and parts and subassemblies for missiles and space vehicles. An establishment is "primarily engaged" in aerospace if the value of aerospace products and services produced by that establishment exceeds the value of the establishment's production of other goods and services. Company plants or divisions in which the primary activity is other than the development and/or manufacture of aerospace products and services are not included in this survey.

#### SUMMARY OF FINDINGS

In 1996, the value of complete civil aircraft shipments increased by 12 percent to \$21.4 billion, from the 1995 level of \$19.1 billion. Shipments of complete civil aircraft engines increased by 14 percent to \$4.9 billion, from the 1995 level of \$4.3 billion.

The backlog of orders for aircraft, missiles, space vehicles, and engines, as of December 31, 1996, was \$219.6 billion. This was an 8-percent increase from the 1995 backlog of \$202.6 billion.

Net new orders received during 1996 were \$126.3 billion, a 16-percent increase from the \$109.1 billion received in 1995. Net sales, receipts, and/or billings in 1996 totaled \$105.7 billion, a 3-percent decrease from the \$102.8 billion reported in 1995.

#### EXPLANATION OF TERMS

**Shipments (or net sales).** Represents consolidated company sales, receipts, or billings, net after discounts and allowances. For firms reporting only for specific aerospace divisions or plants, it includes the value of the division or

plant sales only. It includes all sales from aerospace production and receipts for research and development performed for others. Transfers to other reporting units (for example, separate aerospace divisions of the same company) are included. For commercial aircraft and aircraft engines, shipments represents physical shipments from domestic establishments. All products sold, transferred to other plants of the same company, or shipped on consignment are included whether for domestic use or export. Products bought and resold without further manufacture are excluded.

Work performed under a fixed price contract is reported as a shipment if the product is delivered during the year. Work done on a cost-plus contract reflects cost incurred plus a portion of the profits for the contract (value of work done) during the year. Value of work done may be based on (a) multiplying the estimated percentage of work completed during the year by the contract price, or (b) net billings for work done during the year.

**Aircraft.** Includes lighter-than-air aircraft (balloons and airships), as well as heavier-than-air aircraft, however propelled, but does not include spacecraft.

**Civil.** This term refers to all aircraft and aircraft engines not built for military applications. All civil (including general aviation and commercial type) aircraft, regardless of end use, are included.

**Fixed-wing (powered) aircraft.** Aircraft having wings fixed to the airplane fuselage, which are outspread in flight and powered by engines.

**Rotary lift aircraft.** Any heavier-than-air aircraft that depends principally for its support in flight on the lift generated by one or more rotors (helicopters, auto-gyros, etc.).

**Turbofan.** A turbojet engine whose thrust has been increased by the addition of a low pressure compressor (fan). The turbofan engine can have an oversized low-pressure compressor at the front with part of the flow bypassing the rest of the engine (front fan or forwardfan) or it can have a separate fan driven by a turbine stage (aft-fan).

**Turbojet.** Jet engines incorporating a turbine-driven air compressor to take in and compress the air for the combustion (or the heated air) being used both to rotate the turbine and to create a thrust-producing jet.

**Turboprop.** Engines in which the main propulsive force is supplied by a gas turbine-driven conventional propeller. Additional propulsive force may be supplied from the discharge turbine exhaust gas.

**Net new orders.** Includes (a) the sales value of orders received during the current reporting period for products and services to be delivered at some future date; (b) the sales value of orders for immediate delivery that have resulted in sales or shipments during the current reporting period; and (c) the net sales value of contract change documents that increase or decrease the sales value of the orders to which they are related, when the parties concerned are in substantial agreement as to the amount involved. The sales value of cancellations of existing orders is deducted. Only those orders that are supported by binding legal documents, such as signed contracts or letter contracts, are included as orders. In the case of letter contracts, the full amount of sales value is included if the parties concerned are in substantial agreement on this amount; otherwise, only the funds specifically authorized to be expended are included.

**Backlog, end of year (unfilled orders).** Includes all orders as defined above that have not yet been reflected as shipments. Generally, unfilled orders at the end of the reporting period are equal to unfilled orders at the end of the prior period, plus net new orders received, less net shipments.

**Prime contracts and subcontracts.** Separate dollar values are reported for prime contracts and those received under subcontracts. All subcontracts, including those where it is known that the prime contract was let by a government, are reported as subcontracts received from "other customers."

**Military and nonmilitary.** The term "military" refers to complete aircraft, aircraft engines, missile systems, space vehicle systems, engines and/or propulsion units for missile systems or space vehicles, and other aerospace related activities for military applications, whether for tactical, strategic, or support functions. The term "nonmilitary" refers to the same products not built to military specifications.

