

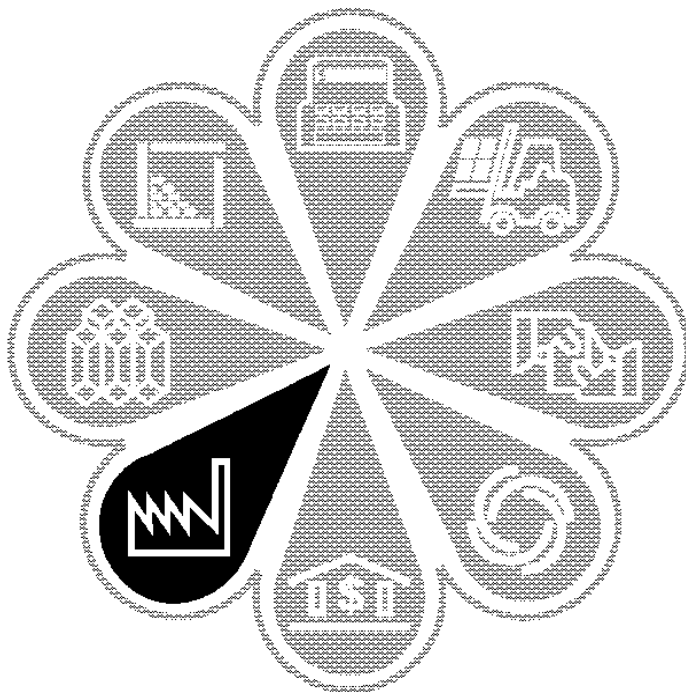
1992 Census of Manufactures

MC92-I-34C

INDUSTRY SERIES

Fabricated Structural Metal Products

Industries 3441, 3442, 3443, 3444, 3446,
3448, and 3449



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3448, and 3449

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U.S. Department of Commerce
Ronald H. Brown, Secretary

Economics and Statistics Administration
Paul A. London, Acting Under Secretary
for Economic Affairs

BUREAU OF THE CENSUS
Harry A. Scarr, Acting Director

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If you have any questions concerning the statistics in this report, call 301-457-4755.



**Economics and Statistics
Administration**

Everett M. Ehrlich, Under Secretary
for Economic Affairs



BUREAU OF THE CENSUS

Martha Farnsworth Riche, Director
Harry A. Scarr, Deputy Director

Paula J. Schneider, Principal Associate
Director for Programs

Frederick T. Knickerbocker, Associate
Director for Economic Programs

Thomas L. Mesenbourg, Assistant Director
for Economic Programs

**ECONOMIC PLANNING AND COORDINATION
DIVISION**

John P. Govoni, Chief

MANUFACTURING AND CONSTRUCTION DIVISION

John P. Govoni, Acting Chief

Introduction to the Economic Census

PURPOSES AND USES OF THE ECONOMIC CENSUS

The economic census is the major source of facts about the structure and functioning of the Nation's economy. It provides essential information for government, business, industry, and the general public.

The economic census furnishes an important part of the framework for such composite measures as the gross domestic product, input/output measures, production and price indexes, and other statistical series that measure short-term changes in economic conditions.

Policymaking agencies of the Federal Government use the data, especially in monitoring economic activity and providing assistance to business.

State and local governments use the data to assess business activities and tax bases within their jurisdictions and to develop programs to attract business.

Trade associations study trends in their own and competing industries and keep their members informed of market changes.

Individual businesses use the data to locate potential markets and to analyze their own production and sales performance relative to industry or area averages.

AUTHORITY AND SCOPE

Title 13 of the United States Code (sections 131, 191, and 224) directs the Census Bureau to take the economic census every 5 years, covering years ending in 2 and 7. The 1992 Economic Census consists of the following eight censuses:

- Census of Retail Trade
- Census of Wholesale Trade
- Census of Service Industries
- Census of Financial, Insurance, and Real Estate Industries
- Census of Transportation, Communications, and Utilities
- Census of Manufactures
- Census of Mineral Industries
- Census of Construction Industries

Special programs also cover enterprise statistics and minority-owned and women-owned businesses. (The 1992 Census of Agriculture and 1992 Census of Governments are conducted separately.) The next economic census is scheduled to be taken in 1998 covering the year 1997.

AVAILABILITY OF THE DATA

The results of the economic census are available in printed reports for sale by the U.S. Government Printing Office and on compact discs for sale by the Census Bureau. Order forms for all types of products are available on request from Customer Services, Bureau of the Census, Washington, DC 20233-8300. A more complete description of publications being issued from this census is on the inside back cover of this document.

Census facts are also widely disseminated by trade associations, business journals, and newspapers. Volumes containing census statistics are available in most major public and college libraries. Finally, State data centers in every State as well as business and industry data centers in many States also supply economic census statistics.

WHAT'S NEW IN 1992

The 1992 Economic Census covers more of the economy than any previous census. New for 1992 are data on communications, utilities, financial, insurance, and real estate, as well as coverage of more transportation industries. The economic, agriculture, and governments censuses now collectively cover nearly 98 percent of all economic activity.

Among other changes, new 1992 definitions affect the boundaries of about a third of all metropolitan areas. Also, the Survey of Women-Owned Businesses has now been expanded to include all corporations.

HISTORICAL INFORMATION

The economic census has been taken as an integrated program at 5-year intervals since 1967 and before that for 1963, 1958, and 1954. Prior to that time, the individual subcomponents of the economic census were taken separately at varying intervals.

The economic census traces its beginnings to the 1810 Decennial Census, when questions on manufacturing were included with those for population. Coverage of economic activities was expanded for 1840 and subsequent censuses to include mining and some commercial activities. In 1902, Congress established a permanent Census Bureau and directed that a census of manufactures be taken every 5 years. The 1905 Manufactures Census was the first time a census was taken apart from the regular every-10-year population census.

The first census of business was taken in 1930, covering 1929. Initially it covered retail and wholesale trade and construction industries, but it was broadened in 1933 to include some of the service trades.

The 1954 Economic Census was the first census to be fully integrated—providing comparable census data across economic sectors, using consistent time periods, concepts, definitions, classifications, and reporting units. It was the first census to be taken by mail, using lists of firms provided by the administrative records of other Federal agencies. Since 1963, administrative records also have been used to provide basic statistics for very small firms, reducing or eliminating the need to send them census questionnaires. The Enterprise Statistics Program, which publishes combined data from the economic census, was made possible with the implementation of the integrated census program in 1954.

The range of industries covered in the economic censuses has continued to expand. The census of construction industries began on a regular basis in 1967, and the scope of service industries was broadened in 1967, 1977, and 1987. The census of transportation began in 1963 as a set of surveys covering travel, transportation of commodities, and trucks, but expanded in 1987 to cover business establishments in several transportation industries. For 1992, these statistics are incorporated into a broadened census of transportation, communications, and utilities. Also new for 1992 is the census of financial, insurance, and real estate industries. This is part of a gradual expansion in coverage of industries previously subjected to government regulation.

The Survey of Minority-Owned Business Enterprises was first conducted as a special project in 1969 and was incorporated into the economic census in 1972 along with the Survey of Women-Owned Businesses.

An economic census has also been taken in Puerto Rico since 1909, in the Virgin Islands of the United States and Guam since 1958, and in the Commonwealth of the Northern Mariana Islands since 1982.

Statistical reports from the 1987 and earlier censuses provide historical figures for the study of long-term time series and are available in some large libraries. All of the census data published since 1967 are still available for sale on microfiche from the Census Bureau.

AVAILABILITY OF MORE FREQUENT ECONOMIC DATA

While the census provides complete enumerations every 5 years, there are many needs for more frequent data as well. The Census Bureau conducts a number of monthly, quarterly, and annual surveys, with the results appearing in publication series such as Current Business Reports (retail and wholesale trade and service industries), the Annual Survey of Manufactures, Current Industrial Reports, and the Quarterly Financial Report. Most of these surveys, while providing more frequent observations, yield less kind-of-business and geographic detail than the census. The County Business Patterns program offers annual statistics on the number of establishments, employment, and payroll classified by industry within each county.

SOURCES FOR MORE INFORMATION

More information about the scope, coverage, classification system, data items, and publications for each of the economic censuses and related surveys is published in the *Guide to the 1992 Economic Census and Related Statistics*. More information on the methodology, procedures, and history of the census will be published in the *History of the 1992 Economic Census*. Contact Customer Services for information on availability.

Census of Manufactures

GENERAL

This report, from the 1992 Census of Manufactures, is one of a series of 83 industry reports, each of which provides statistics for individual industries or groups of related industries. Additional separate reports will be issued for each State and the District of Columbia and for special subjects such as manufacturers' shipments to the federal government and concentration ratios in manufacturing.

The industry reports include such statistics as number of establishments, employment, payroll, value added by manufacture, cost of materials consumed, capital expenditures, product shipments, etc.

State reports present similar statistics for each State and its important metropolitan areas (MA's), counties, and places. Selected statistical totals for "all manufacturing" have been shown in the State reports for MA's with 250 employees or more and for counties and places with 500 employees or more.

The *General Summary* report contains industry, product class, and geographic area statistics summarized in one report. The introduction to the *General Summary* discusses, at greater length, many of the subjects described in this introduction. For example, the *General Summary* text discusses the relationship of value added by manufacture to national income by industry of origin, the changes in statistical concepts over the history of the censuses, and the valuation problems arising from intracompany transfers between manufacturing plants of a company and between manufacturing plants and sales offices and sales branches of a company.

SCOPE OF CENSUS AND DEFINITION OF MANUFACTURING

The 1992 Census of Manufactures covers all establishments with one paid employee or more primarily engaged in manufacturing as defined in the *1987 Standard Industrial Classification (SIC) Manual*¹. This is the system of industrial classification developed by experts on classification in Government and private industry under the guidance of the Office of Information and Regulatory Affairs, Office of

¹*Standard Industrial Classification Manual: 1987*. For sale by Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402. Stock No. 041-001-00314-2.

Management and Budget. This classification system is used by Government agencies as well as many organizations outside the Government.

The SIC Manual defines manufacturing as the mechanical or chemical transformation of substances or materials into new products. The assembly of component parts of products also is considered to be manufacturing if the resulting product is neither a structure nor other fixed improvement. These activities are usually carried on in plants, factories, or mills that characteristically use power-driven machines and materials-handling equipment.

Manufacturing production is usually carried on for the wholesale market, for transfers to other plants of the same company, or to the order of industrial users rather than for direct sale to the household consumer. Some manufacturers in a few industries sell chiefly at retail to household consumers through the mail, through house-to-house routes, or through salespersons. Some activities of a service nature (enameling, engraving, etc.) are included in manufacturing when they are performed primarily for trade. They are considered nonmanufacturing when they are performed primarily to the order of the household consumer.

RELATIONSHIP BETWEEN ANNUAL SURVEY OF MANUFACTURES AND CENSUS OF MANUFACTURES

The Bureau of the Census conducts the annual survey of manufactures (ASM) in each of the 4 years between the censuses of manufactures. The ASM is a probability-based sample of approximately 62,000 establishments and collects the same industry statistics (employment, payroll, value of shipments, etc.) as the census of manufactures. In addition to collecting the information normally requested on the census form, the establishments in the ASM sample are requested to supply information on assets, capital expenditures, retirements, depreciation, rental payments, supplemental labor costs, costs of purchased services, and foreign content of materials consumed. Except for supplemental labor costs, the extra ASM items are collected only in census years.

ESTABLISHMENT BASIS OF REPORTING

The census of manufactures is conducted on an establishment basis. A company operating at more than one location is required to file a separate report for each

location. The ASM also is conducted on an establishment basis, but separate reports are filed for just those establishments selected in the sample. Companies engaged in distinctly different lines of activity at one location are requested to submit separate reports if the plant records permit such a separation and if the activities are substantial in size.

In 1992, as in earlier years, a minimum size limit was set for inclusion of establishments in the census. All establishments employing one person or more at any time during the census year are included. The same size limitation has applied since 1947 in censuses and annual surveys of manufactures. In the 1939 and earlier censuses, establishments with less than \$5,000 value of products were excluded. The change in the minimum size limit in 1947 does not appreciably affect the historical comparability of the census figures except for data on number of establishments for a few industries. This report excludes information for separately operated administrative offices, warehouses, garages, and other auxiliary units that service manufacturing establishments of the same company (see Auxiliaries).

MANUFACTURING UNIVERSE AND CENSUS REPORT FORMS

The 1992 Census of Manufactures universe includes approximately 380,000 establishments. The amounts of information requested from manufacturing establishments were dependent upon a number of factors. The more important considerations were the size of the company and whether it was included in the annual survey of manufactures. The methods of obtaining information for the various subsets of the universe to arrive at the aggregate figures shown in the publication are described below:

1. **Small single-establishment companies not sent a report form.** In the 1992 Census of Manufactures, approximately 143,000 small single-establishment companies were excused from filing reports. Selection of these small establishments was done on an industry-by-industry basis and was based on annual payroll and total shipments data as well as on the industry classification codes contained in the administrative records of Federal agencies. The cutoffs were selected so that these administrative-records cases would account for no more than 3 percent of the value of shipments for all manufacturing. Generally, all single-establishment companies with less than 5 employees were excused, while all establishments with more than 20 employees were mailed forms.

Information on the physical location of the establishment, as well as information on payrolls, receipts (shipments), and industry classification, was obtained from the administrative records of other Federal agencies under special arrangements, which safeguarded their confidentiality. Estimates of data for these small establishments were developed using industry averages in conjunction with the administrative information. The value of shipments and cost of materials

were not distributed among specific products and materials for these establishments but were included in the product and material "not specified by kind" (n.s.k.) categories.

The industry classification codes included in the administrative-records files were assigned on the basis of brief descriptions of the general activity of the establishment. As a result, an indeterminate number of establishments were erroneously coded at the four-digit SIC level. This was especially true whenever there was a relatively fine line of demarcation between industries or between manufacturing and nonmanufacturing activity.

Sometimes these administrative-records cases were only given a two- or three-digit SIC group. For the 1992 Census of Manufactures, these establishments were sent a separate classification form, which requested information on the products and services of the establishment. This form was used to code many of these establishments to the four-digit SIC level. Establishments that did not return the classification form were coded later to those four-digit SIC industries identified as "not elsewhere classified" (n.e.c.) within the given two- or three-digit industry groups.

As a result of these situations, a number of small establishments may have been misclassified by industry. However, such possible misclassification has no significant effect on the statistics other than on the number of companies and establishments.

The total establishment count for individual industries should be viewed as an approximation rather than a precise measurement. The counts for establishments with 20 employees or more are far more reliable than the count of total number of establishments.

2. **Establishments sent a report form.** The over 237,000 establishments covered in the mail canvass were divided into three groups:

- a. **ASM sample establishments.** This group consisted of approximately 62,000 establishments covering all the units of large manufacturing establishments as well as a sample of the medium and smaller establishments. The probability of selection was proportionate to size (see Appendix B, Annual Survey of Manufactures).

In a census of manufactures year, the ASM report form (MA-1000) replaces the first page of the regular census form for those establishments included in the ASM. In addition to information on employment, payroll, and other items normally requested on the regular census form, establishments in the ASM sample were requested to supply information on assets, capital expenditures, retirements, depreciation, rental payments, supplemental labor costs, and costs of purchased services. See appendix A, section 2, for an explanation of these items.

The census part of the report form is 1 of approximately 200 versions containing product, material, and special inquiries. The diversity of manufacturing activities necessitated the use of these many forms to canvass the 459 manufacturing industries. Each form was developed for a group of related industries.

Appearing on each form was a list of products primary to the group of related industries as well as secondary products and miscellaneous services that establishments classified in these industries were likely to be performing. Respondents were requested to identify the products, the value of each product, and, in a large number of cases, the quantity of the product shipped during the survey year. Space also was provided for the respondent to describe products not specifically identified on the form.

The report form also contained a materials-consumed inquiry, which varied from form to form depending on the industries being canvassed. The respondents were asked to review a list of materials generally used in their production processes. From this list, each establishment was requested to identify those materials consumed during the survey year, the cost of each, and, in certain cases, the quantity consumed. Once again, space was provided for the respondent to describe significant material not identified on the form.

Finally, a wide variety of special inquiries was included to measure activities peculiar to a given industry, such as operations performed and equipment used.

- b. **Large and medium establishments (non-ASM).** Approximately 112,000 establishments were included in this group. A variable cutoff, based on administrative-records payroll data and determined on an industry-by-industry basis, was used to select those establishments that were to receive 1 of the approximately 200 census of manufactures regular forms. The first page, requesting establishment data for items such as employment and payroll, was standard but did not contain the detailed statistics included on the ASM form. The product, material, and special inquiry sections supplied were based on the historical industry classification of the establishment.
- c. **Small single-establishment companies (non-ASM).** This group consisted of approximately 63,000 establishments. For those industries where application of the variable cutoff for administrative-records cases resulted in a large number of small establishments being included in the mail canvass, an abbreviated or "short" form was used. These establishments received 1 of the approximately 80 versions of the short form, which requested summary product and

material data and totals but no details on employment, payrolls, cost of materials, inventories, and capital expenditures.

Use of the short form has no adverse effect on published totals for the industry statistics; the same data were collected on the short form as on the long form. However, detailed information on materials consumed was not collected on the short form; thus its use would increase the value of the n.s.k. categories.

AUXILIARIES

In this industry report, the data on employment and payroll are limited to operating manufacturing establishments. The census report form filed for auxiliaries (ES-9200) requested a description of the activity of the establishments serviced. However, the manufacturing auxiliaries were coded only to the two-digit major group of the establishments they served; whereas, the operating establishments were coded to a four-digit manufacturing industry. Data for the approximately 11,000 separately operated auxiliaries are included in the geographic area series and in a report issued as part of the 1992 Enterprise Statistics Survey.

Auxiliaries are establishments whose employees are primarily engaged in performing supporting services for other establishments of the same company, rather than for the general public or for other business firms. They can be at different locations from the establishments served or at the same location as one of those establishments but not operating as an integral part thereof and serving two establishments or more. Where auxiliary operations are conducted at the same location as the manufacturing operation and operate as an integral part thereof, they usually are included in the report for the operating manufacturing establishment.

Included in the broad category of auxiliaries are administrative offices. Employees in administrative offices are concerned with the general management of multiestablishment companies, i.e., with the general supervision and control of two units or more, such as manufacturing plants, mines, sales branches, or stores. The functions of these employees may include the following:

1. Program planning, including sales research and coordination of purchasing, production, and distribution
2. Company purchasing, including general contracts and purchasing methods
3. Company financial policy and accounting
4. General engineering, including design of product machinery and equipment, and direction of engineering effort conducted at the individual operation locations
5. Company personnel matters
6. Legal and patent matters

Other types of auxiliaries serving the plants or central management of the company include purchasing offices, sales promotion offices, research and development organizations, etc.

INDUSTRY CLASSIFICATION OF ESTABLISHMENTS

Each of the establishments covered in the census was classified in 1 of 459 manufacturing industries in accordance with the industry definitions in the 1987 SIC Manual. The 1987 edition of this manual represents a major revision for manufacturing industries from the 1972 edition and its 1977 supplement. Appendix A of the 1987 Manual notes the revisions in the four-digit industry levels between 1972/77 and 1987.

An industry is generally defined as a group of establishments producing the same product or a closely related group of products. The product groupings from which industry classifications are derived are based on considerations such as similarity of manufacturing processes, types of materials used, types of customers, and the like. The resulting group of establishments must be significant in terms of number, value added by manufacture, value of shipments, and number of employees. The system operates in such a way that the definitions progressively become narrower with successive additions of numerical digits. For 1992, there are 20 major groups (two-digit SIC), 139 industry groups (three-digit SIC), and 459 industries (four-digit SIC). This represents an expansion of four-digit industries from 452 in 1972/77 and a reduction of three-digit groups from 143 in 1972/77. Product classes and products of the manufacturing industries have been assigned codes based on the industry from which they originate. There are about 11,000 products identified by a seven-digit code. The seven-digit products are considered the primary products of the industry with the same four digits.

Accordingly, an establishment is usually classified in a particular industry on the basis of its major activity during a particular year, i.e., production of the products primary to that industry exceeds, in value, production of the products primary to any other single industry. In a few instances, however, the industry classification of an establishment is not only determined by the products it makes but also by the process employed in operations. Refining of nonferrous metals from ore or rolling and drawing of nonferrous metals (processes which involve heavy capitalization in specialized equipment) would be classified according to the process used during a census year. These establishments then would be "frozen" in that industry during the following ASM years.

In either a census or ASM year, establishments included in the ASM sample with certainty weight, other than those involved with heavily capitalized activities described above, are reclassified by industry only if the change in the primary activity from the prior year is significant or if the change has occurred for 2 successive years. This procedure prevents reclassification when there are minor shifts in product mix.

In ASM years, establishments included in the ASM sample with noncertainty weight are not shifted from one industry classification to another. They are retained in the industry where they were classified in the base census year (see Appendix B, Annual Survey of Manufactures). However, in the following census year, these ASM plants are allowed to shift from one industry to another.

The results of these rules covering the switching of plants from one industry classification to another are that, at the aggregate level, some industries comprise different mixes of establishments between survey years and establishment data for such industry statistics as employment and payroll may be tabulated in different industries between survey years. Hence, comparisons between prior-year and current-year published totals, particularly at the four-digit SIC level, should be viewed with caution. This is particularly true for the comparison between the data shown for a census year versus the data shown for the previous ASM year.

As previously noted, the small establishments that may have been misclassified by industry are usually administrative-records cases whose industry codes were assigned on the basis of incomplete descriptions of the general activity of the establishment. Such possible misclassifications have no significant effect on the statistics other than on the number of companies and establishments.

While some establishments produce only the primary products of the industry in which they are classified, all establishments of an industry rarely specialize to this extent. The industry statistics (employment, inventories, value added by manufacture, total value of shipments including resales and miscellaneous receipts, etc.) shown in tables 1a through 5a, therefore, reflect not only the primary activities of the establishments in that industry but also their secondary activities. The product statistics in table 6a represent the output of all establishments whether or not they are classified in the same industry as the product. For this reason, in relating the industry statistics, especially the value of shipments to the product statistics, the composition of the industry's output shown in table 5b should be considered.

The extent to which industry and product statistics may be matched with each other is measured by two ratios which are computed from the figures shown in table 5b. The first of these ratios, called the primary product specialization ratio, measures the proportion of product shipments (both primary and secondary) of the establishments classified in the industry represented by the primary products of those establishments. The second ratio, called the coverage ratio, is the proportion of primary products shipped by the establishments classified in the industry to total shipments of such products by all manufacturing establishments.

However, establishments making products falling into the same industry category may use a variety of processes and materials to produce them. Also, the same industry classification (based on end products) may include both establishments that are highly integrated and those that

put only the finishing touches on an already highly fabricated item. For example, the refrigeration equipment industry includes instances of almost complete integration (production of the compressor, condensing unit, electric motor, casting, stamping of the case, and final assembly) all carried on at one plant. On the other hand, the condensing unit, the motor, and the case may be purchased and only assembled into the finished product.

In some instances, separate industry categories have been established for integrated and nonintegrated establishments. For other industries, the census provides separate statistics on the production of intermediate commodities made and used in the producing plant. For some industries characterized by many plants of the same company, separate figures on interplant transfers of products usually are shown.

Differences in the integration of production processes, types of operations, and alternatives in types of materials used should be considered when relating the industry statistics (employment, payrolls, value added, etc.) to the product and material data.

VALUE OF SHIPMENTS FOR THE INDUSTRY COMPARED WITH VALUE OF PRODUCT SHIPMENTS

This report shows value of shipments data for industries and products. In tables 1a through 5b, these data represent the total value of shipments of all establishments classified in a particular industry. The data include the shipments of the products classified in the industry (primary to the industry), products classified in other industries (secondary to the industry), and miscellaneous receipts (repair work, sale of scrap, research and development, installation receipts, and resales). Value of product shipments shown in table 6a represents the total value of all products shipped that are classified as primary to an industry.

CENSUS DISCLOSURE RULES

In accordance with Federal law governing census reports, no data are published that would disclose the data for an individual establishment or company. However, the number of establishments classified in a specific industry is not considered a disclosure, so this information may be released even though other information is withheld.

The disclosure analysis for the industry statistics in tables 1a through 5a of this report is based on the total value of shipments. When the total value of shipments cannot be shown without disclosing information for individual companies, the complete line is suppressed except for new capital expenditures. However, the suppressed data are included in higher-level totals. A separate disclosure analysis is performed for new capital expenditures that can be suppressed even though value of shipments data are publishable.

SPECIAL TABULATIONS

Special tabulations of data collected in the 1992 Census of Manufactures may be obtained on computer diskette or in tabular form. The data will be in summary form and subject to the same rules prohibiting disclosure of confidential information (including name, address, kind of business, or other data for individual business establishments or companies) as are the regular publications.

Special tabulations are prepared on a cost basis. A request for a cost estimate, as well as exact specifications on the type and format of the data to be provided, should be directed to the Chief, Manufacturing and Construction Division, Bureau of the Census, Washington, DC 20233.

ABBREVIATIONS AND SYMBOLS

The following abbreviations and symbols are used in this publication:

- Represents zero.
- (D) Withheld to avoid disclosing data for individual companies; data are included in higher level totals.
- (NA) Not available.
- (NC) Not comparable.
- (S) Withheld because estimate did not meet publication standards.
- (X) Not applicable.
- (Z) Less than half the unit shown.
- n.e.c. Not elsewhere classified.
- n.s.k. Not specified by kind.
- pt. Part.
- r Revised.
- SIC Standard Industrial Classification.

Other abbreviations, such as lb, gal, yd, doz, bbl, and s tons, are used in the customary sense.

CONTACTS FOR DATA USERS

Subject Area	Contact	Phone
Census, ASM, and CIR		
SIC's 20-23, 3021, 31	Judy Dodds	301-457-4651
SIC's 24-30 (exc. 3021), 32	Michael Zampogna	301-457-4810
SIC's 33-35 (exc. 357)	Kenneth Hansen	301-457-4755
SIC's 357, 36-39	Bruce Goldhirsch	301-457-4817
Import/ export publications	Foreign Trade Division	301-457-3041
Industry analysis and forecasting	International Trade Administration	202-377-4356

Users' Guide for Locating Statistics in This Report by Table Number

[For explanation of terms, see appendixes]

Item	Four-digit industry statistics							Five-digit product class and seven-digit product statistics			
	Historical	Operating ratios	By geographic area	Summary and supplemental	By employment size	By industry and product class specialization	Materials consumed by kind	Industry-product analysis	Product shipments	Product class by geographic area	Historical product class
Number of companies	1a			3a					*6a		
Number of establishments	1a		2	3a	4	5a					
Employment and payroll:											
Number of employees	1a	1b	2	3a	4	5a					
Payroll	1a	1b	2	3a	4	5a					
Supplemental labor costs				3a							
Production workers	1a	1b	2	3a	4	5a					
Production-worker hours	1a	1b	2	3a	4	5a					
Production-worker wages	1a	1b	2	3a	4	5a					
Shipments, cost of materials, and value added:											
Value of shipments (four-digit)	1a	1b	2	3a	4	5a		5b			
Product class shipments (five-digit)									6a	6b	6c
Product shipments (seven-digit)									6a		
Value added by manufacture	1a	1b	2	3a	4	5a					
Cost of materials	1a	1b	2	3a	4	5a					
Fuels and electric energy				3a							
Materials consumed by kind							7				
Inventories:											
Total, end of year	1a			3a	4						
By stage of fabrication				3a							
Capital expenditures, assets, rental payments, and purchased services:											
New capital expenditures	1a		2	3b	4	5a					
Used plant and equipment expenditures				3b							
Gross assets				3b							
Depreciation				3b							
Retirements of buildings and machinery				3b							
Rental payments				3b							
Foreign content of materials consumed				3c							
Purchased services				3c							
Ratios:											
Specialization	1a							5b			
Coverage	1a							5b			

*Number of companies with shipments of more than \$100 thousand.

Contents

Fabricated Structural Metal Products

[Page numbers listed here omit the prefix that appears as part of the number of each page]

	Page
Introduction to the Economic Census.....	III
Census of Manufactures	V
Users' Guide for Locating Statistics in This Report by Table Number	X
Description of Industries and Summary of Findings	3

TABLES

Industry Statistics

1a. Historical Statistics for the Industry: 1992 and Earlier Years.....	9
1b. Selected Operating Ratios for the Industry: 1992 and Earlier Years	10
2. Industry Statistics for Selected States: 1992 and 1987	12
3a. Summary Statistics for the Industry: 1992	16
3b. Gross Book Value of Depreciable Assets, Capital Expenditures, Retirements, Depreciation, and Rental Payments: 1992	17
3c. Supplemental Industry Statistics Based on Sample Estimates: 1992	18
4. Industry Statistics by Employment Size of Establishment: 1992	19
5a. Industry Statistics by Industry and Primary Product Class Specialization: 1992 ...	20

Product Statistics

5b. Industry-Product Analysis-Value of Industry and Primary Product Shipments; Specialization and Coverage Ratios: 1992 and Earlier Census Years	21
6a. Product and Product Classes-Quantity and Value of Shipments by All Producers: 1992 and 1987	23
6b. Product Classes-Value of Shipments by All Producers for Specified States: 1992 and 1987	29
6c. Historical Statistics for Product Classes-Value Shipped by All Producers: 1992 and Earlier Years	34

Material Statistics

7. Materials Consumed by Kind: 1992 and 1987	35
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APPENDIXES

A. Explanation of Terms	A-1
B. Annual Survey of Manufactures Sampling and Estimating Methodologies	B-1
C. Product Code Reference Tables	C-1

Publication Program.....	Inside back cover
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Description of Industries and Summary of Findings

This report shows 1992 Census of Manufactures statistics for establishments classified in each of the following industries:

SIC code and title

3441	Fabricated Structural Metal
3442	Metal Doors, Sash, and Trim
3443	Fabricated Plate Work (Boiler Shops)
3444	Sheet Metal Work
3446	Architectural Metal Work
3448	Prefabricated Metal Buildings
3449	Miscellaneous Metal Work

The industry statistics (employment, payroll, cost of materials, value of shipments, inventories, etc.) are reported for each establishment as a whole. Aggregates of such data for an industry reflect not only the primary activities of the establishments but also their activities in the manufacture of secondary products as well as their miscellaneous activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1 through 5a) with product statistics (table 6) showing shipments by all industries of the primary products of the specified industry. The extent of the "product mix" is indicated in table 5b, which shows the value of primary and secondary products shipped by establishments classified in the specified industry and the value of primary products of the industry shipped as secondary products by establishments classified in other industries.

Establishment data were tabulated based on industry definitions included in the *1987 Standard Industrial Classification (SIC) Manual*¹. The 1987 edition represents a major revision for manufacturing industries from the 1972 edition and its 1977 supplement. In addition to the 1987 SIC revision, changes were made to the product class (five-digit) and product code (seven-digit) categories. The product class and product code comparability between the 1992 and 1987 censuses is shown in appendix C. This appendix presents, in tabular form, the linkage from 1992 to 1987, and 1987 to 1992.

¹*Standard Industrial Classification Manual: 1987*. For sale by Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402. Stock No. 041-001-00314-2.

All dollar figures included in this report are at prices current for the year specified and, therefore, unadjusted for changes in price levels. Consequently, when making comparisons to prior years, users should take into consideration the inflation that has occurred.

INDUSTRY 3441, FABRICATED STRUCTURAL METAL

This industry is made up of establishments primarily engaged in fabricated iron and steel or other metal for structural purposes, such as bridges, buildings, and sections for ships, boats, and barges. Establishments primarily engaged in manufacturing metal doors, sash, frames, molding, and trim are classified in industry 3442; and establishments doing fabrication work at the site of construction are classified in Division C, Construction.

The 1992 definition of this industry is the same as that used in the 1987 Standard Industrial Classification (SIC) system. The SIC number and title also are the same.

In the 1992 Census of Manufactures, Industry 3441, Fabricated Structural Metal, had employment of 72.0 thousand. The employment figure was 11 percent below the 80.9 thousand reported in 1987. Compared with 1991, employment decreased 7 percent. The 1991 data are based on the Census Bureau's annual survey of manufactures (ASM), which is a sample survey conducted each year between censuses.

The leading States in employment in 1992 were Texas, California, Pennsylvania, and Louisiana, accounting for approximately 28 percent of the industry's employment. This represents a shift from 1987 when California, Texas, Pennsylvania, and Rhode Island were the leading States.

The total value of shipments for establishments classified in this industry was \$8.9 billion.

Establishments in virtually all industries ship secondary products as well as products primary to the industry in which they are classified and have some miscellaneous receipts, such as resales and contract receipts. Industry 3441 shipped \$7.7 billion of products considered primary to the industry, \$398.8 million of secondary products, and had \$837.5 million of miscellaneous receipts, resales, and contract work. Thus, the ratio of primary products to the total of both secondary and primary products shipped by establishments in this industry was 95 percent (specialization ratio). In 1987, the specialization ratio was 94 percent.

Establishments in this industry also accounted for 95 percent of products considered primary to the industry no matter where they were actually produced (coverage ratio). In 1987, the coverage ratio also was 95 percent.

The products primary to industry 3441, no matter in what industry they were produced, appear in table 6a and aggregate to \$8.1 billion. For further explanation of specialization and coverage ratios, see table 5b and the appendixes.

The total cost of materials, services, and fuels and energy used by establishments classified in the fabricated structural metal industry amounted to \$4.9 billion. Data on specific materials consumed appear in table 7.

Single-establishment companies in this industry with less than 5 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 16 percent of the total value of shipments.

INDUSTRY 3442, METAL DOORS, SASH, AND TRIM

This industry is made up of establishments primarily engaged in ferrous and nonferrous metal doors, sash, window and door frames and screens, molding, and trim. Establishments primarily engaged in manufacturing metal covered wood doors, windows, sash, frames, molding, and trim are classified in industry 2431.

The 1992 definition of this industry is the same as that used in the 1987 Standard Industrial Classification (SIC) system. The SIC number and title also are the same.

In the 1992 Census of Manufactures, Industry 3442, Metal Doors, Sash, and Trim, had employment of 67.8 thousand. The employment figure was 9 percent below the 74.7 thousand reported in 1987.

The leading States in employment in 1992 were California, Texas, Pennsylvania, and Florida, accounting for approximately 33 percent of the industry's employment. These same States were the leaders in 1987 when they accounted for 33 percent of the industry's employment.

The total value of shipments for establishments classified in this industry was \$7.1 billion.

Establishments in virtually all industries ship secondary products as well as products primary to the industry in which they are classified and have some miscellaneous receipts, such as resales and contract receipts. Industry 3442 shipped \$6.2 billion of products considered primary to the industry, \$613.6 million of secondary products, and had \$343.3 million of miscellaneous receipts, resales, and contract work. Thus, the ratio of primary products to the total of both secondary and primary products shipped by establishments in this industry was 91 percent (specialization ratio). In 1987, the specialization ratio was 92 percent.

Establishments in this industry also accounted for 96 percent of products considered primary to the industry no matter where they were actually produced (coverage ratio). In 1987, the coverage ratio was 94 percent.

The products primary to industry 3442, no matter in what industry they were produced, appear in table 6a and aggregate to \$6.4 billion. For further explanation of specialization and coverage ratios, see table 5b and the appendixes.

The total cost of materials, services, and fuels and energy used by establishments classified in the metal doors, sash, and trim industry amounted to \$3.9 billion. Data on specific materials consumed appear in table 7.

Single-establishment companies in this industry with less than 5 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 6 percent of the total value of shipments.

INDUSTRY 3443, FABRICATED PLATE WORK (BOILER SHOPS)

This industry is made up of establishments primarily engaged in manufacturing power and marine boilers, pressure and nonpressure tanks, processing and storage vessels, heat exchangers, weldments and similar products, by the process of cutting, forming, and joining metal plates, shapes, bars, sheet, pipe mill products, and tubing to custom or standard design for factory or field assembly. Establishments primarily engaged in manufacturing warm air heating furnaces are classified in industry 3585; those manufacturing other nonelectric heating apparatus, except power boilers, are classified in industry 3433; those manufacturing household cooking apparatus are classified in industry 3631; and those manufacturing industrial process furnaces and ovens are classified in industry 3567.

The 1992 definition of this industry is the same as that used in the 1987 Standard Industrial Classification (SIC) system. The SIC number and title also are the same.

In the 1992 Census of Manufactures, Industry 3443, Fabricated Plate Work (Boiler Shops), had employment of 79.3 thousand. The employment figure was 6 percent above the 74.7 thousand reported in 1987.

The leading States in employment in 1992 were Texas, Pennsylvania, Ohio, and New York, accounting for approximately 32 percent of the industry's employment. This represents a shift from 1987 when Texas, Pennsylvania, California, and Ohio accounted for approximately 33 percent of the industry's employment.

The total value of shipments for establishments classified in this industry was \$9.1 billion.

Establishments in virtually all industries ship secondary products as well as products primary to the industry in which they are classified and have some miscellaneous receipts, such as resales and contract receipts. Industry

3443 shipped \$8.0 billion of products considered primary to the industry, \$618.0 million of secondary products, and had \$539.9 million of miscellaneous receipts, resales, and contract work. Thus, the ratio of primary products to the total of both secondary and primary products shipped by establishments in this industry was 93 percent (specialization ratio). In 1987, the specialization ratio was 92 percent.

Establishments in this industry also accounted for 94 percent of products considered primary to the industry no matter where they were actually produced (coverage ratio). In 1987, the coverage ratio was 93 percent.

The products primary to industry 3443, no matter in what industry they were produced, appear in table 6a and aggregate to \$8.5 billion. For further explanation of specialization and coverage ratios, see table 5b and the appendixes.

The total cost of materials, services, and fuels and energy used by establishments classified in the fabricated plate work (boiler shops) industry amounted to \$4.3 billion. Data on specific materials consumed appear in table 7.

Single-establishment companies in this industry with less than 5 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 15 percent of the total value of shipments.

INDUSTRY 3444, SHEET METAL WORK

This industry is made up of establishments primarily engaged in manufacturing sheet metal work for buildings (not including fabrication work done by construction contractors at the place of construction), and manufacturing stovepipes, light tanks, and other products of sheet metal.

The 1992 definition of this industry is the same as that used in the 1987 Standard Industrial Classification (SIC) system. The SIC number and title also are the same.

In the 1992 Census of Manufactures, Industry 3444, Sheet Metal Work, had employment of 104.3 thousand. The employment figure was 4 percent above the 100.2 thousand reported in 1987. Compared with 1991, employment increased 10 percent. The 1991 data are based on the Census Bureau's annual survey of manufactures (ASM), which is a sample survey conducted each year between censuses.

The leading States in employment in 1992 were California, Ohio, Texas, and Illinois, accounting for approximately 35 percent of the industry's employment. This represents a shift from 1987 when California, Texas, Ohio, and New York accounted for approximately 35 percent of the industry's employment.

The total value of shipments for establishments classified in this industry was \$11.5 billion.

Establishments in virtually all industries ship secondary products as well as products primary to the industry in which they are classified and have some miscellaneous

receipts, such as resales and contract receipts. Industry 3444 shipped \$10.0 billion of products considered primary to the industry, \$894.7 million of secondary products, and had \$608.4 million of miscellaneous receipts, resales, and contract work. Thus, the ratio of primary products to the total of both secondary and primary products shipped by establishments in this industry was 92 percent (specialization ratio). In 1987, the specialization ratio was 91 percent.

Establishments in this industry also accounted for 94 percent of products considered primary to the industry no matter where they were actually produced (coverage ratio). In 1987, the coverage ratio was 91 percent.

The products primary to industry 3444, no matter in what industry they were produced, appear in table 6a and aggregate to \$10.7 billion. For further explanation of specialization and coverage ratios, see table 5b and the appendixes.