## TYPE OF CUSTOMER

**U.S. Government (military).** Includes contracts with the Department of Defense (DOD) and other U.S. Government agencies for products built to military specifications. Contracts for which the ultimate customer is a foreign customer such as contracts made under the Foreign Military Assistance Program, are excluded.

**Other governments (military).** Includes contracts for products built to military specifications for governments other than the United States. It includes contracts through DOD or other U.S. Government agencies for which the ultimate customer is a foreign government. Contracts for foreign governments not to military specifications are classified as "nonmilitary" to other customers.

**U.S. Government (nonmilitary).** Includes contracts with any U.S. Government agency for products not built to military specifications.

**Other customers (nonmilitary).** Includes contracts for products not built to military specifications for all customers other than U.S. Government agencies. It includes both domestic and foreign commercial customers, as well as foreign governments.

Table 1. Quantity and Value of Shipments of Complete Civil Aircraft: 1996 and 1995

[Quantity in number of units. Value in thousands of dollars]

Product code	Product description	Number of companies	1996		1995	
			Quantity	Value	Quantity	Value
37215 00	Complete civil aircraft.....	29	5,633	21,363,323	4,461	19,084,250
	Civil aircraft (fixed wing, powered).....	14	1,649	21,158,854	1,517	18,894,603
37215 04	Unladen weight not exceeding 2,000 kg (4,409 lb) ..	9	1,005	848,888	936	705,965
37215 05	Unladen weight exceeding 2,000 kg (4,409 lb) but not exceeding 15,000 kg (33,069 lb) <sup>1</sup> .....	6	(D)	(D)	(D)	(D)
37215 07	Unladen weight exceeding 15,000 kg (33,069 lb) <sup>1</sup> ..	3	644	20,309,966	581	18,188,638
	Helicopters (rotary wing) .....	4	334	179,290	264	159,680
37215 32	Unladen weight not exceeding 2,000 kg (4,409 lb) <sup>2</sup> .....	5	(D)	(D)	(D)	(D)
37215 34	Unladen weight exceeding 2,000 kg (4,409 lb) <sup>2</sup> ....	2	334	179,290	264	159,680
37215 30	Other civil aircraft (nonpowered) and kits.....	9	3,650	25,179	2,680	29,967
37242 00	Complete civil aircraft engines .....	13	14,332	4,931,596	11,255	4,331,776
37242 01	Spark-ignition reciprocating or rotary internal combustion <sup>3</sup> .....	8	(D)	(D)	(D)	(D)
	Turbojet and turbofan:					
37242 03	Of a thrust not exceeding 25 kN (5,620 lb) <sup>3</sup> .....	4	(D)	(D)	(D)	(D)
37242 05	Of a thrust exceeding 25 kN (5,620 lb) <sup>3</sup> .....	6	(D)	(D)	(D)	(D)
	Turboshaft (turbo propeller):					
37242 07	Of a power not exceeding 1,100 kW (820 hp) <sup>3</sup> ..	4	(D)	(D)	(D)	(D)
37242 09	Of a power exceeding 1,100 kW (820 hp) <sup>3</sup> .....	5	(D)	(D)	(D)	(D)
37242 14	Other, including auxiliary power units excluding missiles and space engines <sup>3</sup> .....	2	14,332	14,931,596	11,255	4,331,776

D Withheld to avoid disclosing data for individual companies. kN Kilonewtons. kW Kilowatts.

<sup>1</sup>Product code 37215 05 is combined with 37215 07 to avoid disclosing data for individual companies.<sup>2</sup>Product code 37215 32 is combined with 37215 34 to avoid disclosing data for individual companies.<sup>3</sup>Product codes 37242 01, 37242 03, 37242 05, 37242 07, and 37242 09 are combined with product code 37242 14 to avoid disclosing data for individual companies.



Table 2. Quantity and Value of Shipments of Complete Civil Aircraft by Month: 1996 and 1995

[Quantity in number of units. Value in thousands of dollars]