The total cost of materials, services, and fuels and energy used by establishments classified in the sheet metal work industry amounted to \$5.8 billion. Data on specific materials consumed appear in table 7.

Single-establishment companies in this industry with less than 5 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 11 percent of the total value of shipments.

INDUSTRY 3446, ARCHITECTURAL METAL WORK

This industry is made up of establishments primarily engaged in manufacturing architectural and ornamental metal work, such as stairs and staircases, open steel flooring (grating), fire escapes, grilles, railings, and fences and gates, except those made from wire. Establishments primarily engaged in manufacturing fences and gates from purchased wire are classified in industry 3496; those manufacturing prefabricated metal buildings and parts are classified in industry 3448; and those manufacturing miscellaneous metal work are classified in industry 3449.

The 1992 definition of this industry is the same as that used in the 1987 Standard Industrial Classification (SIC) system. The SIC number and title also are the same.

In the 1992 Census of Manufactures, Industry 3446, Architectural Metal Work, had employment of 26.1 thousand. The employment figure was 7 percent below the 28.0 thousand reported in 1987.

The leading States in employment in 1992 were Pennsylvania, Texas, California, and Ohio, accounting for approximately 34 percent of the industry's employment. This represents a shift from 1987 when Texas, California, Florida, and Illinois accounted for approximately 33 percent of the industry's employment.

The total value of shipments for establishments classified in this industry was \$2.4 billion.

Establishments in virtually all industries ship secondary products as well as products primary to the industry in which they are classified and have some miscellaneous receipts, such as resales and contract receipts. Industry 3446 shipped \$2.0 billion of products considered primary to the industry, \$207.7 million of secondary products, and had \$132.3 million of miscellaneous receipts, resales, and contract work. Thus, the ratio of primary products to the total of both secondary and primary products shipped by establishments in this industry was 91 percent (specialization ratio). In 1987, the specialization ratio was 88 percent.

Establishments in this industry also accounted for 85 percent of products considered primary to the industry no matter where they were actually produced (coverage ratio). In 1987, the coverage ratio was 86 percent.

The products primary to industry 3446, no matter in what industry they were produced, appear in table 6a and aggregate to \$2.4 billion. For further explanation of specialization and coverage ratios, see table 5b and the appendixes.

The total cost of materials, services, and fuels and energy used by establishments classified in the architectural metal work industry amounted to \$1.1 billion. Data on specific materials consumed appear in table 7.

Single-establishment companies in this industry with less than 5 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 13 percent of the total value of shipments.

INDUSTRY 3448, PREFABRICATED METAL BUILDINGS

This industry is made up of establishments primarily engaged in manufacturing portable and other prefabricated exterior metal panels.

The 1992 definition of this industry is the same as that used in the 1987 Standard Industrial Classification (SIC) system. The SIC number and title also are the same.

In the 1992 Census of Manufactures, Industry 3448, Prefabricated Metal Buildings and Components, had employment of 20.8 thousand. The employment figure was 19 percent below the 25.8 thousand reported in 1987.

The leading States in employment in 1992 were California, Indiana, Pennsylvania, and Texas. This represents a shift from 1987 when Texas, California, Illinois, and North Carolina were the leading States.

The total value of shipments for establishments classified in this industry was \$2.8 billion.

Establishments in virtually all industries ship secondary products as well as products primary to the industry in which they are classified and have some miscellaneous receipts, such as resales and contract receipts. Industry 3448 shipped \$2.5 billion of products considered primary to the industry, \$155.8 million of secondary products, and

had \$143.2 million of miscellaneous receipts, resales, and contract work. Thus, the ratio of primary products to the total of both secondary and primary products shipped by establishments in this industry was 94 percent (specialization ratio). In 1987, the specialization ratio was 93 percent.

Establishments in this industry also accounted for 97 percent of products considered primary to the industry no matter where they were actually produced (coverage ratio). In 1987, the coverage ratio was 96 percent.

The products primary to industry 3448, no matter in what industry they were produced, appear in table 6a and aggregate to \$2.6 billion. For further explanation of specialization and coverage ratios, see table 5b and the appendixes.

The total cost of materials, services, and fuels and energy used by establishments classified in the prefabricated metal buildings industry amounted to \$1.7 billion. Data on specific materials consumed appear in table 7.

Single-establishment companies in this industry with less than 5 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 7 percent of the total value of shipments.

INDUSTRY 3449, MISCELLANEOUS METAL WORK

This industry is made up of establishments primarily engaged in manufacturing miscellaneous structural metal work, such as metal plaster bases, fabricated bar joists, and concrete reinforcing bars. Also included in this industry are establishments primarily engaged in custom roll forming of metal.

The 1992 definition of this industry is the same as that used in the 1987 Standard Industrial Classification (SIC) system. The SIC number and title also are the same.

In the 1992 Census of Manufactures, Industry 3449, Miscellaneous Structural Metal Work, had employment of 21.6 thousand. The employment figure was 6 percent below the 22.9 thousand reported in 1987.

The leading States in employment in 1992 were Texas, Ohio, Pennsylvania, and California, accounting for approximately 33 percent of the industry's employment. This represents a shift from 1987 when Florida, Illinois, Pennsylvania, and Texas accounted for approximately 35 percent of the industry's employment.

The total value of shipments for establishments classified in this industry was \$3.4 billion.

Establishments in virtually all industries ship secondary products as well as products primary to the industry in which they are classified and have some miscellaneous receipts, such as resales and contract receipts. Industry 3449 shipped \$2.9 billion of products considered primary to the industry, \$240.6 million of secondary products, and had \$251.4 million of miscellaneous receipts, resales, and

contract work. Thus, the ratio of primary products to the total of both secondary and primary products shipped by establishments in this industry was 92 percent (specialization ratio). In 1987, the specialization ratio was 88 percent.

Establishments in this industry also accounted for 90 percent of products considered primary to the industry no matter where they were actually produced (coverage ratio). In 1987, the coverage ratio was 86 percent.

The products primary to industry 3449, no matter in what industry they were produced, appear in table 6a and aggregate to \$3.2 billion. For further explanation of specialization and coverage ratios, see table 5b and the appendixes.

The total cost of materials, services, and fuels and energy used by establishments classified in the miscellaneous metal work industry amounted to \$2.2 billion. Data on specific materials consumed appear in table 7.

Single-establishment companies in this industry with less than 5 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 12 percent of the total value of shipments.

Table 1a. Historical Statistics for the Industry: 1992 and Earlier Years—Con.

[Excludes data for auxiliaries. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Year ¹	All establishments ³			All employees		Production workers			Value added by manufacture ⁴ (million dollars)	Cost of materials ⁵ (million dollars)	Value of shipments (million dollars)	New capital expenditures ⁶ (million dollars)	End-of-year inventories ⁴ (million dollars)	Ratios	
	Companies ² (no.)	Total (no.)	With 20 employees or more (no.)	Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)						Specialization ⁷ (percent)	Coverage ⁸ (percent)
INDUSTRY 3446, ARCHITECTURAL METAL WORK—Con.															
1978 ASM.....	(NA)	(NA)	(NA)	21.4	264.7	16.0	30.0	163.1	543.9	519.7	1 042.4	23.1	182.6	(NA)	(NA)
1977 Census ---	1 477	1 511	225	20.8	247.7	15.1	29.4	152.3	505.5	450.8	947.1	22.2	167.3	90	86
INDUSTRY 3448, PREFABRICATED METAL BUILDINGS															
1992 Census ---	487	536	211	20.8	527.2	13.4	28.1	283.3	1 181.8	1 673.0	2 845.9	28.8	328.6	94	97
1991 ASM -----	(NA)	(NA)	(NA)	21.0	470.0	13.5	26.3	257.8	1 086.2	1 642.4	2 745.7	31.0	302.6	(NA)	(NA)
1990 ASM -----	(NA)	(NA)	(NA)	22.8	518.4	14.8	28.7	283.9	1 183.0	1 781.7	2 984.1	33.2	344.6	(NA)	(NA)
1989 ASM -----	(NA)	(NA)	(NA)	23.0	518.6	15.3	30.8	291.7	1 297.6	1 905.6	3 182.4	31.3	390.8	(NA)	(NA)
1988 ASM -----	(NA)	(NA)	(NA)	25.7	565.9	17.5	34.5	316.4	1 336.9	1 931.5	3 269.1	58.4	402.8	(NA)	(NA)
1987 Census ---	486	560	244	25.8	558.6	17.1	34.1	310.1	1 337.9	1 796.2	3 137.8	50.8	391.8	'93	'96
1986 ASM -----	(NA)	(NA)	(NA)	22.7	484.8	15.7	30.6	271.0	1 143.4	1 589.8	2 736.0	47.4	425.3	(NA)	(NA)
1985 ASM -----	(NA)	(NA)	(NA)	22.8	459.6	15.7	30.7	263.5	1 049.8	1 465.3	2 499.6	50.4	451.5	(NA)	(NA)
1984 ASM -----	(NA)	(NA)	(NA)	22.0	431.7	14.6	29.4	242.9	978.8	1 384.8	2 329.0	51.7	447.5	(NA)	(NA)
1983 ASM -----	(NA)	(NA)	(NA)	22.3	424.3	14.6	28.3	230.2	970.2	1 300.1	2 249.7	49.3	430.5	(NA)	(NA)
1982 Census ---	518	570	239	23.7	435.7	15.2	29.9	242.8	877.4	1 410.5	2 324.6	46.1	403.4	'94	'95
1981 ASM -----	(NA)	(NA)	(NA)	24.4	411.9	16.2	31.6	237.1	930.9	1 497.7	2 408.2	49.9	397.0	(NA)	(NA)
1980 ASM -----	(NA)	(NA)	(NA)	25.2	377.8	16.8	32.1	221.2	810.4	1 358.3	2 192.9	69.7	323.2	(NA)	(NA)
1979 ASM -----	(NA)	(NA)	(NA)	25.6	361.2	18.2	35.5	220.2	842.0	1 434.9	2 265.6	50.4	359.9	(NA)	(NA)
1978 ASM -----	(NA)	(NA)	(NA)	24.4	333.2	16.9	33.6	200.7	878.8	1 245.3	2 106.1	38.7	338.6	(NA)	(NA)
1977 Census ---	414	466	199	22.7	289.7	15.9	31.6	174.9	694.5	1 100.6	1 779.2	32.2	304.6	94	95
INDUSTRY 3449, MISCELLANEOUS METAL WORK															
1992 Census ---	564	658	292	21.6	589.8	14.4	29.1	350.5	1 139.1	2 222.1	3 366.4	60.0	454.2	92	90
1991 ASM -----	(NA)	(NA)	(NA)	21.6	556.3	14.6	28.7	343.4	1 022.8	2 233.0	3 285.3	52.9	388.2	(NA)	(NA)
1990 ASM -----	(NA)	(NA)	(NA)	23.0	580.2	15.6	31.7	356.3	1 245.9	2 537.6	3 786.8	62.7	478.6	(NA)	(NA)
1989 ASM -----	(NA)	(NA)	(NA)	24.0	570.3	16.4	32.6	354.6	1 342.0	2 401.2	3 733.6	52.0	490.6	(NA)	(NA)
1988 ASM -----	(NA)	(NA)	(NA)	25.1	611.4	17.2	35.4	367.6	1 334.1	2 486.1	3 810.6	49.9	524.0	(NA)	(NA)
1987 Census ---	496	597	278	22.9	537.7	15.6	32.3	317.0	1 250.6	1 999.3	3 231.4	62.0	440.7	88	86
1986 ASM -----	(NA)	(NA)	(NA)	20.7	455.6	13.3	26.3	261.6	931.5	1 652.5	2 616.8	68.2	314.8	(NA)	(NA)
1985 ASM -----	(NA)	(NA)	(NA)	21.8	474.2	13.8	27.8	270.7	996.9	1 731.2	2 727.8	56.6	376.5	(NA)	(NA)
1984 ASM -----	(NA)	(NA)	(NA)	22.1	459.4	15.0	29.5	269.2	995.9	1 859.1	2 815.1	58.6	439.8	(NA)	(NA)
1983 ASM -----	(NA)	(NA)	(NA)	19.9	404.8	13.0	25.4	222.4	914.4	1 548.3	2 441.8	33.2	360.1	(NA)	(NA)
1982 Census ---	401	492	257	21.5	414.7	14.1	26.7	234.8	909.9	1 653.9	2 594.6	44.9	359.9	88	84
1981 ASM -----	(NA)	(NA)	(NA)	17.9	323.0	11.7	24.5	182.4	855.7	1 503.5	2 376.0	43.4	319.4	(NA)	(NA)
1980 ASM -----	(NA)	(NA)	(NA)	18.5	306.6	12.0	24.6	176.6	809.7	1 469.4	2 281.1	29.4	304.3	(NA)	(NA)
1979 ASM -----	(NA)	(NA)	(NA)	18.1	281.6	12.0	25.2	162.7	734.7	1 375.6	2 073.1	27.9	308.0	(NA)	(NA)
1978 ASM -----	(NA)	(NA)	(NA)	16.8	242.5	10.7	20.9	132.1	531.4	1 063.4	1 577.7	34.9	263.8	(NA)	(NA)
1977 Census ---	308	412	185	16.3	211.5	10.2	20.2	115.7	436.9	893.6	1 330.8	20.5	211.8	91	78

¹In annual survey of manufactures (ASM) years, data are estimates based on a representative sample of establishments canvassed annually and may differ from results of a complete canvass of all establishments. ASM publication shows percentage standard errors. Unless otherwise noted, for data prior to 1977, see 1977 Census of Manufactures, vol. II, table 1 of the industry chapter.

²For the Census, a company is defined as a business organization consisting of one establishment or more under common ownership or control.

³Includes establishments with payroll at any time during the year.

⁴Beginning in 1982, all respondents were requested to report their inventories at cost or market prior to adjustment to LIFO cost. This is a change from prior years when respondents were permitted to value their inventories using any generally accepted accounting method. Consequently, 1982 data for inventories and value added by manufacture are not comparable to prior-year data.

⁵Cost of materials is the sum of five components: the cost of (1) parts used in the manufacture of finished goods (materials, parts, containers, and supplies incorporated into products or otherwise directly consumed in the process); (2) purchased items later resold without further manufacture; (3) fuels; (4) electricity; and (5) commissions or fees to outside parties for contract manufacturing. A separate cost for each of the five components is shown in table 3a. Detailed data on materials consumed by type, are shown in table 7.

⁶Detailed data on new machinery and equipment expenditures are provided in table 3c.

⁷Represents ratio of primary product shipments to total product shipments (primary and secondary, excluding miscellaneous receipts) for establishments classified in the industry.

⁸Represents ratio of primary products shipped by establishments classified in industry to total shipments of such products by all manufacturing establishments, wherever classified.

Table 1b. Selected Operating Ratios for the Industry: 1992 and Earlier Years

[Excludes data for auxiliaries. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Year	Payroll per employee (dollars)	Production workers as percent of total employment (percent)	Annual hours of production workers (number)	Average hourly earnings of production workers (dollars)	Cost of materials as percent of value of shipments (percent)	Cost of materials and payroll as percent of value of shipments (percent)	Value added per employee (dollars)	Payroll as percent of value added (percent)	Value added per production worker hour (dollars)
INDUSTRY 3441, FABRICATED STRUCTURAL METAL									
1992 Census.....	27 207	71	2 122	10.98	55	77	54 644	50	36.50
1991 ASM -----	26 810	70	2 098	11.05	57	80	50 648	53	34.30
1990 ASM -----	26 018	71	2 058	10.76	58	80	48 796	53	33.19
1989 ASM -----	24 866	71	2 072	10.39	58	80	48 045	52	32.68
1988 ASM -----	24 272	72	2 054	10.20	59	81	47 587	51	32.06
1987 Census.....	23 236	71	2 029	9.91	58	80	44 860	52	30.94
1986 ASM -----	22 513	72	1 998	9.93	60	82	39 935	56	27.58
1985 ASM -----	21 519	74	1 948	9.72	60	82	40 025	54	27.83
1984 ASM -----	20 066	73	1 982	8.97	61	83	36 274	55	25.01
1983 ASM -----	19 642	72	2 001	8.70	60	83	34 319	57	23.93
1982 Census.....	19 210	73	2 007	8.56	57	79	35 126	55	24.02
1981 ASM -----	17 817	76	1 985	7.85	59	82	32 019	56	21.36
1980 ASM -----	16 371	75	1 979	7.21	58	81	31 353	52	21.06
1979 ASM -----	15 194	75	1 975	6.74	59	81	28 921	53	19.58
1978 ASM -----	14 295	74	1 973	6.35	57	81	26 330	54	17.97
1977 Census.....	13 229	73	1 981	5.80	55	79	25 778	51	17.75

34C-10 FABRICATED STRUCTURAL METAL PRODUCTS

MANUFACTURES—INDUSTRY SERIES

Table 1b. Selected Operating Ratios for the Industry: 1992 and Earlier Years—Con.

[Excludes data for auxiliaries. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Year	Payroll per employee (dollars)	Production workers as percent of total employment (percent)	Annual hours of production workers (number)	Average hourly earnings of production workers (dollars)	Cost of materials as percent of value of shipments (percent)	Cost of materials and payroll as percent of value of shipments (percent)	Value added per employee (dollars)	Payroll as percent of value added (percent)	Value added per production worker hour (dollars)
INDUSTRY 3442, METAL DOORS, SASH, AND TRIM									
1992 Census	22 540	72	2 033	9.15	55	76	47 510	47	32.47
1991 ASM	21 398	71	2 085	8.45	55	77	44 682	48	30.01
1990 ASM	20 593	71	2 058	8.36	56	77	42 292	49	28.92
1989 ASM	19 627	71	2 022	8.10	56	77	42 760	46	29.61
1988 ASM	19 504	73	2 029	7.92	55	76	42 264	46	28.46
1987 Census	18 926	73	2 026	7.78	55	76	40 078	47	27.07
1986 ASM	18 768	72	2 030	7.81	55	77	39 440	48	26.95
1985 ASM	17 809	73	1 959	7.63	54	75	39 333	45	27.59
1984 ASM	16 756	73	1 940	7.20	56	76	35 912	47	25.32
1983 ASM	15 757	74	1 894	6.82	55	76	33 838	47	24.22
1982 Census	15 321	72	1 933	6.61	54	75	32 807	47	23.64
1981 ASM	14 234	74	1 974	5.67	54	75	30 759	46	21.11
1980 ASM	12 912	74	1 916	5.37	54	76	27 428	47	19.23
1979 ASM	11 795	74	1 934	5.01	55	76	24 954	47	17.32
1978 ASM	10 466	75	1 939	4.61	56	77	22 248	47	15.26
1977 Census	10 202	76	1 936	4.38	56	77	21 555	47	14.62
INDUSTRY 3443, FABRICATED PLATE WORK (BOILER SHOPS)									
1992 Census	29 579	71	2 052	12.25	47	72	61 508	48	42.38
1991 ASM	28 932	70	2 061	12.33	48	73	59 814	48	41.67
1990 ASM	27 769	70	2 019	11.93	51	76	55 171	50	39.17
1989 ASM	26 982	71	2 035	11.57	51	75	54 982	49	38.30
1988 ASM	25 441	70	1 958	11.30	51	76	51 368	50	37.44
1987 Census	24 664	69	1 975	10.89	49	76	46 407	53	34.09
1986 ASM	24 201	68	2 023	10.60	49	77	42 462	57	31.01
1985 ASM	23 478	70	1 984	10.43	48	76	44 085	53	31.75
1984 ASM	22 482	70	1 988	10.06	49	77	41 700	54	29.99
1983 ASM	21 707	70	1 937	10.07	49	76	39 095	56	29.00
1982 Census	21 189	71	1 930	9.85	48	74	40 191	53	29.23
1981 ASM	20 173	72	1 971	9.33	48	72	43 130	47	30.34
1980 ASM	18 487	71	1 956	8.47	48	72	40 255	46	28.84
1979 ASM	16 641	72	1 971	7.63	47	71	37 490	44	26.45
1978 ASM	15 538	72	1 951	7.12	47	72	33 950	46	24.09
1977 Census	14 395	71	1 957	6.56	46	70	32 998	44	23.75
INDUSTRY 3444, SHEET METAL WORK									
1992 Census	27 334	72	2 083	11.12	50	75	55 070	50	36.47
1991 ASM	25 405	74	2 037	10.78	52	76	50 083	51	33.01
1990 ASM	24 675	74	2 048	10.40	53	77	49 116	50	32.34
1989 ASM	23 925	74	2 033	10.29	53	76	49 253	49	32.62
1988 ASM	23 356	75	2 004	10.05	53	76	47 740	49	31.71
1987 Census	22 322	75	1 995	9.62	51	74	48 039	46	32.22
1986 ASM	21 627	73	2 010	9.31	53	76	45 790	47	31.16
1985 ASM	20 952	74	1 962	9.21	56	78	41 811	50	28.88
1984 ASM	20 108	73	1 989	8.79	56	78	40 794	49	28.06
1983 ASM	19 373	72	1 949	8.54	56	78	40 131	48	28.59
1982 Census	18 429	73	1 942	8.30	55	77	37 289	49	26.43
1981 ASM	16 300	73	2 024	7.03	59	79	34 259	48	23.20
1980 ASM	15 129	72	1 940	6.72	59	78	31 354	48	22.35
1979 ASM	14 082	74	1 945	6.24	59	78	31 594	45	21.83
1978 ASM	13 263	73	1 888	6.32	59	78	28 998	46	20.96
1977 Census	12 664	73	1 931	5.81	58	78	27 068	47	19.13
INDUSTRY 3446, ARCHITECTURAL METAL WORK									
1992 Census	24 705	69	2 006	10.13	46	73	48 989	50	35.62
1991 ASM	24 023	72	1 932	9.91	46	73	48 208	50	34.81
1990 ASM	23 167	72	1 875	10.14	46	74	45 027	51	33.35
1989 ASM	23 759	71	2 010	9.76	48	76	44 910	53	31.61
1988 ASM	21 572	71	1 984	9.03	50	76	41 528	52	29.32
1987 Census	20 468	70	1 980	8.74	48	73	42 554	48	30.55
1986 ASM	19 984	71	1 883	9.17	49	74	40 403	49	30.33
1985 ASM	19 389	73	1 994	8.45	50	74	39 623	49	27.23
1984 ASM	18 292	72	2 018	7.93	50	76	36 159	51	25.00
1983 ASM	17 583	73	2 030	7.60	48	75	33 868	52	22.78
1982 Census	16 053	70	1 919	7.51	48	75	30 921	52	22.96
1981 ASM	14 206	69	1 952	6.46	49	74	30 543	47	22.77
1980 ASM	13 603	71	1 958	6.10	47	73	28 983	47	20.88
1979 ASM	12 983	73	1 952	5.66	48	74	26 441	49	18.46
1978 ASM	12 369	75	1 875	5.44	50	75	25 416	49	18.13
1977 Census	11 909	73	1 947	5.18	48	74	24 303	49	17.19
INDUSTRY 3448, PREFABRICATED METAL BUILDINGS									
1992 Census	25 346	64	2 097	10.08	59	77	56 817	45	42.06
1991 ASM	22 381	64	1 948	9.80	60	77	51 724	43	41.30
1990 ASM	22 737	65	1 939	9.89	60	77	51 886	44	41.22
1989 ASM	22 548	67	2 013	9.47	60	76	56 417	40	42.13
1988 ASM	22 019	68	1 971	9.17	59	76	52 019	42	38.75
1987 Census	21 651	66	1 994	9.09	57	75	51 857	42	39.23
1986 ASM	21 357	69	1 949	8.86	58	76	50 370	42	37.37
1985 ASM	20 158	69	1 955	8.58	59	77	46 044	44	34.20
1984 ASM	19 623	66	2 014	8.26	59	78	44 491	44	33.29
1983 ASM	19 027	65	1 938	8.13	58	77	43 507	44	34.28
1982 Census	18 384	64	1 967	8.12	61	79	37 021	50	29.34
1981 ASM	16 881	66	1 951	7.50	62	79	38 152	44	29.46
1980 ASM	14 992	67	1 911	6.89	62	79	32 159	47	25.25
1979 ASM	14 109	71	1 951	6.20	63	79	32 891	43	23.72
1978 ASM	13 656	69	1 988	5.97	59	75	36 016	38	26.15
1977 Census	12 762	70	1 987	5.53	62	78	30 595	42	21.98

Table 1b. Selected Operating Ratios for the Industry: 1992 and Earlier Years—Con.

[Excludes data for auxiliaries. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Year	Payroll per employee (dollars)	Production workers as percent of total employment (percent)	Annual hours of production workers (number)	Average hourly earnings of production workers (dollars)	Cost of materials as percent of value of shipments (percent)	Cost of materials and payroll as percent of value of shipments (percent)	Value added per employee (dollars)	Payroll as percent of value added (percent)	Value added per production worker hour (dollars)
INDUSTRY 3449, MISCELLANEOUS METAL WORK									
1992 Census	27 306	67	2 021	12.04	66	84	52 736	52	39.14
1991 ASM	25 755	68	1 966	11.97	68	85	47 352	54	35.64
1990 ASM	25 226	68	2 032	11.24	67	82	54 170	47	39.30
1989 ASM	23 762	68	1 988	10.88	64	80	55 917	42	41.17
1988 ASM	24 359	69	2 058	10.38	65	81	53 151	46	37.69
1987 Census	23 480	68	2 071	9.81	62	79	54 611	43	38.72
1986 ASM	22 010	64	1 977	9.95	63	81	45 000	49	35.42
1985 ASM	21 752	63	2 014	9.74	63	81	45 729	48	35.86
1984 ASM	20 787	68	1 967	9.13	66	82	45 063	46	33.76
1983 ASM	20 342	65	1 954	8.76	63	80	45 950	44	36.00
1982 Census	19 288	66	1 894	8.79	64	80	42 321	46	34.08
1981 ASM	18 045	65	2 094	7.44	63	77	47 804	38	34.93
1980 ASM	16 573	65	2 050	7.18	64	78	43 768	38	32.91
1979 ASM	15 558	66	2 100	6.46	66	80	40 591	38	29.15
1978 ASM	14 435	64	1 953	6.32	67	83	31 631	46	25.43
1977 Census	12 975	63	1 980	5.73	67	83	26 804	48	21.63

Note: For qualifications of data, see footnotes on table 1a.

Table 2. Industry Statistics for Selected States: 1992 and 1987

[Excludes data for auxiliaries. States with 100 employees or more are shown. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Industry and geographic area	1992										1987			
	E1	All establishments		All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	All employees2 (1,000)	Value added by manufacture (million dollars)
		Total (no.)	With 20 employees or more (no.)	Number2 (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)						
INDUSTRY 3441, FABRICATED STRUCTURAL METAL														
United States	E1	2 539	912	72.0	1 958.9	50.8	107.8	1 183.7	3 934.4	4 872.8	8 898.4	132.2	80.9	3 629.2
Alabama	E1	91	41	3.1	75.6	2.2	4.8	45.1	165.3	157.1	320.1	7.2	3.0	94.2
Alaska	—	3	2	C	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Arizona	—	24	10	.9	24.2	.6	1.2	11.4	41.4	66.4	106.4	1.4	1.0	21.2
Arkansas	—	21	9	.7	17.0	.5	1.1	10.5	47.5	44.8	93.7	2.0	.7	31.5
California	E1	240	70	5.5	174.9	3.4	7.5	94.9	339.1	354.0	710.0	7.1	7.1	411.7
Colorado	E2	33	10	.6	15.3	.4	.9	9.0	34.3	38.7	73.2	2.8	.7	27.8
Connecticut	E1	27	5	.5	21.9	.3	.6	8.5	47.3	28.6	76.3	.7	1.2	56.9
Delaware	—	7	2	.2	5.2	.1	.4	3.4	9.7	14.8	24.6	.2	.2	7.9
Florida	E1	88	31	2.1	51.7	1.4	3.0	29.7	89.0	162.9	255.4	2.6	2.7	118.9
Georgia	E1	57	26	1.6	38.4	1.1	2.4	22.0	65.2	123.5	193.4	1.8	1.7	73.7
Idaho	E2	11	4	.2	5.5	.1	.3	3.4	8.2	15.7	24.2	.2	.2	2.9
Illinois	E1	115	36	3.1	93.7	2.1	4.5	52.1	182.4	233.4	446.8	6.1	3.3	173.5
Indiana	—	66	28	1.5	44.7	1.0	2.2	25.2	91.1	139.0	229.1	3.1	2.1	94.0
Iowa	E1	28	14	1.0	24.2	.6	1.4	13.1	53.2	78.6	132.8	4.7	.8	31.1
Kansas	E1	23	10	.7	16.7	.5	1.1	10.8	44.4	47.0	91.3	1.2	.7	27.8
Kentucky	E2	28	11	.7	14.3	.4	.8	7.8	20.9	36.4	57.4	.5	F	(D)
Louisiana	—	46	27	3.6	96.5	3.1	7.3	76.4	183.9	190.0	398.3	7.8	1.5	56.6
Maine	E5	14	6	.4	12.3	.3	.6	7.0	31.7	22.9	53.9	.7	.5	20.3
Maryland	E2	33	9	.6	14.8	.4	.9	9.2	29.4	34.5	64.1	.5	1.0	43.8
Massachusetts	E2	41	10	.8	27.0	.6	1.2	15.5	53.8	42.4	97.8	1.3	1.3	72.0
Michigan	E2	96	22	1.7	45.8	1.2	2.6	28.3	104.2	118.1	222.2	2.4	2.3	106.2
Minnesota	—	41	12	.8	23.2	.5	1.1	13.7	60.1	86.9	146.7	1.8	F	(D)
Mississippi	E3	28	11	1.5	36.1	1.0	2.0	22.6	70.6	90.9	162.4	6.8	1.5	52.4
Missouri	—	64	22	1.7	49.2	1.3	2.5	27.6	110.3	171.9	283.3	3.0	2.0	89.2
Montana	E2	10	3	E	(D)	(D)	(D)	(D)	(D)	(D)	(D)	.2	(NA)	(D)
Nebraska	—	15	9	.5	11.3	.3	.6	6.3	23.9	27.5	50.4	1.3	E	(D)
Nevada	E3	7	2	C	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	.2	8.4
New Hampshire	—	13	4	.3	9.0	.2	.4	4.6	18.3	28.8	47.1	.8	E	(D)
New Jersey	E1	70	14	1.3	44.5	.8	1.8	23.6	87.3	87.5	176.1	1.2	1.7	86.9
New Mexico	—	14	5	.2	5.4	.2	.4	3.4	8.4	12.3	20.7	.7	.2	10.3
New York	E1	127	32	2.2	64.3	1.5	3.0	38.7	120.5	145.4	265.1	5.2	(NA)	(D)
North Carolina	E1	75	27	2.1	57.4	1.4	3.0	31.4	100.6	199.1	296.9	3.1	2.0	89.8
North Dakota	E8	7	4	.2	4.4	.1	.3	2.6	8.0	10.6	18.7	.4	E	(D)
Ohio	E4	143	49	3.2	94.7	2.3	4.9	57.6	195.6	259.7	452.9	6.0	3.8	183.4
Oklahoma	E1	50	26	1.4	30.8	1.0	2.0	18.1	68.8	81.4	152.0	3.1	1.4	76.0
Oregon	E3	49	16	1.1	32.1	.7	1.6	19.5	62.9	89.2	150.6	1.5	1.2	53.8
Pennsylvania	E1	140	58	4.5	122.5	3.3	6.4	73.4	254.9	287.8	549.2	5.3	5.6	272.7
Rhode Island	—	9	4	H	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
South Carolina	E2	51	15	1.7	40.7	1.3	2.8	26.6	78.8	156.2	232.9	1.2	2.0	68.5
South Dakota	—	4	2	C	(D)	(D)	(D)	(D)	(D)	(D)	(D)	.2	(NA)	(D)

See footnotes at end of table.

34C-12 FABRICATED STRUCTURAL METAL PRODUCTS

MANUFACTURES—INDUSTRY SERIES

Table 2. Industry Statistics for Selected States: 1992 and 1987—Con.

[Excludes data for auxiliaries. States with 100 employees or more are shown. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Industry and geographic area	1992											1987		
	E1	All establishments		All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	All employees ² (1,000)	Value added by manufacture (million dollars)
		Total (no.)	With 20 employees or more (no.)	Number ² (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)						
INDUSTRY 3446, ARCHITECTURAL METAL WORK														
United States	E1	1 476	314	26.1	644.8	17.9	35.9	363.7	1 278.6	1 098.2	2 383.4	34.0	28.0	1 191.5
Alabama	E1	40	11	1.7	42.0	1.1	2.3	22.6	84.3	73.0	158.4	1.5	1.1	41.4
Arizona	E3	40	7	.7	14.6	.6	1.3	10.7	32.9	26.3	59.8	.8	1.1	32.1
Arkansas	E3	12	2	.1	2.1	.1	.2	1.4	3.9	3.8	7.7	(D)	(NA)	(NA)
California	E1	197	29	2.1	60.3	1.5	2.9	32.2	111.1	98.7	211.5	2.9	3.0	118.8
Colorado	E1	27	3	.2	4.4	.2	.3	3.3	9.3	10.1	19.4	.1	.2	6.7
Connecticut	E2	20	8	.6	16.2	.4	.7	9.4	34.4	31.3	65.9	.4	E	(D)
Florida	E2	104	14	1.4	27.4	1.2	2.5	18.4	65.9	44.2	109.7	1.0	2.3	87.6
Georgia	E2	33	7	.6	13.5	.4	.8	7.4	26.9	26.0	52.2	1.4	.7	26.9
Illinois	-	63	20	1.5	47.1	1.0	2.1	25.5	92.9	105.2	199.7	1.7	1.8	108.2
Indiana	E1	30	10	F	(D)	(D)	(D)	(D)	(D)	(D)	(D)	.3	.7	34.1
Iowa	E5	13	3	E	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Kentucky	E1	19	8	.4	6.9	.3	.7	4.8	13.3	11.3	24.8	.2	(NA)	(D)
Louisiana	-	17	7	.3	6.4	.2	.3	3.4	12.4	18.3	30.4	.4	(NA)	(D)
Maine	-	4	2	C	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Maryland	-	27	9	.6	16.1	.4	.8	10.5	31.6	39.5	71.1	.5	.9	36.6
Massachusetts	E4	38	4	.4	11.3	.3	.6	6.5	24.7	17.3	42.0	.3	E	(D)
Michigan	-	35	9	1.1	23.7	.8	1.4	13.3	69.5	33.4	103.1	4.4	1.0	55.3
Minnesota	-	21	6	.3	8.8	.2	.4	4.5	14.4	14.3	28.8	.2	E	(D)
Missouri	-	29	6	.5	14.6	.3	.6	7.1	20.8	19.8	40.2	.3	.8	31.6
New Jersey	E1	46	4	.4	12.5	.3	.6	6.9	19.7	26.0	47.0	.7	.7	36.4
New York	E1	115	25	1.4	38.1	.9	1.8	21.3	69.8	60.1	129.5	1.5	G	(D)
North Carolina	E1	29	6	.3	7.1	.2	.4	4.0	13.7	10.4	23.9	(D)	E	(D)
Ohio	-	78	28	1.8	48.9	1.3	2.5	27.0	101.9	92.6	195.5	2.7	1.5	71.4
Oklahoma	-	15	2	.5	11.2	.5	.9	9.2	31.2	13.3	44.5	(D)	.7	32.4
Oregon	-	25	3	C	(D)	(D)	(D)	(D)	(D)	(D)	(D)	.2	.2	8.4
Pennsylvania	-	95	28	2.7	66.5	1.5	3.0	31.1	88.9	81.7	169.9	3.1	1.7	67.2
South Carolina	E8	17	2	E	(D)	(D)	(D)	(D)	(D)	(D)	(D)	.2	(NA)	(D)
Tennessee	-	25	5	E	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	.6	23.0
Texas	-	100	20	2.3	47.4	1.5	3.1	26.2	122.1	86.3	208.2	2.9	2.0	72.3
Utah	E1	14	6	.3	6.3	.2	.4	3.8	11.9	12.7	24.8	(D)	(NA)	(D)
Virginia	E3	13	2	C	(D)	(D)	(D)	(D)	(D)	(D)	(D)	.1	(NA)	(D)
Washington	E4	30	4	.3	7.6	.2	.5	5.1	15.3	13.6	29.0	.5	.3	15.0
Wisconsin	-	25	8	.7	18.9	.4	.9	8.9	26.3	23.4	50.3	.3	.8	28.5
INDUSTRY 3448, PREFABRICATED METAL BUILDINGS														
United States	-	536	211	20.8	527.2	13.4	28.1	283.3	1 181.8	1 673.0	2 845.9	28.8	25.8	1 337.9
Alabama	-	17	8	.9	17.5	.5	1.0	8.7	53.2	59.1	111.8	.4	1.0	50.4
Arizona	E3	9	3	.2	3.8	.1	.3	2.4	2.9	7.4	10.9	(Z)	.2	7.6
Arkansas	-	10	2	.3	9.4	.2	.3	3.9	19.7	30.1	49.0	1.4	E	(D)
California	E2	57	27	1.7	42.1	1.0	2.1	20.3	96.4	117.1	213.0	2.4	2.2	115.5
Colorado	-	11	2	.1	3.6	.1	.2	2.0	4.6	9.8	14.4	.1	.2	8.3
Florida	-	42	13	.9	20.7	.7	1.4	11.7	53.0	66.6	119.0	1.0	1.0	33.9
Georgia	-	25	12	.8	17.9	.5	1.1	9.5	37.5	55.6	92.3	.4	1.2	61.4
Illinois	-	18	9	1.3	35.8	1.0	2.1	25.8	68.4	193.7	261.3	.9	1.5	96.5
Indiana	-	8	3	F	(D)	(D)	(D)	(D)	(D)	(D)	(D)	.3	(NA)	(NA)
Iowa	-	13	8	1.0	25.0	.7	1.5	14.7	75.6	80.3	153.3	(D)	.8	45.4
Kentucky	E1	11	3	.1	3.5	.1	.2	1.7	7.7	11.2	19.2	.2	E	(D)
Louisiana	-	9	3	.4	6.8	.2	.4	2.8	12.9	27.4	40.2	.3	.5	19.1
Maryland	-	8	3	.2	5.3	.1	.2	2.1	15.7	18.1	33.8	.3	.3	12.8
Massachusetts	-	4	4	C	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	.4	17.5
Michigan	E1	26	7	.5	12.4	.3	.7	6.8	21.7	23.7	45.7	.7	.3	12.1
Minnesota	E1	17	3	.2	4.3	.1	.2	2.0	10.0	10.2	19.9	.1	E	(D)
Mississippi	-	5	2	.5	13.5	.3	.6	4.8	39.0	46.7	85.8	.8	F	(D)
Missouri	-	13	5	.4	10.3	.2	.5	5.1	31.0	32.9	63.3	.3	.5	30.0
Nebraska	-	4	4	1.0	22.2	.7	1.6	13.3	41.2	54.0	95.3	(D)	.9	38.9
Nevada	-	2	2	C	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
New Hampshire	-	1	1	E	(D)	(D)	(D)	(D)	(D)	(D)	(D)	-	E	(D)
New Jersey	-	12	5	.5	14.4	.3	.6	7.3	29.4	39.1	68.4	.7	.5	18.4
New York	E1	26	7	1.0	24.2	.6	1.3	13.2	51.5	46.5	97.7	2.1	G	(D)
North Carolina	-	18	7	1.0	29.5	.7	1.6	18.6	69.4	97.6	166.6	1.5	1.5	63.8
North Dakota	-	1	1	C	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Ohio	-	24	11	.8	16.9	.4	.8	8.7	40.1	59.7	99.6	1.4	1.1	92.5
Oklahoma	-	11	4	.5	10.8	.3	.7	6.4	29.6	26.7	56.6	.5	.3	7.1
Pennsylvania	E1	22	8	1.1	30.4	.8	1.6	18.5	66.2	76.1	139.8	3.1	1.2	69.7
South Carolina	-	6	1	C	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
South Dakota	-	4	3	.2	4.2	.1	.3	2.2	8.2	8.8	17.0	(D)	(NA)	(NA)
Tennessee	-	7	3	E	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	.5	29.2
Texas	-	46	20	1.9	51.3	1.0	2.7	21.5	97.1	147.2	245.6	1.7	3.1	117.7
Washington	E2	9	4	.2	4.9	.1	.2	2.3	7.7	13.6	21.3	.1	.3	16.0
Wisconsin	-	12	6	.9	23.4	.6	1.1	12.9	48.2	88.8	135.6	1.4	F	(D)

See footnotes at end of table.