Year and month	Civil aircraft						Helicopters (rotary wing)		Other civil aircraft (nonpowered)	
	Unladen weight less than 2,000 kg <sup>1</sup>		Unladen weight between 2,000 and 15,000 kg <sup>1 2</sup>		Unladen weight greater than 15,000 kg <sup>1 2</sup>					
	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
<b>1996</b>										
January .....	(D)	(D)	(D)	(D)	'90	'534,448	24	'14,075	'226	2,072
February .....	(D)	(D)	(D)	(D)	'91	'958,042	36	'16,565	'234	2,072
March .....	(D)	(D)	(D)	(D)	'132	'2,004,498	29	'15,022	'287	2,072
April .....	(D)	(D)	(D)	(D)	'128	'1,633,022	24	13,891	'286	2,055
May .....	(D)	(D)	(D)	(D)	'110	2,030,750	30	'15,406	'241	2,072
June .....	(D)	(D)	(D)	(D)	'146	'1,748,247	34	'16,877	329	2,099
July .....	(D)	(D)	(D)	(D)	'92	1,045,837	29	'15,312	'241	2,072
August .....	(D)	(D)	(D)	(D)	'127	1,907,730	23	'13,600	'262	2,055
September .....	(D)	(D)	(D)	(D)	'161	2,090,765	25	'14,646	'320	2,072
October .....	(D)	(D)	(D)	(D)	'177	1,684,088	34	'16,219	'445	2,147
November .....	(D)	(D)	(D)	(D)	'141	1,991,197	20	'13,155	'330	2,071
December .....	(D)	(D)	(D)	(D)	'254	'3,500,230	26	'14,522	'449	2,320
<b>1995</b>										
January .....	50	14,102	(D)	(D)	39	1,044,081	28	11,855	186	1,938
February .....	61	39,997	(D)	(D)	42	1,612,105	20	11,783	203	2,472
March .....	76	47,980	(D)	(D)	61	2,134,864	26	18,792	209	2,569
April .....	64	34,291	(D)	(D)	43	1,882,207	24	12,184	203	2,468
May .....	81	65,237	(D)	(D)	33	1,306,461	22	11,214	209	2,747
June .....	92	93,291	(D)	(D)	69	2,300,688	27	18,778	238	2,456
July .....	60	23,222	(D)	(D)	30	1,017,287	26	12,808	242	2,703
August .....	81	53,763	(D)	(D)	40	1,246,786	20	11,621	241	2,681
September .....	96	100,771	(D)	(D)	74	1,505,703	22	12,172	236	2,444
October .....	73	52,438	(D)	(D)	35	850,770	15	16,749	239	2,586
November .....	81	61,264	(D)	(D)	37	1,554,047	16	10,638	237	2,440
December .....	121	119,609	(D)	(D)	78	1,733,639	18	11,086	237	2,463

D Withheld to avoid disclosing data for individual companies. 'Revised by 5 percent or more from previously published data.

<sup>1</sup>For 1996, "Unladen weight less than 2,000 kg" and "Unladen weight between 2,000 and 15,000" are combined with "Unladen weight greater than 15,000 kg" to avoid disclosing data for individual companies.<sup>2</sup>For 1995, "Unladen weight between 2,000 and 15,000" and "Unladen weight greater than 15,000 kg" are combined to avoid disclosing data for individual companies.

Table 3. **Quantity and Value of Shipments of Complete Civil Aircraft Engines: 1996 and 1995**

[Quantity in number of units. Value in thousands of dollars]

Year and month	Complete civil aircraft engines <sup>1</sup>	
	Quantity	Value
<b>1996</b>		
January . . . . .	'1,030	'190,680
February . . . . .	'1,075	'368,834
March . . . . .	'1,179	'377,565
April . . . . .	'1,041	'275,379
May . . . . .	'1,164	'421,551
June . . . . .	'1,169	'455,646
July . . . . .	'1,205	'368,688
August . . . . .	'1,302	'447,834
September . . . . .	1,268	'569,259
October . . . . .	1,286	'396,561
November . . . . .	1,315	'427,137
December . . . . .	'1,298	'632,462
<b>1995</b>		
January . . . . .	1,022	350,172
February . . . . .	915	359,277
March . . . . .	1,032	392,235
April . . . . .	868	343,699
May . . . . .	892	323,378
June . . . . .	997	386,601
July . . . . .	870	271,693
August . . . . .	1,037	332,360
September . . . . .	905	434,348
October . . . . .	962	373,223
November . . . . .	914	327,097
December . . . . .	841	437,693

<sup>1</sup>Revised by 5 percent or more from previously published data.<sup>1</sup>"Spark-ignition reciprocating or rotary internal combustion," "Turbojet and turbofan," and "Turbo propellers" are combined to avoid disclosing data for individual companies.

Table 4. Shipments, Exports, and Imports of Complete Civil Aircraft and Aircraft Engines: 1996

[Quantity in number of units. Value in thousands of dollars]

Product code <sup>1</sup>	Product description	Manufacturers' shipments		Exports of domestic merchandise <sup>1 2</sup>		Imports for consumption <sup>1 3</sup>	
		Quantity	Value (f.o.b. plant)	Quantity	Value at port	Quantity	Value
37215 02	Civil aircraft (fixed wing, powered): Unladen weight not exceeding 2,000 kg (4,409 lb) .....	1,005	848,888	321	60,227	113	15,598
37215 05	Unladen weight exceeding 2,000 kg (4,409 lb), but not exceeding 15,000 kg (33,069 lb) <sup>4</sup> .....	(D)	(D)	180	545,897	209	4,045,172
37215 07	Unladen weight exceeding 15,000 kg (33,069 lb) <sup>4</sup> .....	644	20,309,966	170	13,552,965	19	822,941
37215 31	Helicopters (rotary wing) .....	334	179,290	211	212,146	183	362,322
37242 00	Complete civil aircraft engines .....	14,332	4,931,596	4,328	1,907,397	3,193	1,993,072

D Withheld to avoid disclosing data for individual companies.

<sup>1</sup>For comparison of SIC-based codes with Schedule B export numbers and HTSUSA import numbers, see "Contact for Data Users" at end of this subsection.<sup>2</sup>Source: Bureau of the Census report EM 545, *U.S. Exports*.<sup>3</sup>Source: Bureau of the Census report IM 145, *U.S. Imports for Consumption*.<sup>4</sup>Manufacturers' shipments for product codes 37215 05 and 37215 07 are combined to avoid disclosing data for individual companies.

Table 5. Value of Backlog of Orders, Net New Orders, and Net Sales Reported by Manufacturers of Complete Aircraft, Space Vehicles, Missiles, and Selected Parts: 1987 to 1996

[Millions of dollars]

Year	Net new orders during year <sup>1</sup>	Net sales during year	Backlog, end of year
1996 .....	126,309	105,707	219,616
1995 .....	<sup>1</sup> 109,109	<sup>1</sup> 102,797	<sup>1</sup> 202,638
1994 .....	88,706	104,296	192,561
1993 .....	79,770	109,926	211,814
1992 .....	100,306	118,736	236,076
1991 .....	122,485	123,862	245,241
1990 .....	145,965	136,646	250,079
1989 <sup>2</sup> .....	173,635	122,148	252,401
1988 .....	147,128	113,548	191,518
1987 .....	121,224	110,301	158,650

<sup>1</sup>Revised.<sup>1</sup>These totals represent new orders received during year, less terminations during year.<sup>2</sup>Data for 1989 are not comparable with earlier years and were previously unavailable. Extent of this noncomparability is unknown.

**Table 6. Value of Net New Orders, Net Sales, and Backlog of Orders of Complete Aircraft, Space Vehicles, Missiles, and Selected Parts by United States Government and Other Customers: 1992 to 1996**

[Millions of dollars]

Year	Net new orders <sup>1</sup> (prime contracts and subcontracts)			Net sales, receipts, or billings			Backlog, end of year		
	Total	United States Government <sup>2</sup>	Other customers	Total	United States Government <sup>2</sup>	Other customers	Total	United States Government <sup>2</sup>	Other customers
1996 .....	126,309	55,024	71,285	105,707	52,184	53,523	219,616	71,156	148,460
1995 .....	109,109	46,546	62,562	106,829	51,909	50,888	202,638	67,936	134,702
1994 .....	88,706	50,444	38,262	104,296	57,141	47,155	192,561	68,660	123,901
1993 .....	79,770	45,169	34,601	109,926	54,808	55,118	211,814	77,329	134,485
1992 .....	100,306	53,485	46,821	118,736	59,362	59,374	236,076	82,655	153,421

<sup>1</sup>These data represent new orders received during year, less terminations during year.

<sup>2</sup>These data represent prime contracts only. All subcontracts, including those where it is known that prime contract was let by the U.S. Government, are reported as subcontracts from "Other customers."

Note: Detail items may not add to total because of independent rounding.

**Table 7. Value of Net New Orders, Net Sales, and Backlog of Orders of Complete Aircraft, Space Vehicles, Missiles, and Selected Parts by Military and Nonmilitary: 1992 to 1996**

[Millions of dollars]

Year	Net new orders <sup>1</sup> (prime contracts and subcontracts)			Net sales, receipts, or billings			Backlog, end of year		
	Total	Military	Nonmilitary	Total	Military	Nonmilitary	Total	Military	Nonmilitary
1996 .....	126,309	57,690	68,619	105,707	51,979	53,728	219,616	85,552	134,064
1995 .....	109,109	49,350	59,759	106,829	49,350	50,321	202,638	82,309	120,329
1994 .....	88,706	53,268	35,438	104,296	58,012	46,284	192,561	84,445	108,116
1993 .....	79,770	49,541	30,229	109,926	56,102	53,824	211,814	91,751	120,063
1992 .....	100,306	57,383	42,923	118,736	61,410	57,326	236,076	92,139	143,937

<sup>1</sup>These data represent new orders received during year, less terminations during year.