Table 2. Industry Statistics for Selected States: 1992 and 1987—Con.

[Excludes data for auxiliaries. States with 100 employees or more are shown. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Industry and geographic area	1992											1987		
	E ¹	All establishments		All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	All employees ² (1,000)	Value added by manufacture (million dollars)
		Total (no.)	With 20 employees or more (no.)	Number ² (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)						
INDUSTRY 3449, MISCELLANEOUS METAL WORK														
United States -----	E1	658	292	21.6	589.8	14.4	29.1	350.5	1 139.1	2 222.1	3 366.4	60.0	22.9	1 250.6
Alabama -----	—	22	10	1.0	26.5	.8	1.4	18.3	45.8	69.2	113.1	1.0	1.5	80.3
Arizona -----	E7	11	5	.3	5.8	.2	.4	3.5	10.0	25.9	36.0	.4	.4	17.0
Arkansas -----	E1	6	5	.7	15.6	.4	1.0	8.3	28.6	40.1	66.9	(D)	F	(D)
California -----	E2	61	18	1.4	38.5	.9	1.8	19.9	86.0	160.9	250.6	4.6	1.5	86.9
Colorado -----	—	9	5	.2	4.2	.1	.3	2.7	6.5	16.6	23.6	.3	.2	9.2
Connecticut -----	E1	12	3	C	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Florida -----	—	41	14	.9	25.2	.5	1.1	13.7	55.6	130.2	187.0	5.1	1.9	94.6
Georgia -----	E1	22	13	.7	18.0	.4	.9	9.7	40.0	85.4	124.5	1.3	.4	44.8
Illinois -----	E1	36	12	1.2	35.5	.9	2.0	22.1	64.7	88.8	152.8	3.5	1.8	87.3
Indiana -----	—	22	12	1.3	33.3	.8	1.7	22.4	36.9	158.2	194.5	3.4	.8	44.6
Iowa -----	—	6	2	C	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Kentucky -----	—	8	5	.3	10.1	.2	.5	5.6	21.4	39.5	60.9	1.1	E	(D)
Louisiana -----	—	9	4	.2	3.1	.1	.2	2.2	7.2	15.2	22.4	.1	(NA)	(NA)
Maryland -----	—	11	5	.4	9.0	.2	.5	5.6	19.6	31.3	51.6	.2	.6	42.6
Michigan -----	E2	28	5	.3	8.3	.2	.4	4.6	20.9	18.2	38.0	.5	E	(D)
Minnesota -----	—	10	5	.3	9.4	.2	.4	5.9	11.3	13.9	25.3	.2	E	(D)
Mississippi -----	—	3	2	C	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Missouri -----	—	10	4	.5	15.3	.3	.6	7.1	26.4	48.8	76.7	.5	.5	44.8
Nebraska -----	—	5	4	.5	13.6	.3	.7	8.9	42.2	89.1	129.0	(D)	E	(D)
New Jersey -----	—	16	8	.4	13.1	.3	.6	7.7	31.8	39.2	71.2	1.3	.5	31.7
New York -----	—	26	7	.5	15.8	.4	.7	8.5	38.2	55.9	92.4	1.9	F	(D)
North Carolina -----	—	16	6	.3	8.9	.2	.4	4.7	19.0	33.8	52.3	(D)	E	(D)
Ohio -----	E1	44	22	1.9	57.1	1.5	3.0	38.9	112.3	183.2	296.7	10.1	1.4	83.0
Oklahoma -----	E1	5	5	.2	3.4	.1	.3	2.3	5.3	10.7	16.1	(D)	.2	9.6
Oregon -----	E3	9	4	.2	5.1	.1	.3	3.1	9.7	15.6	25.5	(D)	(NA)	(NA)
Pennsylvania -----	E2	34	19	1.6	43.0	1.0	1.9	23.6	74.7	147.0	224.0	2.7	2.3	99.2
South Carolina -----	—	15	7	.8	24.4	.6	1.1	17.3	36.1	68.6	103.9	.7	.8	38.8
Tennessee -----	—	12	9	.5	10.3	.3	.6	5.1	18.6	34.3	52.8	.4	.3	20.3
Texas -----	E1	57	35	2.2	55.4	1.4	2.9	32.8	104.5	272.4	381.3	3.8	2.0	92.9
Utah -----	—	7	3	E	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	.4	27.2
Virginia -----	—	15	9	.8	22.5	.5	1.1	12.9	27.9	63.7	92.8	.4	1.0	46.5
Washington -----	—	15	7	.3	9.8	.2	.4	4.6	20.1	40.7	60.3	.5	.2	15.3
Wisconsin -----	E2	14	7	.4	9.9	.2	.5	5.5	19.7	28.4	48.6	.8	(NA)	(D)

Note: For qualifications of data, see footnotes on table 1a.

¹Payroll and sales data for some small single-establishment companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other Government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate the items shown for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at the time data were tabulated. The following symbols are shown for those States where estimated value of shipments data based on administrative-record data account for 10 percent or more of figure shown: E1—10 to 19 percent; E2—20 to 29 percent; E3—30 to 39 percent; E4—40 to 49 percent; E5—50 to 59 percent; E6—60 to 69 percent; E7—70 to 79 percent; E8—80 to 89 percent; E9—90 percent or more.

²Statistics for some producing States have been withheld to avoid disclosing data for individual companies. However, for States with 100 employees or more, number of establishments is shown and employment-size range is indicated by one of the following symbols: C—100 to 249 employees; E—250 to 499 employees; F—500 to 999 employees; G—1,000 to 2,499 employees; H—2,500 to 4,999 employees; I—5,000 to 9,999 employees; J—10,000 to 24,999 employees; K—25,000 to 49,999 employees; L—50,000 to 99,999 employees; M—100,000 employees or more.

Table 3a. Summary Statistics for the Industry: 1992

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Item	Fabricated structural metal (SIC 3441)	Metal doors, sash, and trim (SIC 3442)	Fabricated plate work (boiler shops) (SIC 3443)	Sheet metal work (SIC 3444)	Architectural metal work (SIC 3446)	Prefabricated metal buildings (SIC 3448)	Miscellaneous metal work (SIC 3449)
Companies -----	2 437	1 254	1 800	4 452	1 429	487	564
All establishments -----	2 539	1 416	1 942	4 702	1 476	536	658
With 1 to 19 employees -----	1 627	837	1 062	3 228	1 162	325	366
With 20 to 99 employees -----	785	396	684	1 305	281	158	250
With 100 employees or more -----	127	183	196	169	33	53	42
Employment and labor costs:							
Employees -----	72.0	67.8	79.3	104.3	26.1	20.8	21.6
Compensation, total -----	2 519.9	1 886.7	2 944.8	3 555.7	814.1	649.2	737.7
Annual payroll -----	1 958.9	1 528.2	2 345.6	2 850.9	644.8	527.2	589.8
Fringe benefits -----	561.0	358.5	599.2	704.8	169.3	122.0	147.9
Social Security and other legally required payments -----	270.2	169.2	277.9	301.1	72.0	58.3	71.8
Employer voluntary payments -----	290.8	189.3	321.3	403.7	97.3	63.8	76.1
Production workers:							
Average for year -----	50.8	48.8	56.1	75.6	17.9	13.4	14.4
March -----	51.5	46.0	56.6	74.8	17.9	12.9	14.5
May -----	50.9	48.9	56.2	75.6	17.9	13.3	14.6
August -----	50.8	51.0	56.4	77.3	18.3	13.8	14.6
November -----	50.2	49.2	55.4	75.2	17.5	13.8	14.0
Hours -----	107.8	99.2	115.1	157.5	35.9	28.1	29.1
Wages -----	1 183.7	908.1	1 410.0	1 751.5	363.7	283.3	350.5
Cost of materials ¹ -----	4 872.8	3 905.0	4 259.2	5 791.8	1 098.2	1 673.0	2 222.1
Materials, parts, containers, etc., consumed ² -----	3 562.9	3 564.7	3 667.3	4 930.3	944.1	1 510.5	2 004.8
Resales -----	532.1	214.9	180.5	401.2	75.1	108.7	122.5
Fuels -----	33.4	21.6	43.4	45.2	9.6	8.4	9.9
Purchased electricity -----	66.8	49.0	87.2	85.6	19.7	16.6	28.5
Contract work -----	677.6	54.8	280.8	329.4	49.6	28.7	56.4

See footnotes at end of table.

34C-16 FABRICATED STRUCTURAL METAL PRODUCTS

MANUFACTURES—INDUSTRY SERIES

Table 3a. Summary Statistics for the Industry: 1992—Con.

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Item	Fabricated structural metal (SIC 3441)	Metal doors, sash, and trim (SIC 3442)	Fabricated plate work (boiler shops) (SIC 3443)	Sheet metal work (SIC 3444)	Architectural metal work (SIC 3446)	Prefabricated metal buildings (SIC 3448)	Miscellaneous metal work (SIC 3449)
Quantity of electric energy used for heat and power:							
Purchased..... mil kWh..	1 004.3	746.0	1 392.0	1 252.5	286.5	269.5	473.6
Generated less sold..... mil kWh..	(D)	(D)	(D)	(D)	-	(D)	-
Total value of shipments.....mil dol..	8 898.4	7 123.3	9 117.6	11 482.2	2 383.4	2 845.9	3 366.4
Value added.....mil dol..	3 934.4	3 221.2	4 877.6	5 743.8	1 278.6	1 181.8	1 139.1
Inventories by stage of fabrication:							
Beginning of 1992.....mil dol..	1 202.6	876.2	1 362.0	1 696.5	320.0	297.4	458.9
Finished goods.....mil dol..	201.5	256.1	204.2	472.0	110.5	64.1	131.2
Work in process.....mil dol..	585.0	153.2	642.3	488.9	81.0	52.2	86.0
Materials and supplies.....mil dol..	416.1	467.0	515.5	735.7	128.5	181.2	241.6
End of 1992.....mil dol..	1 090.1	898.3	1 383.1	1 756.2	310.0	328.6	454.2
Finished goods.....mil dol..	194.0	261.1	214.3	498.3	105.3	67.8	132.1
Work in process.....mil dol..	501.4	151.0	651.4	515.9	79.6	57.2	80.0
Materials and supplies.....mil dol..	394.7	486.2	517.4	742.0	125.1	203.5	242.1

Note: For qualifications of data, see footnotes on table 1a.

¹Data on purchased services for the repair of buildings and machinery and for communication services are not included in cost of materials, etc., but are shown in table 3c.

²Data on materials consumed by type are shown in table 7. Data on amount purchased or transferred from foreign sources are shown in table 3c.

Table 3b. Gross Book Value of Depreciable Assets, Capital Expenditures, Retirements, Depreciation, and Rental Payments: 1992

[Million dollars. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Item	Fabricated structural metal (SIC 3441)	Metal doors, sash, and trim (SIC 3442)	Fabricated plate work (boiler shops) (SIC 3443)	Sheet metal work (SIC 3444)	Architectural metal work (SIC 3446)	Prefabricated metal buildings (SIC 3448)	Miscellaneous metal work (SIC 3449)
Gross book value of depreciable assets:							
Total:							
Beginning of year.....	2 076.1	1 512.4	2 694.8	2 915.1	558.5	593.3	808.5
New capital expenditures ¹	132.2	108.7	207.8	224.5	34.0	28.8	60.0
Used capital expenditures.....	25.4	15.3	27.9	43.2	12.1	4.4	6.5
Retirements.....	37.8	22.5	49.6	49.2	18.7	16.3	32.4
End of year.....	2 195.8	1 613.8	2 880.9	3 133.7	585.9	610.2	842.6
Buildings and other structures:							
Beginning of year.....	544.0	502.2	645.2	675.1	157.7	156.2	188.7
New capital expenditures.....	32.6	20.2	44.1	30.3	3.2	7.3	11.8
Used capital expenditures.....	3.7	8.3	7.1	7.0	2.2	1.6	1.5
Retirements.....	9.7	3.0	5.1	3.6	1.5	4.1	6.3
End of year.....	570.7	527.6	691.3	708.8	161.6	161.0	195.6
Machinery and equipment:							
Beginning of year.....	1 532.1	1 010.2	2 049.6	2 240.0	400.8	437.1	619.8
New capital expenditures ¹	99.6	88.5	163.6	194.3	30.8	21.4	48.2
Used capital expenditures.....	21.6	7.0	20.9	36.2	9.9	2.8	5.0
Retirements.....	28.1	19.5	44.5	45.6	17.2	12.2	26.0
End of year.....	1 625.1	1 086.2	2 189.6	2 424.9	424.3	449.2	647.0
Depreciation charges during 1992:							
Total.....	121.0	112.0	157.2	224.3	40.4	39.2	61.1
Buildings and other structures.....	23.2	23.2	27.7	32.8	7.9	7.0	8.9
Machinery and equipment.....	97.9	88.8	129.4	191.5	32.5	32.2	52.2
Rental payments:							
Total.....	123.2	93.2	101.8	231.0	36.8	30.3	31.7
Buildings and other structures.....	80.2	57.4	62.1	134.2	20.5	19.8	22.3
Machinery and equipment.....	43.0	35.8	39.6	96.8	16.3	10.5	9.4

¹Data on new machinery and equipment expenditures by type are provided in table 3c.

Table 3c. Supplemental Industry Statistics Based on Sample Estimates: 1992

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Item	Fabricated structural metal (SIC 3441)		Metal doors, sash, and trim (SIC 3442)		Fabricated plate work (boiler shops) (SIC 3443)		Sheet metal work (SIC 3444)	
	Amount (million dollars)	Relative standard error of estimate ¹ (percent)	Amount (million dollars)	Relative standard error of estimate ¹ (percent)	Amount (million dollars)	Relative standard error of estimate ¹ (percent)	Amount (million dollars)	Relative standard error of estimate ¹ (percent)
Purchased services:								
Cost of purchased services for the repair of—								
Buildings and other structures -----	7.5	(X)	6.3	(X)	15.9	(X)	14.4	(X)
Response coverage ratio (percent) ² -----	72.3	(X)	73.6	(X)	75.4	(X)	70.6	(X)
Machinery -----	42.5	(X)	25.1	(X)	61.3	(X)	51.9	(X)
Response coverage ratio (percent) ² -----	75.3	(X)	74.5	(X)	75.8	(X)	71.7	(X)
Other purchased services:								
Communications -----	15.3	(X)	20.5	(X)	17.6	(X)	25.2	(X)
Response coverage ratio (percent) ² -----	72.9	(X)	72.7	(X)	72.9	(X)	67.6	(X)
Legal -----	12.0	(X)	6.1	(X)	20.5	(X)	17.6	(X)
Response coverage ratio (percent) ² -----	73.9	(X)	73.9	(X)	75.4	(X)	69.4	(X)
Accounting and bookkeeping -----	10.3	(X)	6.3	(X)	8.9	(X)	16.3	(X)
Response coverage ratio (percent) ² -----	73.2	(X)	73.6	(X)	74.8	(X)	70.9	(X)
Advertising -----	9.8	(X)	32.9	(X)	15.5	(X)	28.6	(X)
Response coverage ratio (percent) ² -----	73.5	(X)	74.4	(X)	74.8	(X)	70.1	(X)
Software and other data processing -----	6.9	(X)	5.3	(X)	8.7	(X)	36.2	(X)
Response coverage ratio (percent) ² -----	72.6	(X)	72.6	(X)	72.6	(X)	69.0	(X)
Refuse removal, including hazardous waste -----	4.2	(X)	6.9	(X)	8.8	(X)	8.2	(X)
Response coverage ratio (percent) ² -----	73.5	(X)	72.4	(X)	74.7	(X)	70.4	(X)
New machinery and equipment expenditures -----	99.6	(X)	88.5	(X)	163.6	(X)	194.3	(X)
Automobiles, trucks, etc., for highway use -----	12.3	16	6.8	13	6.3	22	17.7	11
Computers and peripheral data processing equipment -----	9.8	12	5.8	12	13.7	8	19.7	12
All other -----	77.5	4	76.0	3	143.7	1	156.8	3
Adjustment ratio ³ -----	1.7	(X)	1.2	(X)	1.4	(X)	1.5	(X)
Cost of materials, components, parts, etc., used -----	3 562.9	(X)	3 564.7	(X)	3 667.3	(X)	4 930.3	(X)
Materials purchased or transferred from foreign sources ⁴ -----	(S)	(X)	177.7	8	(S)	(X)	576.6	44
Materials purchased or transferred from domestic sources -----	(S)	(X)	3 387.0	1	(S)	(X)	4 353.7	7
Adjustment ratio ³ -----	(S)	(X)	1.9	(X)	(S)	(X)	1.8	(X)

Item	Architectural metal work (SIC 3446)		Prefabricated metal buildings (SIC 3448)		Miscellaneous metal work (SIC 3449)	
	Amount (million dollars)	Relative standard error of estimate ¹ (percent)	Amount (million dollars)	Relative standard error of estimate ¹ (percent)	Amount (million dollars)	Relative standard error of estimate ¹ (percent)
Purchased services:						
Cost of purchased services for the repair of—						
Buildings and other structures -----	2.8	(X)	1.7	(X)	4.1	(X)
Response coverage ratio (percent) ² -----	70.1	(X)	60.9	(X)	84.2	(X)
Machinery -----	11.0	(X)	5.2	(X)	21.6	(X)
Response coverage ratio (percent) ² -----	72.0	(X)	66.3	(X)	85.5	(X)
Other purchased services:						
Communications -----	6.6	(X)	4.9	(X)	8.7	(X)
Response coverage ratio (percent) ² -----	70.3	(X)	61.2	(X)	80.1	(X)
Legal -----	4.1	(X)	4.1	(X)	3.3	(X)
Response coverage ratio (percent) ² -----	72.1	(X)	67.6	(X)	83.0	(X)
Accounting and bookkeeping -----	4.4	(X)	2.7	(X)	2.7	(X)
Response coverage ratio (percent) ² -----	68.7	(X)	68.1	(X)	81.1	(X)
Advertising -----	8.0	(X)	5.2	(X)	5.0	(X)
Response coverage ratio (percent) ² -----	70.3	(X)	68.1	(X)	84.1	(X)
Software and other data processing -----	2.0	(X)	2.0	(X)	2.8	(X)
Response coverage ratio (percent) ² -----	69.8	(X)	62.5	(X)	81.1	(X)
Refuse removal, including hazardous waste -----	1.5	(X)	4.5	(X)	2.2	(X)
Response coverage ratio (percent) ² -----	74.1	(X)	67.5	(X)	84.5	(X)
New machinery and equipment expenditures -----	30.8	(X)	21.4	(X)	48.2	(X)
Automobiles, trucks, etc., for highway use -----	1.2	29	(S)	(X)	5.2	13
Computers and peripheral data processing equipment -----	5.2	53	(S)	(X)	5.9	43
All other -----	24.4	12	(S)	(X)	37.1	8
Adjustment ratio ³ -----	1.0	(X)	(S)	(X)	1.1	(X)
Cost of materials, components, parts, etc., used -----	944.1	(X)	1 510.5	(X)	2 004.8	(X)
Materials purchased or transferred from foreign sources ⁴ -----	19.7	40	(S)	(X)	90.8	12
Materials purchased or transferred from domestic sources -----	924.5	1	(S)	(X)	1 914.0	1
Adjustment ratio ³ -----	1.6	(X)	(S)	(X)	1.6	(X)

Note: The amounts shown for purchased services reflect only those services that establishments purchase from other companies. Amounts purchased by separate central administrative offices and services provided to establishments by central administrative offices are excluded.