Note: Detail items may not add to total because of independent rounding.

Table 8. Value of Net New Orders, Net Sales, and Backlog of Orders of Complete Aircraft, Space Vehicles, Missiles, and Selected Parts: 1996 and 1995

[Millions of dollars]

Product description	Number of companies	Net new orders			Shipments (or net sales)	Backlog, end of year
		Total	Prime contract	Subcontract		
<b>1996</b>						
<b>Total</b> .....	<b>59</b>	<b>126,309</b>	<b>123,078</b>	<b>2,403</b>	<b>105,707</b>	<b>219,616</b>
Military .....	(NA)	57,690	57,690	(NA)	51,979	85,552
U.S. Government .....	36	48,307	48,307	(NA)	42,798	61,533
Other governments .....	25	9,383	9,383	(NA)	9,181	24,019
Nonmilitary .....	(NA)	68,619	65,388	2,403	53,728	134,064
U.S. Government .....	20	6,717	6,717	(NA)	9,386	9,623
Other customers .....	42	61,902	59,499	2,403	44,342	124,441
Complete aircraft and parts .....	(NA)	61,432	61,317	192	45,077	133,794
Military .....	(NA)	24,460	24,460	(NA)	20,370	43,743
Nonmilitary .....	(NA)	36,972	36,857	115	24,707	90,051
Aircraft engines and parts .....	(NA)	14,434	14,434	(NA)	15,711	18,744
Military .....	(NA)	3,588	3,588	(NA)	3,982	4,575
Nonmilitary <sup>1</sup> .....	(NA)	10,846	10,846	(D)	11,729	14,169
Missile systems and parts, excluding propulsion units <sup>1</sup> .....	(NA)	4,430	4,430	(D)	3,841	4,239
Military .....	(NA)	4,430	4,430	(NA)	3,841	4,239
U.S. Government .....	14	3,801	3,801	(NA)	2,916	3,383
Other governments .....	7	629	629	(NA)	925	856
Space vehicle systems and parts, excluding propulsion units <sup>1</sup> .....	(NA)	14,059	14,059	(D)	11,209	18,262
Military .....	(NA)	4,662	4,662	(NA)	4,777	5,864
Nonmilitary <sup>1</sup> .....	(NA)	9,397	9,397	(D)	6,432	12,398
U.S. Government .....	11	3,757	3,757	(NA)	2,643	2,596
Other customers <sup>1</sup> .....	9	5,640	5,640	(D)	3,789	9,802
Engines and/or propulsion units for missile systems and space vehicles, including parts <sup>1 2</sup> .....	(NA)	1,828	1,828	(D)	2,015	5,603
Military .....	(NA)	761	761	(NA)	630	1,132
Nonmilitary <sup>1</sup> .....	(NA)	1,067	1,067	(D)	1,385	4,471
Other aircraft, space vehicle, and missile activities <sup>3</sup> .....	(NA)	13,183	12,476	707	10,460	19,529
Military .....	(NA)	8,187	8,187	(NA)	6,735	12,250
U.S. Government .....	(NA)	5,673	5,673	(NA)	5,555	8,279
Other governments .....	(NA)	2,514	2,514	(NA)	1,180	3,971
Nonmilitary .....	(NA)	4,289	3,582	707	3,725	7,279
Research and development (under contract) .....	(NA)	5,458	5,452	6	6,724	7,168
Military .....	(NA)	4,442	4,442	(NA)	5,826	6,043
U.S. Government .....	26	4,220	4,220	(NA)	5,601	5,772
Other governments .....	9	222	222	(NA)	225	271
Nonmilitary .....	(NA)	1,016	1,010	6	898	1,125
All other products and services .....	(NA)	12,192	12,192	(NA)	10,670	12,277
Military .....	(NA)	7,160	7,160	(NA)	5,818	7,706
U.S. Government .....	22	6,483	6,483	(NA)	5,021	6,726
Other governments .....	15	677	677	(NA)	797	980
Nonmilitary <sup>1</sup> .....	(NA)	5,032	5,032	(D)	4,852	4,571
U.S. Government .....	14	1,933	1,933	(NA)	1,850	2,074
Other customers <sup>1</sup> .....	25	3,099	3,099	(D)	3,002	2,497

See footnotes at end of table.

Table 8. Value of Net New Orders, Net Sales, and Backlog of Orders of Complete Aircraft, Space Vehicles, Missiles, and Selected Parts: 1996 and 1995—Con.

[Millions of dollars]

Product description	Number of companies	Net new orders			Shipments (or net sales)	Backlog, end of year
		Total	Prime contract	Subcontract		
<b>1995<sup>r</sup></b>						
<b>Total</b> .....	<b>59</b>	<b>109,109</b>	<b>106,829</b>	<b>2,280</b>	<b>102,797</b>	<b>202,638</b>
Military .....	(NA)	49,350	49,350	(NA)	52,476	82,309
U.S. Government .....	36	38,906	38,906	(NA)	44,473	59,401
Other governments .....	25	10,444	10,444	(NA)	8,003	22,908
Nonmilitary .....	(NA)	59,759	57,479	2,280	50,321	120,329
U.S. Government .....	20	7,640	7,640	(NA)	7,436	8,535
Other customers .....	42	52,118	49,838	2,280	42,885	111,794
Complete aircraft and parts <sup>1</sup> .....	(NA)	43,404	43,212	(D)	42,493	117,475
Military .....	(NA)	16,248	16,248	(NA)	19,596	39,673
Nonmilitary .....	(NA)	27,156	26,964	192	22,897	77,802
Aircraft engines and parts .....	(NA)	12,917	12,223	(NA)	12,536	19,396
Military .....	(NA)	3,606	3,606	(NA)	3,348	4,969
Nonmilitary .....	(NA)	9,311	8,617	694	9,188	14,427
Missile systems and parts, excluding propulsion units <sup>1</sup> .....	(NA)	3,164	3,164	(D)	4,688	4,833
Military .....	(NA)	3,164	3,164	(NA)	4,688	4,833
U.S. Government .....	14	2,534	2,534	(NA)	3,763	3,976
Other governments .....	7	630	630	(NA)	925	857
Space vehicle systems and parts, excluding propulsion units <sup>1</sup> .....	(NA)	13,212	13,212	(D)	11,314	15,650
Military .....	(NA)	4,679	4,679	(NA)	4,782	5,872
Nonmilitary <sup>1</sup> .....	(NA)	8,533	8,533	(D)	6,532	9,778
U.S. Government .....	11	2,908	2,908	(NA)	2,826	1,525
Other customers <sup>1</sup> .....	9	5,625	5,625	(D)	3,706	8,253
Engines and/or propulsion units for missile systems and space vehicles, including parts <sup>1 2</sup> .....	(NA)	2,805	2,810	(D)	2,364	6,630
Military .....	(NA)	444	444	(NA)	1,035	1,065
Nonmilitary <sup>1</sup> .....	(NA)	2,361	2,366	(D)	1,329	5,565
Other aircraft, space vehicle, and missile activities <sup>3</sup> .....	(NA)	12,776	11,515	1,261	10,143	19,238
Military .....	(NA)	8,449	8,449	(NA)	6,756	12,136
U.S. Government .....	(NA)	5,233	5,233	(NA)	5,078	8,975
Other governments .....	(NA)	3,216	3,216	(NA)	1,678	3,161
Nonmilitary .....	(NA)	4,327	3,066	1,261	3,387	7,102
Research and development (under contract) .....	(NA)	6,152	6,094	58	6,240	6,510
Military .....	(NA)	5,267	5,267	(NA)	5,165	5,398
U.S. Government .....	26	4,832	4,832	(NA)	4,936	5,035
Other governments .....	9	435	435	(NA)	229	363
Nonmilitary .....	(NA)	934	855	59	1,075	1,112
All other products and services .....	(NA)	14,630	14,571	(NA)	13,019	12,906
Military .....	(NA)	7,493	7,493	(NA)	7,106	8,363
U.S. Government .....	22	6,651	6,651	(NA)	6,251	7,094
Other governments .....	15	842	842	(NA)	855	1,269
Nonmilitary <sup>1</sup> .....	(NA)	7,137	7,078	(D)	5,913	4,543
U.S. Government .....	14	2,791	2,791	(NA)	1,850	2,022
Other customers <sup>1</sup> .....	25	4,346	4,287	(D)	4,063	2,521

D Withheld to avoid disclosing data for individual companies. NA Not available. <sup>r</sup>Revised.<sup>1</sup>"Net new orders under subcontract" are included with "Prime contract net new orders" to avoid disclosing data for individual companies.<sup>2</sup>Data for "Engines and/or propulsion units for space vehicles, including parts," are included with data for "Engines and/or units for missile systems, including parts."<sup>3</sup>Data for "Other missile activities" are included with data for "Other aircraft and space vehicles."