¹For description of relative standard error of estimate, see Qualifications of the Data in appendixes.

²A response coverage ratio is derived for this item by calculating the ratio of the weighted employment (establishment data multiplied by sample weight, see appendix B) for those ASM establishments that reported to the weighted total employment for all ASM establishments classified in the industry.

³Detail has been adjusted upwards to account for nonresponse. Inverse of the ratio shown represents a measure of the response of the inquiry. (See appendixes for further explanation.)

⁴Data may understate the true cost of imported parts, components, and supplies since some respondents do not know the origin of these materials. Includes cases where materials were purchased from secondary suppliers or where they were transferred from company-operated warehouses or other distribution points. Direct purchases from foreign suppliers and importers by domestic manufacturing establishments are believed to be reported accurately.

Table 4. Industry Statistics by Employment Size of Establishment: 1992

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Industry and employment size class	E ¹	All establishments (no.)	All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	End-of-year inventories (million dollars)
			Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)					
INDUSTRY 3441, FABRICATED STRUCTURAL METAL												
Total	E1	2 539	72.0	1 958.9	50.8	107.8	1 183.7	3 934.4	4 872.8	8 898.4	132.2	1 090.1
Establishments with an average of—												
1 to 4 employees	E8	609	1.2	27.1	.8	1.7	16.3	63.7	93.0	157.8	2.3	14.7
5 to 9 employees	E4	485	3.3	76.7	2.4	5.0	47.3	149.5	174.9	324.3	4.3	33.5
10 to 19 employees	E1	533	7.5	191.4	5.2	10.8	112.1	341.7	462.8	834.0	12.7	90.6
20 to 49 employees	E1	562	17.3	457.4	12.1	25.5	272.9	936.7	1 138.1	2 079.9	24.5	235.7
50 to 99 employees	E1	223	15.2	413.0	10.6	22.5	243.8	786.6	1 127.7	1 924.7	33.6	205.1
100 to 249 employees	E1	102	14.1	405.4	9.8	21.6	238.2	894.5	1 096.6	1 994.8	26.8	283.3
250 to 499 employees	E1	20	6.7	195.0	4.8	10.6	115.8	337.7	513.1	877.3	11.8	150.2
500 to 999 employees	E1	4	6.8	192.8	5.1	10.2	137.3	424.0	266.6	705.6	16.1	77.0
2,500 employees or more	—	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records ²	E9	799	2.9	52.2	2.1	4.1	31.8	84.7	122.8	207.5	4.3	22.6
INDUSTRY 3442, METAL DOORS, SASH, AND TRIM												
Total	—	1 416	67.8	1 528.2	48.8	99.2	908.1	3 221.2	3 905.0	7 123.3	108.7	898.3
Establishments with an average of—												
1 to 4 employees	E7	392	.7	14.8	.5	1.0	8.6	32.8	44.6	77.4	.7	10.6
5 to 9 employees	E4	250	1.6	35.2	1.2	2.3	20.4	70.2	84.1	154.3	1.4	22.6
10 to 19 employees	E1	195	2.7	59.1	1.8	3.6	31.7	127.9	134.9	262.9	2.6	39.4
20 to 49 employees	E1	257	8.3	193.3	5.6	11.5	104.7	410.1	455.4	866.5	8.1	115.4
50 to 99 employees	E1	139	9.7	223.3	6.8	14.1	125.1	443.7	517.5	961.5	15.6	132.7
100 to 249 employees	—	127	19.5	432.4	14.2	29.1	257.2	933.7	1 246.6	2 171.6	36.6	286.0
250 to 499 employees	—	38	12.5	284.4	9.2	19.0	176.6	637.7	814.7	1 459.3	22.8	169.7
500 to 999 employees	—	16	12.8	285.7	9.5	18.5	183.9	565.0	607.2	1 169.8	20.9	121.8
1,000 to 2,499 employees	—	2	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records ²	E9	475	1.4	27.2	1.0	2.0	15.8	51.5	68.0	119.6	1.4	16.2
INDUSTRY 3443, FABRICATED PLATE WORK (BOILER SHOPS)												
Total	E1	1 942	79.3	2 345.6	56.1	115.1	1 410.0	4 877.6	4 259.2	9 117.6	207.8	1 383.1
Establishments with an average of—												
1 to 4 employees	E8	402	.7	20.7	.5	1.1	12.2	43.9	41.5	85.5	1.8	13.0
5 to 9 employees	E3	318	2.2	59.6	1.6	3.1	36.0	146.2	102.4	219.0	3.7	78.7
10 to 19 employees	E1	342	4.7	136.7	3.4	6.7	76.0	254.9	207.6	466.8	8.0	63.5
20 to 49 employees	E1	473	15.1	425.1	11.0	22.6	257.5	849.9	686.6	1 537.9	29.8	209.0
50 to 99 employees	E1	211	14.5	425.0	10.2	21.4	251.3	877.4	755.5	1 628.6	32.4	246.0
100 to 249 employees	E1	156	23.1	694.1	16.1	33.7	418.0	1 523.7	1 332.8	2 857.0	66.6	414.1
250 to 499 employees	E1	26	9.0	281.1	6.7	12.7	182.0	597.4	634.1	1 226.1	34.5	180.3
500 to 999 employees	—	12	9.8	303.4	6.6	13.9	177.0	584.2	498.7	1 096.7	31.0	178.5
1,000 to 2,499 employees	—	2	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records ²	E9	494	1.7	40.9	1.2	2.4	24.8	71.2	71.4	142.6	3.3	23.0
INDUSTRY 3444, SHEET METAL WORK												
Total	E1	4 702	104.3	2 850.9	75.6	157.5	1 751.5	5 743.8	5 791.8	11 482.2	224.5	1 756.2
Establishments with an average of—												
1 to 4 employees	E7	1 363	2.4	61.1	1.7	4.1	40.1	133.5	149.8	276.0	4.9	62.5
5 to 9 employees	E2	849	5.8	140.0	4.2	8.5	92.3	305.3	262.5	566.6	8.1	106.4
10 to 19 employees	E1	1 016	14.1	382.2	9.9	20.5	232.3	782.6	731.7	1 504.9	24.8	230.7
20 to 49 employees	E1	965	29.1	801.1	20.7	43.4	480.9	1 610.1	1 519.8	3 114.5	63.3	421.8
50 to 99 employees	E1	340	22.9	632.6	16.7	35.2	389.4	1 262.8	1 096.2	2 351.0	50.0	327.5
100 to 249 employees	—	156	22.8	606.7	16.9	35.0	383.8	1 197.0	1 417.0	2 598.6	55.5	448.7
250 to 499 employees	—	8	2.7	82.8	2.2	4.4	50.9	160.3	241.3	403.7	7.3	40.7
500 to 999 employees	—	4	4.6	144.3	3.3	6.4	81.7	292.1	373.6	666.9	10.6	118.0
1,000 to 2,499 employees	—	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records ²	E9	1 261	2.8	58.7	2.0	4.1	37.4	124.9	143.7	268.7	4.9	43.5
INDUSTRY 3446, ARCHITECTURAL METAL WORK												
Total	E1	1 476	26.1	644.8	17.9	35.9	363.7	1 278.6	1 098.2	2 383.4	34.0	310.0
Establishments with an average of—												
1 to 4 employees	E7	639	1.1	23.5	.8	1.7	14.8	56.6	43.1	98.9	1.0	12.2
5 to 9 employees	E2	261	1.8	38.8	1.3	2.5	24.6	69.5	55.9	125.7	1.0	13.0
10 to 19 employees	E1	262	3.5	89.1	2.5	4.9	51.9	159.2	134.9	295.6	3.1	32.5
20 to 49 employees	E1	203	6.2	167.9	4.2	8.5	92.0	302.0	281.6	584.3	7.4	74.0
50 to 99 employees	—	78	5.3	144.5	3.6	7.3	78.3	289.8	292.1	583.0	7.6	82.8
100 to 249 employees	—	21	3.1	73.2	2.3	4.4	43.4	164.9	144.9	310.5	6.8	48.6
250 to 499 employees	—	10	5.0	107.8	3.2	6.6	58.7	236.6	145.8	385.4	7.0	46.8
500 to 999 employees	—	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
1,000 to 2,499 employees	—	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records ²	E9	565	1.0	20.8	.8	1.6	12.6	46.1	37.8	83.9	.9	9.4

See footnotes at end of table.

Table 4. Industry Statistics by Employment Size of Establishment: 1992—Con.

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Industry and employment size class	E ¹	All establishments (no.)	All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	End-of-year inventories (million dollars)
			Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)					
INDUSTRY 3448, PREFABRICATED METAL BUILDINGS												
Total	—	536	20.8	527.2	13.4	28.1	283.3	1 181.8	1 673.0	2 845.9	28.8	328.6
Establishments with an average of—												
1 to 4 employees	E7	161	.3	6.6	.2	.4	3.3	16.8	27.1	43.9	.5	4.5
5 to 9 employees	E5	71	.5	10.7	.3	.6	5.9	26.1	37.1	63.3	.7	6.9
10 to 19 employees	E1	93	1.3	29.4	.8	1.7	16.6	69.3	80.8	149.7	1.3	16.5
20 to 49 employees	E1	110	3.5	87.5	2.1	4.5	42.5	206.0	219.0	425.6	5.8	48.3
50 to 99 employees	E1	48	3.3	77.8	2.1	4.3	42.7	176.6	226.7	404.4	4.5	48.8
100 to 249 employees	—	38	6.0	152.0	4.0	8.1	84.5	331.2	537.0	863.7	6.8	98.0
250 to 499 employees	—	12	4.0	113.9	2.4	5.5	54.6	269.7	385.8	654.1	9.2	63.3
500 to 999 employees	—	3	1.9	49.3	1.5	2.9	33.3	86.0	159.3	241.2	(D)	42.3
Covered by administrative records ²	E9	184	.5	11.0	.3	.7	5.8	23.7	34.9	58.6	.6	6.7
INDUSTRY 3449, MISCELLANEOUS METAL WORK												
Total	E1	658	21.6	589.8	14.4	29.1	350.5	1 139.1	2 222.1	3 366.4	60.0	454.2
Establishments with an average of—												
1 to 4 employees	E8	151	.3	7.8	.2	.4	4.6	13.8	28.9	42.6	.8	5.7
5 to 9 employees	E3	103	.7	17.3	.5	1.0	10.8	38.0	68.4	107.5	2.6	17.3
10 to 19 employees	E1	112	1.6	41.6	1.0	2.1	23.5	82.8	138.3	221.2	3.2	26.0
20 to 49 employees	E1	182	5.8	152.9	3.8	7.8	83.8	325.9	631.1	960.7	10.9	122.9
50 to 99 employees	—	68	4.8	124.7	3.2	6.5	71.6	268.3	564.5	827.2	11.1	108.6
100 to 249 employees	E1	29	4.4	125.9	3.0	5.9	74.9	222.3	361.4	592.8	31.5	85.1
250 to 499 employees	—	13	4.1	119.5	2.6	5.4	81.3	188.0	429.5	614.4	(D)	88.7
Covered by administrative records ²	E9	162	.4	9.9	.3	.6	6.3	17.2	35.8	53.0	.8	6.7

Note: For qualifications of data, see footnotes on table 1a. Data shown as (D) are included in underscored figures above.

¹Payroll and sales data for some small single-establishment manufacturing companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other Government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate the items shown for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at the time data were tabulated. The following symbols are shown for those employment-size classes where estimated data based on administrative-record data account for 10 percent or more of figures shown: E1—10 to 19 percent; E2—20 to 29 percent; E3—30 to 39 percent; E4—40 to 49 percent; E5—50 to 59 percent; E6—60 to 69 percent; E7—70 to 79 percent; E8—80 to 89 percent; E9—90 percent or more.

²Report forms were not mailed to small single-establishment companies with up to 20 employees (cutoff varied by industry). Payroll and sales data for 1992 were obtained from administrative records supplied by other agencies of the Federal Government. Those data were then used in conjunction with industry averages to estimate the items shown. Data are also included in respective employment-size classes shown.

Table 5a. Industry Statistics by Industry and Primary Product Class Specialization: 1992

[Table presents selected statistics for establishments according to their degree of specialization in products primary to their industry. Measures of plant specialization shown are (1) industry specialization: ratio of primary product shipments to total product shipments (primary plus secondary, excluding miscellaneous receipts) for the establishment; and (2) product class specialization: ratio of largest primary product class shipments to total product shipments (primary plus secondary, excluding miscellaneous receipts) for the establishment. See appendix for method of computing ratios. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Industry or product class code	Industry or primary product class	All establishments (number)	All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)
			Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)				
3441	Fabricated structural metal: All establishments in industry	2 539	72.0	1 958.9	50.8	107.8	1 183.7	3 934.4	4 872.8	8 898.4	132.2
	Establishments with this product class primary:										
34411	Fabricated structural metal for buildings	915	34.2	966.6	23.1	49.9	546.1	2 009.3	2 864.5	4 925.6	51.5
34412	Fabricated structural metal for bridges	61	4.7	131.9	3.6	6.8	80.5	268.4	291.8	558.8	7.1
34413	Other fabricated structural metal	297	18.6	520.9	13.7	29.5	348.2	1 037.3	899.4	1 978.8	45.1
3442	Metal doors, sash, and trim: All establishments in industry	1 416	67.8	1 528.2	48.8	99.2	908.1	3 221.2	3 905.0	7 123.3	108.7
	Establishments with this product class primary:										
34421	Metal doors and frames (except storm doors)	315	25.2	604.9	17.7	36.1	352.7	1 426.2	1 753.9	3 168.3	47.1
34422	Metal window sash and frames (except storm sash) ..	233	23.7	500.0	17.3	35.7	303.4	934.3	1 078.5	2 012.6	32.8
34423	Metal molding and trim and store fronts	46	2.6	66.1	1.7	3.6	36.7	131.7	171.5	304.8	4.0
34424	Metal combination screen, storm sash, and storm doors	61	4.5	90.1	3.6	7.2	62.2	169.3	248.0	422.6	7.6
34425	Metal window and door screens, (except combination) and metal weather strip	41	2.5	64.7	1.8	3.4	36.1	170.7	171.3	343.4	7.3

See footnotes at end of table.

34C-20 FABRICATED STRUCTURAL METAL PRODUCTS

MANUFACTURES—INDUSTRY SERIES

Table 5a. Industry Statistics by Industry and Primary Product Class Specialization: 1992—
Con.

[Table presents selected statistics for establishments according to their degree of specialization in products primary to their industry. Measures of plant specialization shown are (1) industry specialization: ratio of primary product shipments to total product shipments (primary plus secondary, excluding miscellaneous receipts) for the establishment; and (2) product class specialization: ratio of largest primary product class shipments to total product shipments (primary plus secondary, excluding miscellaneous receipts) for the establishment. See appendix for method of computing ratios. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Industry or product class code	Industry or primary product class	All establishments (number)	All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)
			Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)				
3443	Fabricated plate work (boiler shops): All establishments in industry -----	1 942	79.3	2 345.6	56.1	115.1	1 410.0	4 877.6	4 259.2	9 117.6	207.8
	Establishments with this product class primary:										
34431	Heat exchangers and steam condensers (except for nuclear applications) -----	128	13.3	418.3	9.2	19.0	250.1	887.6	846.4	1 724.7	41.5
34432	Fabricated steel plate (stacks and weldments) -----	469	15.3	449.3	11.2	23.0	269.2	880.3	694.9	1 558.0	32.0
34433	Steel power boilers, parts, and attachments (stationary and marine but excluding nuclear applications) -----	43	7.7	239.5	5.2	10.9	143.7	455.4	498.3	948.4	38.8
34434	Gas cylinders -----	16	2.3	68.6	1.8	3.7	50.4	189.2	152.5	339.4	6.0
34435	Metal tanks, complete at factory (standard line pressure) -----	54	4.3	116.4	3.2	6.3	70.5	266.8	283.0	551.5	11.0
34436	Nuclear reactor steam supply systems -----	11	2.0	70.3	1.2	2.7	37.4	145.4	59.2	204.9	2.8
34437	Metal tanks, complete at factory (standard line nonpressure) -----	91	4.1	115.6	2.8	6.1	66.5	220.5	212.8	432.5	8.1
34438	Metal tanks and vessels, custom fabricated at the factory -----	204	12.3	368.8	8.7	18.4	223.1	707.7	600.4	1 332.5	23.4
34439	Metal tanks and vessels, custom fabricated and field erected -----	90	6.1	176.6	4.1	8.0	98.9	497.4	379.2	871.1	15.3
3444	Sheet metal work: All establishments in industry -----	4 702	104.3	2 850.9	75.6	157.5	1 751.5	5 743.8	5 791.8	11 482.2	224.5
	Establishments with this product class primary:										
34441	Air-conditioning ducts and stove pipe -----	317	11.2	298.6	8.7	18.1	200.2	588.3	499.1	1 087.2	20.0
34442	Culverts, flumes, irrigation pipes, etc. -----	88	1.7	47.5	1.1	2.4	25.0	123.7	217.2	332.4	2.7
34443	Bins and vats -----	32	1.5	39.2	1.2	2.3	29.7	84.1	151.0	236.9	4.0
34444	Metal roofing and roof drainage equipment -----	145	4.2	117.4	2.7	5.6	61.5	320.1	734.2	1 046.4	13.1
34445	Metal flooring and siding -----	70	3.6	94.0	2.3	4.8	52.3	297.8	632.1	924.8	8.1
34447	Metal awnings, canopies, cornices, and soffits -----	108	5.5	168.1	3.6	7.0	80.4	374.2	507.4	883.1	11.5
34448	Electronic enclosures -----	557	21.1	600.0	15.5	33.3	367.3	1 060.6	649.1	1 706.8	54.8
34449	Other sheet metal work -----	1 072	31.1	876.8	22.7	47.2	549.4	1 716.5	1 348.2	3 040.5	60.6
3446	Architectural metal work: All establishments in industry -----	1 476	26.1	644.8	17.9	35.9	363.7	1 278.6	1 098.2	2 383.4	34.0
	Establishments with this product class primary:										
34461	Grilles, registers, and air diffusers -----	33	4.4	83.7	3.6	7.4	59.4	228.6	123.9	352.5	7.7
34462	Stairs, railings, fences, and gates (other than wire) -----	371	7.1	180.9	4.3	8.5	91.4	267.5	218.4	488.9	6.1
34463	Open flooring, grating, and studs -----	56	2.3	64.4	1.6	3.2	37.0	144.6	169.5	316.8	6.4
34464	Scaffolding; shoring and forming for concrete work -----	60	2.3	61.6	1.6	3.0	34.2	131.5	111.6	244.4	2.1
34465	Other architectural and ornamental work -----	185	5.7	155.2	3.7	7.8	82.6	314.2	313.5	627.8	7.6
3448	Prefabricated metal buildings: All establishments in industry -----	536	20.8	527.2	13.4	28.1	283.3	1 181.8	1 673.0	2 845.9	28.8
	Establishments with this product class primary:										
34481	Prefabricated metal building systems (excluding farm service buildings, residential buildings, and parts) -----	138	13.3	351.5	8.6	18.3	189.3	798.7	1 194.3	1 985.6	17.9
34482	Other prefabricated and portable metal buildings and parts -----	122	5.4	125.7	3.5	7.0	67.9	272.6	339.4	611.1	8.0
3449	Miscellaneous metal work: All establishments in industry -----	658	21.6	589.8	14.4	29.1	350.5	1 139.1	2 222.1	3 366.4	60.0
	Establishments with this product class primary:										
34494	Fabricated bar joists and concrete reinforcing bars -----	111	6.0	170.7	3.7	7.5	99.9	335.2	732.1	1 068.6	9.2
34496	Metal plaster bases -----	5	.2	6.1	.1	.3	3.4	15.0	30.8	45.3	(D)
34497	Curtain wall -----	25	2.0	55.7	1.2	2.4	28.0	90.0	161.3	256.0	1.9
34498	Custom roll form products -----	237	10.4	282.9	7.3	14.8	172.0	570.2	1 074.9	1 644.6	43.1

Note: For qualifications of data, see footnotes on table 1a.