Note: Net new orders represent new orders received during year, less terminations during year. In some cases current backlog will not equal backlog for previous period, plus current net new orders, minus current shipments. This is primarily due to respondents changing their accounting procedures from 1 year to next. Data for these respondents were not changed to force a balance. Significant imbalances due to reporting errors were investigated and corrected. Detail items may not add to total because of independent rounding.

**HISTORICAL NOTE**

Data on civilian aircraft and aircraft engines have been collected by the Bureau of the Census since 1946. Data on the development and production of aerospace products have been collected by the Bureau of the Census since 1948. Historical data may be obtained from Current Industrial Reports (called Facts for Industry before 1959)

available at your local Federal Depository Library. Historical data are also available on microfiche; contact Customer Services, 301-457-4100.

**CONTACT FOR DATA USERS**

For additional information about these data, contact J. Christian Savage, 301-457-4800.

## Appendix A. Survey Scope and Methodology

Survey	Publica- tion period <sup>1</sup>	Reporting require- ment (V/M) <sup>2</sup>	Title	Survey panel (number)	Received coverage rate <sup>3</sup> / range <sup>4</sup>	Active response rate <sup>5</sup> / range <sup>4</sup>	Data collected and/or published <sup>6</sup>
M20A	M	V	Flour Milling Products . . . . .	251	5	8	P, I
MA20D	A	V	Confectionery . . . . .	461	7	4	S
M20J	M	M	Fats and Oils: Oilseed Crushings . . . . .	191	9	8	P, SQ
M20K	M	M	Fats and Oils: Production, Consumption, and Stocks . . . . .	1318	7	7	P, I, C
MQ22D	Q	V	Consumption on the Woolen System and Worsted Combing . . . . .	152	8	6	C, P
MA22F	A	M	Yarn Production . . . . .	563	9	7	P
MA22K	A	M	Knit Fabrics Production . . . . .	592	7	3	P, M
M22P	M	M	Consumption on the Cotton System and Stocks . . . . .	690	8	8	C, I, M, SH
MA22Q	A	M	Carpet and Rugs . . . . .	197	8	6	S
MQ22T	Q	M	Broadwoven Fabrics (Gray) . . . . .	430	8	7	P, M, LH
MQ23A	Q	M	Apparel . . . . .	950	7	7	P, SV
MA23D	A	M	Gloves and Mittens . . . . .	170	8	5	S
MQ23X	Q	M	Bed and Bath Furnishings . . . . .	258	8	6	S, P, I, UO
MA31A	A	M	Footwear . . . . .	341	9	6	S, P
MQ31A	Q	V	Footwear . . . . .	377	4	5	S, P
MA24T	A	M	Lumber Production and Mill Stocks . . . . .	2000	5	6	P, I
MA32C	A	M	Refractories . . . . .	270	9	5	S
MQ32D	Q	V	Clay Construction Products . . . . .	255	7	6	S, P
MQ34E	Q	V	Plumbing Fixtures . . . . .	75	1	0	S, I
MA28A	A	M	Inorganic Chemicals . . . . .	919	9	7	S, P, PC
MQ28A	Q	V	Inorganic Chemicals . . . . .	382	5	7	P, I
MA28B	A	M	Inorganic Fertilizer Materials and Related Products . . . . .	244	9	9	S, P, PC, I
MQ28B	Q	V	Fertilizer Materials . . . . .	316	5	7	P, QS, I
MA28C	A	M	Industrial Gases . . . . .	1028	9	5	S, P
MQ28C	Q	V	Industrial Gases . . . . .	592	7	0	P
MA28F	A	M	Paint, Varnish, and Lacquer . . . . .	889	9	7	S
MQ28F	Q	V	Paint, Varnish, and Lacquer . . . . .	262	9	3	S
MA28G	A	M	Pharmaceutical Preparations, Except Biologicals . . . . .	589	7	5	SV
MQ32A	Q	V	Flat Glass . . . . .	6	6	5	PC, I, S, P
MA32E	A	M	Consumer, Scientific, Technical, and Industrial Glassware . . . . .	275	8	4	S
M32G	M	V	Glass Containers . . . . .	14	8	0	SQ, P, I
MA33A	A	M	Iron and Steel Castings . . . . .	545	4	6	S
MA33B	A	M	Steel Mill Products . . . . .	599	8	6	C, S, R
M33D	M	V	Aluminum Ingot and Mill Products . . . . .	135	0	5	SQ, R, I
MA33E	A	M	Nonferrous Castings . . . . .	760	9	6	S
M33J	M	V	Inventories of Steel Producing Mills . . . . .	12	2	7	SQ, I
MA33L	A	M	Insulated Wire and Cable . . . . .	257	7	6	S
MA35R	A	M	Computers and Office and Accounting Machines . . . . .	1103	8	3	S
MA36A	A	M	Switchgear, Switchboard Apparatus, Relays, and Industrial Control . . . . .	965	9	7	S
MQ36C	Q	V	Fluorescent Lamp Ballasts . . . . .	14	6	3	S
MA36K	A	M	Wiring Devices and Supplies . . . . .	519	8	6	S
MA36L	A	V	Electric Lighting Fixtures . . . . .	453	5	0	S
MA36P	A	M	Communication Equipment . . . . .	1505	8	4	S
MA36Q	A	M	Semiconductors, Printed Circuit Boards, and Related Equipment . . . . .	3764	9	5	S
MA38B	A	M	Selected Instruments and Related Products . . . . .	2927	6	4	S
MA38R	A	M	Electromedical and Irradiation Equipment (Including X-Ray) . . . . .	3339	8	5	S
MA36E	A	M	Electric Housewares and Fans . . . . .	132	9	7	S
MA36F	A	M	Major Household Appliances . . . . .	160	8	7	S
MA36M	A	M	Consumer Electronics . . . . .	218	6	4	S
MA34K	A	V	Steel Shipping Drums and Pails . . . . .	59	8	7	S

See footnotes at end of table.



Survey	Publication period <sup>1</sup>	Reporting requirement (V/M) <sup>2</sup>	Title	Survey panel (number)	Received coverage rate <sup>3</sup> /range <sup>4</sup>	Active response rate <sup>5</sup> /range <sup>4</sup>	Data collected and/or published <sup>6</sup>
MA35J	A	M	Selected Industrial Air Pollution Control Equipment . . . . .	142	7	5	NOQ, NOV, S, UO, UOQ
MA35M	A	M	Air-Conditioning and Refrigeration Equipment . . . . .	339	9	6	S
MA35N	A	V	Fluid Power Products, Including Aerospace . . . . .	493	8	5	S
MA35P	A	M	Pumps and Compressors . . . . .	457	8	6	S
MA35Q	A	M	Antifriction Bearings . . . . .	145	9	9	S
MA35U	A	V	Vending Machines (Coin-Operated) . . . . .	54	8	4	S
MA36H	A	M	Motors and Generators . . . . .	389	9	7	S
MA35A	A	M	Farm Machinery and Lawn and Garden Equipment . . . . .	871	8	5	S
MA35D	A	M	Construction Machinery . . . . .	478	8	7	S
MA35F	A	M	Mining Machinery and Mineral Processing Equipment . . . . .	146	9	6	S
MA35L	A	M	Internal Combustion Engines . . . . .	60	7	7	PC, IPT, S, CC, P
MQ35W	Q	M	Metalworking Machinery . . . . .	480	5	3	S, UO
M37L	M	V	Truck Trailers . . . . .	100	9	7	S
MA37D	A	M	Aerospace Orders . . . . .	89	8	7	NOV, R, UO
M37G	M	V	Civil Aircraft and Engines . . . . .	39	8	6	S

<sup>1</sup>Publication period: A = Annual; M = Monthly (data reflects twelfth month); Q = Quarterly (data reflects fourth quarter)

<sup>2</sup>Reporting requirement will be either voluntary or mandatory, V or M, respectively.

<sup>3</sup>Received coverage rate is ratio of value of shipments of establishments responding to survey to total value of shipments of that survey. For example, 85 to 89 percent response in M37G survey accounts for between 95 and 98 percent of total value of shipments of products collected in that survey.

<sup>4</sup>Coverage and response rate ranges:

Response rate	Range (percent)
9	99+
8	95 to 98
7	90 to 94
6	85 to 89
5	80 to 84
4	75 to 79
3	70 to 74
2	65 to 69
1	60 to 64
0	59 or less

<sup>5</sup>Active response rate is ratio of number of establishments responding to survey to total active establishments of that survey. For monthly and quarterly surveys this is calculated on monthly or quarterly portion rather than mandatory annual counterpart. Both response rate and coverage rate would be higher if the annual portion were included.

<sup>6</sup>Data collected and/or published:

Code	Description	Code	Description
C	Consumption	SV	Shipments (value)
I	Inventory (stock)	UO	Unfilled (backlog) orders (value)
NOQ	New orders (quantity)	UOQ	Unfilled (backlog) orders (quantity)
NOV	New orders (value)	M	Machinery in place
P	Production (quantity)	EX	Exports
PC	Produced and consumed (quantity)	IPT	Interplant transfers
PV	Production (value)	T	Total (shipments and exports)
R	Receipts (value)	CC	Total (commercial shipments)
S	Shipments (quantity and value)	LH	Loom hours
SQ	Shipments (quantity)	SH	Spindle hours