Table 5b. Industry-Product Analysis-Value of Industry and Primary Product Shipments; Specialization and Coverage Ratios: 1992 and Earlier Census Years

[Million dollars. An establishment is assigned to an industry based on shipment values of products representing largest amount considered primary to an industry. Frequently, establishment shipments comprise mixtures of products assigned to an industry (primary), those considered primary to other industries (secondary), and receipts for activities such as merchandising or contract work (total miscellaneous receipts). Subtotals for total value of shipments show this product pattern for an industry. Primary products specialization ratio is the primary products value of shipments divided by the sum of primary products value of shipments plus secondary products value of shipments. The extent of which an industry's primary products are shipped by establishments classified both in and out of an industry is the coverage ratio and is calculated by dividing the primary products value of shipments by the value of primary products shipments made in all industries. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Industry	1992	1987	1982
INDUSTRY 3441, FABRICATED STRUCTURAL METAL			
Total value of shipments -----	8 898.4	8 678.0	8 853.1
Primary products value of shipments -----	7 662.2	7 362.2	7 564.0
Secondary products value of shipments -----	398.8	485.6	475.6
Total miscellaneous receipts -----	837.5	830.2	813.5
Value of resales -----	583.5	577.8	499.4
Contract receipts -----	51.2	74.2	45.3
Other miscellaneous receipts -----	202.8	178.2	268.8
Sales of scrap and refuse -----	7.0	(NA)	8.3
Receipts for installation (or construction) of products of this establishment -----	122.3	95.7	193.7
Receipts for research and development -----	1.1	(NA)	.1
Other miscellaneous receipts -----	39.1	(NA)	35.1
Other miscellaneous receipts, n.s.k. -----	33.3	(NA)	31.6
Primary products specialization ratio -----	95	94	94

MANUFACTURES—INDUSTRY SERIES

FABRICATED STRUCTURAL METAL PRODUCTS 34C-21

Table 5b. Industry-Product Analysis-Value of Industry and Primary Product Shipments; Specialization and Coverage Ratios: 1992 and Earlier Census Years-Con.

[Million dollars. An establishment is assigned to an industry based on shipment values of products representing largest amount considered primary to an industry. Frequently, establishment shipments comprise mixtures of products assigned to an industry (primary), those considered primary to other industries (secondary), and receipts for activities such as merchandising or contract work (total miscellaneous receipts). Subtotals for total value of shipments show this product pattern for an industry. Primary products specialization ratio is the primary products value of shipments divided by the sum of primary products value of shipments plus secondary products value of shipments. The extent of which an industry's primary products are shipped by establishments classified both in and out of an industry is the coverage ratio and is calculated by dividing the primary products value of shipments by the value of primary products shipments made in all industries. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Industry	1992	1987	1982
INDUSTRY 3441, FABRICATED STRUCTURAL METAL-Con.			
Value of primary products shipments made in all industries	8 061.3	7 746.0	7 956.3
Value of primary products shipments made in this industry	7 662.2	7 362.2	7 564.0
Value of primary products shipments made in other industries	399.1	383.8	392.3
Coverage ratio	95	95	95
INDUSTRY 3442, METAL DOORS, SASH, AND TRIM			
Total value of shipments	7 123.3	6 591.0	4 685.3
Primary products value of shipments	6 166.4	5 637.2	4 081.1
Secondary products value of shipments	613.6	472.4	381.1
Total miscellaneous receipts	343.3	481.5	223.1
Value of resales	254.3	378.9	163.4
Contract receipts	15.9	29.7	3.9
Other miscellaneous receipts	73.1	72.9	55.8
Primary products specialization ratio	91	92	91
Value of primary products shipments made in all industries	6 412.3	5 986.0	4 349.8
Value of primary products shipments made in this industry	6 166.4	5 637.2	4 081.1
Value of primary products shipments made in other industries	246.0	348.8	268.8
Coverage ratio	96	94	94
INDUSTRY 3443, FABRICATED PLATE WORK (BOILER SHOPS)			
Total value of shipments	9 117.6	6 810.2	8 225.3
Primary products value of shipments	7 959.7	5 758.8	7 338.3
Secondary products value of shipments	618.0	493.8	546.3
Total miscellaneous receipts	539.9	557.6	340.7
Value of resales	242.9	172.2	131.2
Contract receipts	94.4	216.7	67.4
Other miscellaneous receipts	202.6	168.7	142.1
Primary products specialization ratio	93	92	93
Value of primary products shipments made in all industries	8 491.8	6 202.6	8 094.5
Value of primary products shipments made in this industry	7 959.7	5 758.8	7 338.3
Value of primary products shipments made in other industries	532.1	443.8	756.2
Coverage ratio	94	93	91
INDUSTRY 3444, SHEET METAL WORK			
Total value of shipments	11 482.2	9 698.9	6 853.9
Primary products value of shipments	9 979.1	8 218.5	6 021.1
Secondary products value of shipments	894.7	832.4	466.4
Total miscellaneous receipts	608.4	648.0	366.5
Value of resales	408.4	482.4	287.4
Contract receipts	114.6	97.6	43.8
Other miscellaneous receipts	85.4	68.0	35.3
Primary products specialization ratio	92	91	93
Value of primary products shipments made in all industries	10 650.6	9 009.2	6 572.6
Value of primary products shipments made in this industry	9 979.1	8 218.5	6 021.1
Value of primary products shipments made in other industries	671.5	790.7	551.5
Coverage ratio	94	91	92
INDUSTRY 3446, ARCHITECTURAL METAL WORK			
Total value of shipments	2 383.4	2 268.8	1 367.5
Primary products value of shipments	2 043.4	1 894.3	1 199.4
Secondary products value of shipments	207.7	255.3	122.2
Total miscellaneous receipts	132.3	119.2	45.8
Value of resales	92.4	84.1	26.3
Contract receipts	17.8	17.4	4.2
Other miscellaneous receipts	22.1	17.7	15.3
Primary products specialization ratio	91	98	91
Value of primary products shipments made in all industries	2 411.7	2 193.4	1 422.0
Value of primary products shipments made in this industry	2 043.4	1 894.3	1 199.4
Value of primary products shipments made in other industries	368.2	299.1	222.6
Coverage ratio	85	86	84

Table 5b. Industry-Product Analysis-Value of Industry and Primary Product Shipments; Specialization and Coverage Ratios: 1992 and Earlier Census Years-Con.

[Million dollars. An establishment is assigned to an industry based on shipment values of products representing largest amount considered primary to an industry. Frequently, establishment shipments comprise mixtures of products assigned to an industry (primary), those considered primary to other industries (secondary), and receipts for activities such as merchandising or contract work (total miscellaneous receipts). Subtotals for total value of shipments show this product pattern for an industry. Primary products specialization ratio is the primary products value of shipments divided by the sum of primary products value of shipments plus secondary products value of shipments. The extent of which an industry's primary products are shipped by establishments classified both in and out of an industry is the coverage ratio and is calculated by dividing the primary products value of shipments by the value of primary products shipments made in all industries. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Industry	1992	1987	1982
INDUSTRY 3448, PREFABRICATED METAL BUILDINGS			
Total value of shipments	2 845.9	3 137.8	2 324.7
Primary products value of shipments	2 547.0	2 703.9	2 098.5
Secondary products value of shipments	155.8	211.4	124.7
Total miscellaneous receipts	143.2	222.5	101.5
Value of resales	124.9	170.6	85.5
Contract receipts	8.9	35.9	7.7
Other miscellaneous receipts	9.4	16.1	8.3
Primary products specialization ratio	94	'93	'94
Value of primary products shipments made in all industries	2 637.6	2 825.0	2 215.1
Value of primary products shipments made in this industry	2 547.0	2 703.9	2 098.5
Value of primary products shipments made in other industries	90.7	121.1	116.6
Coverage ratio	97	'96	95
INDUSTRY 3449, MISCELLANEOUS METAL WORK			
Total value of shipments	3 366.4	3 231.4	2 594.6
Primary products value of shipments	2 874.4	2 574.5	2 096.9
Secondary products value of shipments	240.6	340.6	281.4
Total miscellaneous receipts	251.4	316.3	216.3
Value of resales	142.6	270.3	178.2
Contract receipts	40.5	17.3	9.6
Other miscellaneous receipts	68.3	28.7	28.5
Primary products specialization ratio	92	88	88
Value of primary products shipments made in all industries	3 197.7	2 998.5	2 489.9
Value of primary products shipments made in this industry	2 874.4	2 574.5	2 096.9
Value of primary products shipments made in other industries	323.3	424.0	393.0
Coverage ratio	90	86	84

Note: For qualifications of data, see footnotes on table 1a.

¹Revised.

Table 6a. Product and Product Classes-Quantity and Value of Shipments by All Producers: 1992 and 1987

[Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see Value of Shipments in appendixes. For meaning of abbreviations and symbols, see introductory text]

Product code	Product	1992		1987	
		Number of companies with shipments of \$100,000 or more	Value of product shipments ¹ (million dollars)	Number of companies with shipments of \$100,000 or more	Value of product shipments ¹ (million dollars)
3441-	FABRICATED STRUCTURAL METAL				
	Total	(NA)	8 061.3	(NA)	7 746.0
34411	Fabricated structural metal for buildings	(NA)	4 261.4	(NA)	4 259.6
	Iron and steel:				
34411 41	Industrial ³	678	1 572.5	(NA)	1 542.2
34411 42	Commercial ³	651	1 485.4	(NA)	1 664.2
34411 43	Residential ³	117	150.2	(NA)	103.0
34411 44	Institutional, medical, and religious ³	239	292.3	(NA)	196.1
34411 46	Public and educational ³	257	338.5	(NA)	172.9
34411 47	Public utilities ³	72	82.0	(NA)	134.3
34411 71	Aluminum	20	51.1	9	29.7
34411 00	Fabricated structural metal for buildings, n.s.k.	(NA)	289.3	(NA)	417.2
34412	Fabricated structural metal for bridges	(NA)	503.0	(NA)	550.9
34412 00	Fabricated structural metal for bridges ³	97	503.0	(NA)	550.9
34413	Other fabricated structural metal	(NA)	2 020.2	(NA)	1 702.0
	Iron and steel:				
34413 16	For ships, boats, and barges ³	45	534.8	(NA)	568.7
34413 20	For transmission towers, substations, radio antenna towers, and supporting structures ³	51	221.3	(NA)	143.2
34413 23	For offshore oil and gas platforms ³	15	295.9	(NA)	(NA)
34413 26	For tunnelling and subway work ³	7	32.7	(NA)	(NA)
34413 29	For aerospace and defense ³	53	170.9	(NA)	135.8
34413 59	Other fabricated structural iron and steel ³	275	562.8	(NA)	(NA)
34413 84	Aluminum for ships, boats, barges, transmission towers, and other structures	28	52.2	8	11.4
34413 98	Structural metal other than iron, steel, or aluminum	16	12.4	7	9.4
34413 00	Other fabricated structural metal, n.s.k.	(NA)	137.2	(NA)	143.4
34410	Fabricated structural metal, n.s.k.	(NA)	1 276.7	(NA)	1 233.5
34410 00	Fabricated structural metal, n.s.k. ⁴	(NA)	1 069.3	(NA)	875.9
34410 02	Fabricated structural metal, n.s.k. ⁵	(NA)	207.5	(NA)	357.6

See footnotes at end of table.

MANUFACTURES-INDUSTRY SERIES

FABRICATED STRUCTURAL METAL PRODUCTS 34C-23

Table 6a. Product and Product Classes—Quantity and Value of Shipments by All Producers: 1992 and 1987—Con.

[Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see Value of Shipments in appendixes. For meaning of abbreviations and symbols, see introductory text]

Product code	Product	1992			1987		
		Number of companies with shipments of \$100,000 or more	Product shipments ¹		Number of companies with shipments of \$100,000 or more	Product shipments ¹	
			Quantity ²	Value (million dollars)		Quantity ²	Value (million dollars)
3442—	METAL DOORS, SASH, AND TRIM						
	Total	(NA)	(X)	6 412.3	(NA)	(X)	5 986.0
34421	Metal doors and frames (except storm doors).....	(NA)	(X)	3 048.4	(NA)	(X)	2 498.5
	Aluminum doors (excluding shower doors and tub enclosures):						
	Industrial:						
34421 05	Overhead	15	(S)	32.3	23	(S)	31.5
34421 07	Sliding	6	(S)	65.5	12	(S)	51.9
34421 09	All other	13	(X)	24.0	13	(X)	30.4
	Residential:						
34421 11	Swing	33	(S)	*1 024.3	31	(S)	*1 810.6
34421 16	Sliding (glass, patio-type)	78	(S)	**1 088.9	100	(S)	261.8
34421 19	All other (including garage and closet doors).....	21	(X)	64.2	23	(X)	52.5
	Commercial and institutional:						
34421 21	Overhead and sliding	20	(S)	61.7	14	(S)	29.8
34421 22	Swing	23	(S)	63.4	27	(S)	74.9
34421 23	All other	28	(X)	50.3	29	(X)	74.2
	Iron and steel doors (excluding shower doors and tub enclosures):						
	Industrial:						
34421 24	Overhead	41	(S)	223.9	31	(S)	169.1
34421 25	Swing	25	(S)	**357.3	26	(S)	80.7
34421 26	All other (including sliding)	29	(X)	76.5	20	(X)	70.3
	Residential:						
34421 27	Garage	53	(S)	603.6	35	(S)	178.1
34421 28	Steel composite doors (steel clad with foam wood components).....	8	(D)	(D)	9	(S)	41.6
34421 30	Insulated steel entrance doors	27	(S)	*6 476.3	29	(S)	350.9
34421 31	All other (including slide, swing, and closet).....	27	(X)	(D)	15	(X)	74.8
	Commercial and institutional:						
34421 32	Overhead and sliding	21	(S)	75.7	21	(S)	103.4
34421 34	Swing	59	(S)	278.0	34	(S)	140.4
34421 36	All other	30	(X)	61.1	25	(X)	77.6
34421 39	Metal doors other than steel or aluminum	6	(X)	7.9	8	(X)	10.9
	Metal door frames (including trim sold as integral part of door frame):						
34421 42	Aluminum	28	(X)	81.8	27	(X)	95.5
	Steel:						
34421 43	16 gauge and heavier	58	(S)	*4 488.0	46	(S)	137.7
34421 44	Lighter than 16 gauge	20	(S)	39.2	14	(S)	36.2
34421 45	Shower doors and tub enclosures (all metals).....	28	(X)	172.7	21	(X)	93.1
34421 00	Metal doors and frames (except storm doors), n.s.k.	(NA)	(X)	10.2	(NA)	(X)	123.7
34422	Metal window sash and frames (except storm sash)	(NA)	(X)	1 549.2	(NA)	(X)	1 540.5
	Residential:						
34422 20	Steel	13	(X)	41.2	6	(X)	9.2
	Aluminum:						
34422 21	Single and double hung	142	(S)	**10 666.7	146	(S)	*11 110.3
34422 22	Awning	22	(S)	*517.0	32	(S)	44.9
34422 24	Horizontal sliding	88	(S)	236.1	81	(S)	211.3
34422 30	All other, including jalousie ³	66	(X)	143.8	(NA)	(X)	135.3
	Other (including commercial, industrial, etc.):						
34422 35	Steel	25	(X)	45.0	9	(X)	15.5
	Aluminum:						
34422 41	Single and double hung	45	(S)	110.5	49	(S)	171.3
34422 42	Awning	12	(S)	34.7	7	(S)	15.3
34422 43	Projected	28	(S)	63.1	26	(S)	74.6
34422 49	All other	52	(X)	165.1	51	(X)	168.9
34422 98	Metal window sash and frames, other than steel or aluminum	8	(X)	37.9	12	(X)	42.4
34422 00	Metal window sash and frames (except storm sash), n.s.k.	(NA)	(X)	6.0	(NA)	(X)	108.0
34423	Metal molding and trim and store fronts	(NA)	(X)	311.4	(NA)	(X)	364.5
	Metal molding and trim:						
34423 21	Steel	14	(X)	67.8	10	(X)	39.8
34423 25	Aluminum	47	(X)	188.8	50	(X)	275.2
34423 51	Store fronts, sold complete at factory	17	(X)	46.2	13	(X)	23.7
34423 00	Metal molding and trim and store fronts, n.s.k.	(NA)	(X)	8.7	(NA)	(X)	25.8
34424	Metal combination screen, storm sash, and storm doors	(NA)	(X)	390.6	(NA)	(X)	412.9
34424 11	Metal storm sash (except combination).....	18	(X)	16.3	31	(X)	86.0
34424 12	Combination screen and storm sash	69	(X)	117.7	107	(X)	164.2
34424 13	Storm doors	87	(S)	**2 872.1	104	(S)	153.8
34424 00	Metal combination screen, storm sash, and storm doors, n.s.k.	(NA)	(X)	.4	(NA)	(X)	8.9
34425	Metal window and door screens, (except combination) and metal weather strip	(NA)	(X)	254.4	(NA)	(X)	227.2
34425 11	Door screens	29	(X)	64.9	41	(X)	51.4
34425 12	Window screens, with metal frames (including tension and roll types)	60	(X)	125.8	60	(X)	98.7
34425 51	Weather strip	19	(X)	61.8	23	(X)	65.2
34425 00	Metal window and door screens, (except combination) and metal weather strip, n.s.k.	(NA)	(X)	1.9	(NA)	(X)	12.0
34420	Metal doors, sash, and trim, n.s.k.	(NA)	(X)	858.3	(NA)	(X)	942.3
34420 00	Metal doors, sash, and trim, n.s.k. ⁴	(NA)	(X)	738.7	(NA)	(X)	765.7
34420 02	Metal doors, sash, and trim, n.s.k. ⁵	(NA)	(X)	119.6	(NA)	(X)	176.6

See footnotes at end of table.

34C-24 FABRICATED STRUCTURAL METAL PRODUCTS

MANUFACTURES—INDUSTRY SERIES

Table 6a. Product and Product Classes—Quantity and Value of Shipments by All Producers: 1992 and 1987—Con.

[Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see Value of Shipments in appendixes. For meaning of abbreviations and symbols, see introductory text]

Product code	Product	1992		1987	
		Number of companies with shipments of \$100,000 or more	Value of product shipments ¹ (million dollars)	Number of companies with shipments of \$100,000 or more	Value of product shipments ¹ (million dollars)
3443—	FABRICATED PLATE WORK (BOILER SHOPS)				
	Total	(NA)	8 491.8	(NA)	6 202.6
34431	Heat exchangers and steam condensers (except for nuclear applications)	(NA)	1 626.9	(NA)	916.6
	Heat exchangers, closed types, industrial:				
34431 13	Bare tube	112	738.1	69	411.7
34431 18	Fin tube	76	675.3	43	293.3
34431 55	Steam condensers	36	130.4	15	94.1
34431 00	Heat exchangers and steam condensers (except for nuclear applications), n.s.k.	(NA)	83.1	(NA)	117.5
34432	Fabricated steel plate (stacks and weldments)	(NA)	1 573.6	(NA)	1 031.3
34432 21	Shielding for use in nuclear reactor buildings	13	17.4	1	(⁶)
34432 36	Pipe, penstocks, tunnel lining, stacks, and breeching	59	114.6	50	85.4
	Containers (trash and other) steel plate:				
34432 44	Less than 13 gallons	2	20.4	6	10.4
34432 46	13 gallons to 79 gallons	8		12	46.2
34432 48	More than 79 gallons	45	105.5	26	72.3
	Sound control equipment:				
34432 52	Jet engine test facilities (including hush houses, demountable run-up silencers, demountable test cells, etc.)	9	43.7	3	7.2
34432 54	Gas turbine sound systems (enclosed) (including natural gas compression, electric generation, marine propulsion, etc.)	7	78.5	(NA)	42.9
34432 56	Other (including sound panels, one piece enclosures, industrial silencers, and air duct silencers)	26	46.2		
34432 98	Weldments and fabricated steel plate for other purposes	767	1 088.0	265	663.0
34432 00	Fabricated steel plate (stacks and weldments), n.s.k.	(NA)	59.2	(NA)	103.9
34433	Steel power boilers, parts, and attachments (stationary and marine but excluding nuclear applications)	(NA)	793.1	(NA)	654.8
	Water tube:				
34433 08	10,000 lb/hr or less 15 p.s.i. steam working pressure or less ³	3	.9	(NA)	(NA)
	More than 15 p.s.i. steam working pressure:				
	10,000 lb/hr or less:				
34433 10	Saturated ³	1	(D)	(NA)	(NA)
34433 15	Super heated ³	1	(D)	(NA)	(NA)
	10,001 lb/hr to 100,000 lb/hr:				
34433 19	Saturated ³	6	50.6	(NA)	(NA)
34433 24	Super heated ³	8	41.8	(NA)	(NA)
	100,001 lb/hr to 250,000 lb/hr:				
34433 26	Saturated ³	4	(D)	(NA)	(NA)
34433 28	Super heated ³	7	110.7	(NA)	(NA)
	250,001 lb/hr or more:				
34433 30	Saturated ³	3	11.3	(NA)	(NA)
34433 34	Super heated ³	7	112.0	(NA)	(NA)
34433 35	Other water tube (including 10,001 lb/hr or more with 15 p.s.i. steam working pressure or less) ³	1	(D)	(NA)	(NA)
	Fire tube:				
	Horizontal return tubular:				
34433 37	15 p.s.i. steam working pressure or less ³	2	(D)	(NA)	(NA)
34433 40	More than 15 p.s.i. steam working pressure ³	6	(D)	(NA)	(NA)
	Firebox:				
34433 41	15 p.s.i. steam working pressure or less ³	4	(D)	(NA)	(NA)
34433 44	More than 15 p.s.i. steam working pressure ³	2	(D)	(NA)	(NA)
	Scotch type pressure:				
34433 46	15 p.s.i. steam working pressure or less ³	3	(D)	(NA)	(NA)
34433 47	More than 15 p.s.i. steam working pressure ³	5	34.3	(NA)	(NA)
34433 48	Vertical and other fire tube type ³	2	(D)	(NA)	(NA)
34433 51	Other steel power boilers (stationary and marine) (except nuclear applications) ³	7	17.8	(NA)	(NA)
34433 52	Parts and attachments for steel power boilers (sold separately)	36	253.5	28	78.4
34433 00	Steel power boilers, parts, and attachments (stationary and marine but excluding nuclear applications), n.s.k.	(NA)	16.1	(NA)	40.3
34434	Gas cylinders	(NA)	355.5	(NA)	237.6
34434 14	Seamless ferrous and nonferrous ³	12	191.5	(NA)	146.1
34434 16	Welded ferrous and nonferrous ³	15	162.5	(NA)	229.6
34434 00	Gas cylinders, n.s.k.	(NA)	1.5	(NA)	8.0
34435	Metal tanks, complete at factory (standard line pressure)	(NA)	488.9	(NA)	466.6
34435 20	Liquefied petroleum gas tanks (all types), ferrous and nonferrous ³	18	107.1	(NA)	146.1
34435 35	Air receivers, ferrous and nonferrous ³	20	80.0	(NA)	58.1
34435 42	Other pressure tanks (including anhydrous ammonia tanks), ferrous and nonferrous ³	57	257.8	(NA)	186.7
34435 00	Metal tanks, complete at factory (standard line pressure), n.s.k.	(NA)	43.9	(NA)	75.7
34436	Nuclear reactor steam supply systems	(NA)	239.7	(NA)	335.8
34436 00	Nuclear reactor steam supply systems, heat exchangers and condensers, pressurizers, components, and auxiliary equipment	18	239.7	26	335.8
34437	Metal tanks, complete at factory (standard line nonpressure)	(NA)	466.4	(NA)	416.9
	Storage tanks:				
	4,000 gallon capacity or less:				
34437 12	Ferrous	82	141.8	71	92.8
34437 15	Nonferrous	22	29.8	22	40.9
	More than 4,000 gallon capacity:				
34437 17	Ferrous	76	104.0	61	86.1
34437 19	Nonferrous	27	21.9	17	24.1
	Other nonpressure tanks (including tanks for trailers, metal septic tanks, etc.):				
34437 48	Ferrous	35	119.5	28	68.4
34437 50	Nonferrous	14	11.9	10	38.3
34437 00	Metal tanks, complete at factory (standard line nonpressure), n.s.k.	(NA)	37.5	(NA)	66.1

See footnotes at end of table.

Table 6a. Product and Product Classes—Quantity and Value of Shipments by All Producers: 1992 and 1987—Con.

[Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see Value of Shipments in appendixes. For meaning of abbreviations and symbols, see introductory text]

Product code	Product	1992		1987	
		Number of companies with shipments of \$100,000 or more	Value of product shipments ¹ (million dollars)	Number of companies with shipments of \$100,000 or more	Value of product shipments ¹ (million dollars)
3443—	FABRICATED PLATE WORK (BOILER SHOPS)—Con.				
34438	Metal tanks and vessels, custom fabricated at the factory: Pressure (more than 24 inches outside diameter and not less than 5 cu ft capacity):	(NA)	1 079.3	(NA)	656.9
	Ferrous:				
34438 03	Refineries, chemical plants, and paper mills	134	334.3	104	265.6
34438 05	Other processing industries	80	205.1	19	79.8
34438 08	Nonferrous process vessels, tanks, and kettles for refineries, chemical plants, and paper mills	53	76.2	40	61.5
34438 13	Liquefied petroleum gas tanks, ferrous and nonferrous ³	9	45.8	(NA)	28.0
	All other tanks and vessels, custom fabricated at the factory:				
34438 20	Ferrous ³	138	282.1	38	89.3
34438 22	Nonferrous ³	54	94.1	17	57.6
34438 00	Metal tanks and vessels, custom fabricated at the factory, n.s.k.	(NA)	41.7	(NA)	75.1
34439	Metal tanks and vessels, custom fabricated and field erected	(NA)	757.7	(NA)	305.2
	Bulk storage tanks:				
	Elevated type:				
	Ferrous:				
34439 15	Dry materials	23	24.0	9	9.8
34439 17	Water	15	139.4	5	30.5
34439 19	Other liquids	19	50.2	7	4.1
34439 23	Nonferrous	1	.2	3	2.6
	Ground storage type:				
	Ferrous:				
34439 31	Dry materials	8	15.3	9	11.3
34439 32	Petroleum products	27	118.0	19	33.2
34439 33	Water	28	69.3	23	26.1
34439 34	Other	14	43.5	11	15.3
34439 36	Nonferrous	6	1.3	6	21.2
	Pressure vessels and tanks (including gas holders and process vessels, etc.):				
	Ferrous:				
34439 51	Refineries, chemical plants, and paper mills	45	147.4	12	69.2
34439 53	Other processing industries	32	95.9	14	41.9
34439 58	Nonferrous	13	38.1	4	1.8
34439 00	Metal tanks and vessels, custom fabricated and field erected, n.s.k.	(NA)	15.1	(NA)	38.2
34430	Fabricated plate work (boiler shops), n.s.k.	(NA)	1 110.6	(NA)	1 180.9
34430 00	Fabricated plate work (boiler shops), n.s.k. ⁴	(NA)	967.5	(NA)	850.0
34430 02	Fabricated plate work (boiler shops), n.s.k. ⁵	(NA)	143.1	(NA)	330.9

Product code	Product	1992				1987			
		Number of companies with shipments of \$100,000 or more	Product shipments ¹		Number of companies with shipments of \$100,000 or more	Product shipments ¹			
			Quantity ²	Value (million dollars)		Quantity ²	Value (million dollars)		
3444—	SHEET METAL WORK								
	Total	(NA)	(X)	10 650.6	(NA)	(X)	9 009.2		
34441	Air-conditioning ducts and stove pipe	(NA)	(X)	1 024.2	(NA)	(X)	786.0		
	Air-conditioning ducts (including dust collecting ducts):								
34441 21	Steel	314	(X)	603.9	280	(X)	546.9		
34441 23	Aluminum	55	(X)	60.8	43	(X)	42.3		
	Stove pipe, furnace smoke pipe, and elbows:								
34441 27	Steel	84	(X)	274.8	61	(X)	141.5		
34441 29	Aluminum	18	(X)	56.4	11	(X)	48.5		
34441 00	Air-conditioning ducts and stove pipe, n.s.k.	(NA)	(X)	28.4	(NA)	(X)	6.7		
34442	Culverts, flumes, irrigation pipes, etc.	(NA)	(X)	328.0	(NA)	(X)	266.6		
34442 13	Steel	48	(X)	267.2	46	(X)	198.1		
34442 15	Aluminum	17	(X)	44.9	11	(X)	40.5		
34442 19	Other metals	8	(X)	7.0					
34442 00	Culverts, flumes, irrigation pipes, etc., n.s.k.	(NA)	(X)	8.9	(NA)	(X)	28.0		
34443	Bins and vats	(NA)	(X)	209.7	(NA)	(X)	145.0		
34443 14	Grain, excluding drying floors, fans, and heaters (steel and aluminum) ³	26	(X)	103.4	(NA)	(X)	89.2		
34443 24	Other, including feed storage bins and sheet metal vats (steel and aluminum) ³	60	(X)	103.0	(NA)	(X)	51.9		
34443 00	Bins and vats, n.s.k.	(NA)	(X)	3.3	(NA)	(X)	3.9		
34444	Metal roofing and roof drainage equipment	(NA)	(X)	1 134.0	(NA)	(X)	856.3		
	Metal roofing:								
34444 11	Steel, all types	113	(S)	669.5	91	(S)	431.2		
34444 17	Aluminum and other metals, all types	37	**44.5	110.1	34	**43.1	129.0		
	Roof drainage equipment (including eave troughs, etc.):								
34444 23	Steel	50	(S)	115.2	42	(S)	109.0		
34444 29	Aluminum	43	(S)	184.3	39	(S)	113.0		
34444 31	All other metals	15	(S)	29.2	11	(S)	15.5		
34444 00	Metal roofing and roof drainage equipment, n.s.k.	(NA)	(X)	25.6	(NA)	(X)	58.5		

See footnotes at end of table.

34C-26 FABRICATED STRUCTURAL METAL PRODUCTS

MANUFACTURES—INDUSTRY SERIES

Table 6a. Product and Product Classes—Quantity and Value of Shipments by All Producers: 1992 and 1987—Con.

[Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see Value of Shipments in appendixes. For meaning of abbreviations and symbols, see introductory text]

Product code	Product	1992			1987		
		Number of companies with shipments of \$100,000 or more	Product shipments ¹		Number of companies with shipments of \$100,000 or more	Product shipments ¹	
			Quantity ²	Value (million dollars)		Quantity ²	Value (million dollars)
3444—	SHEET METAL WORK—Con.						
34445	Metal flooring and siding.....	(NA)	(X)	840.7	(NA)	(X)	920.4
34445 05	Fabricated metal flooring1,000 s tons..	30	(S)	180.1	32	(S)	230.9
34445 16	Metal siding: Steel1,000 s tons..	45	(S)	286.3	37	(S)	268.9
34445 17	Aluminum: Residential (including mobile homes).....1,000 s tons..	20	(S)	271.5	24	(S)	260.5
34445 18	Other (commercial, industrial, farm buildings, etc.)1,000 s tons..	20	(S)	67.2	15	(S)	38.3
34445 19	Other metals1,000 s tons..	4	(S)	4.1	9	(S)	89.5
34445 00	Metal flooring and siding, n.s.k.	(NA)	(X)	31.5	(NA)	(X)	32.3
34447	Metal awnings, canopies, cornices, and soffits	(NA)	(X)	493.2	(NA)	(X)	550.1
34447 21	Awnings, canopies, carports, patios: Steel	34	(X)	122.6	36	(X)	45.7
34447 25	Aluminum	66	(X)	80.6	79	(X)	140.5
34447 31	Cornices, skylights, domes, copings (steel and aluminum).....	38	(X)	103.0	43	(X)	146.2
34447 41	Soffits, fascia, and shutters (steel and aluminum).....	47	(X)	178.0	49	(X)	216.9
34447 00	Metal awnings, canopies, cornices, and soffits, n.s.k.	(NA)	(X)	9.1	(NA)	(X)	.8
34448	Electronic enclosures	(NA)	(X)	1 661.3	(NA)	(X)	1 115.3
34448 11	Computer and peripheral equipment: Steel	338	(X)	669.7	303	(X)	461.6
34448 13	Aluminum	267	(X)	298.0	257	(X)	255.8
34448 19	Other electronic enclosures (including machine and motor housings, panels, and guards), steel and aluminum	419	(X)	638.8	282	(X)	374.9
34448 00	Electronic enclosures, n.s.k.	(NA)	(X)	54.8	(NA)	(X)	23.0
34449	Other sheet metal work	(NA)	(X)	2 845.0	(NA)	(X)	2 292.6
34449 31	Roof ventilators	75	(X)	157.0	39	(X)	88.7
34449 41	Louvers and dampers for heating, ventilation, and air-conditioning (steel and aluminum)	103	(X)	231.1	97	(X)	243.6
34449 53	Restaurant and hotel kitchen sheet metal equipment: Steel	139	(X)	260.7	137	(X)	233.1
34449 55	Aluminum	22	(X)	18.6	22	(X)	31.5
34449 62	Other sheet metal work: Steel	953	(X)	1 455.5	581	(X)	1 187.5
34449 65	Aluminum	360	(X)	427.4	236	(X)	365.7
34449 98	Metals other than steel or aluminum	171	(X)	239.0	118	(X)	107.9
34449 00	Other sheet metal work, n.s.k.	(NA)	(X)	55.6	(NA)	(X)	34.6
34440	Sheet metal work, n.s.k.	(NA)	(X)	2 114.3	(NA)	(X)	2 077.1
34440 00	Sheet metal work, n.s.k. ⁴	(NA)	(X)	1 845.7	(NA)	(X)	1 757.0
34440 02	Sheet metal work, n.s.k. ⁵	(NA)	(X)	268.7	(NA)	(X)	320.1
3446—	ARCHITECTURAL METAL WORK						
	Total	(NA)	(X)	2 411.7	(NA)	(X)	2 193.4
34461	Grilles, registers, and air diffusers	(NA)	(X)	321.5	(NA)	(X)	280.8
34461 10	Warm air or air-conditioning grilles, registers, and air diffusers: Iron and steel1,000 s tons..	26	(S)	210.7	25	(S)	147.7
34461 12	Aluminum	20	(X)	79.3	17	(X)	62.1
34461 15	Other grilles (including open mesh partitions): Iron and steel	9	(X)	12.1	13	(X)	34.3
34461 17	Aluminum	11	(X)	14.7	13	(X)	22.0
34461 00	Grilles, registers, and air diffusers, n.s.k.	(NA)	(X)	4.8	(NA)	(X)	14.7
34462	Stairs, railings, fences, and gates (other than wire)	(NA)	(X)	557.0	(NA)	(X)	411.3
34462 10	Stairs, staircases, and fire escapes: Iron and steel	452	(X)	263.2	313	(X)	222.6
34462 12	Aluminum	53	(X)	43.0	41	(X)	28.5
34462 20	Fences and gates (other than wire): Iron and steel	155	(X)	123.9	106	(X)	70.2
34462 22	Aluminum	31	(X)	16.9	13	(X)	12.1
34462 26	Railings and window guards (iron, steel, and aluminum).....	177	(X)	105.9	128	(X)	73.8
34462 00	Stairs, railings, fences, and gates (other than wire), n.s.k.	(NA)	(X)	4.2	(NA)	(X)	4.1
34463	Open flooring, grating, and studs	(NA)	(X)	318.5	(NA)	(X)	295.8
34463 10	Open flooring and grating for building construction: Iron and steel	96	(X)	219.9	58	(X)	116.5
34463 12	Aluminum	18	(X)	27.2	21	(X)	30.3
34463 20	Nonload-bearing studs (iron, steel, and aluminum)	10	(X)	49.8	13	(X)	106.1
34463 22	Load-bearing studs (iron, steel, and aluminum)	10	(X)	21.7	13	(X)	42.4
34463 00	Open flooring, grating, and studs, n.s.k.	(NA)	(X)	—	(NA)	(X)	.5

See footnotes at end of table.

Table 6a. Product and Product Classes—Quantity and Value of Shipments by All Producers: 1992 and 1987—Con.

[Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see Value of Shipments in appendixes. For meaning of abbreviations and symbols, see introductory text]

Product code	Product	1992			1987		
		Number of companies with shipments of \$100,000 or more	Product shipments ¹		Number of companies with shipments of \$100,000 or more	Product shipments ¹	
			Quantity ²	Value (million dollars)		Quantity ²	Value (million dollars)
3446—	ARCHITECTURAL METAL WORK—Con.						
34464	Scaffolding; shoring and forming for concrete work -----	(NA)	(X)	236.9	(NA)	(X)	255.7
34464 10	Suspended scaffolding (including midpoint, two point, multilevel, boatswain chairs, etc.) (iron, steel, and aluminum) -----	14	(X)	49.2	10	(X)	28.4
34464 13	Access scaffolding, including tube and coupler system, prefabricated mobil scaffolds, etc. (iron, steel, and aluminum) -----	24	(X)	48.8	22	(X)	47.6
34464 16	Shoring (including flying forms, postshores, ellis clamps, reshores, etc.) (iron, steel, and aluminum) -----	7	(X)	18.3	11	(X)	49.5
34464 18	Forming (including modular, prefabricated, etc.) (iron, steel, aluminum, and all other material-metal combinations) -----	44	(X)	120.7	48	(X)	116.8
34464 00	Scaffolding; shoring and forming for concrete work, n.s.k. -----	(NA)	(X)	—	(NA)	(X)	13.4
34465	Other architectural and ornamental work -----	(NA)	(X)	650.2	(NA)	(X)	545.7
34465 10	Iron and steel ----- 1,000 s tons--	216	(S)	422.6	181	(S)	231.3
34465 12	Aluminum -----	86	(X)	135.3	77	(X)	159.9
34465 30	Other than iron, steel, or aluminum -----	52	(X)	50.0	30	(X)	85.6
34465 00	Other architectural and ornamental work, n.s.k. -----	(NA)	(X)	42.4	(NA)	(X)	69.0
34460	Architectural metal work, n.s.k. -----	(NA)	(X)	327.4	(NA)	(X)	404.0
34460 00	Architectural metal work, n.s.k. ⁴ -----	(NA)	(X)	243.5	(NA)	(X)	307.4
34460 02	Architectural metal work, n.s.k. ⁵ -----	(NA)	(X)	83.9	(NA)	(X)	96.6
3448—	PREFABRICATED METAL BUILDINGS						
	Total -----	(NA)	(X)	2 637.6	(NA)	(X)	2 825.0
34481	Prefabricated metal building systems (excluding farm service buildings, residential buildings, and parts) -----	(NA)	(X)	1 694.7	(NA)	(X)	1 806.7
34481 15	Industrial and commercial ----- 1,000 s tons--	114	(S)	1 468.3	106	(S)	1 482.4
34481 17	Institutional, medical, and religious ----- 1,000 s tons--	29	(S)	79.6	29	(S)	146.4
34481 18	Public and educational ----- 1,000 s tons--	39	(S)	126.5	29	(S)	112.1
34481 00	Prefabricated metal building systems (excluding farm service buildings, residential buildings, and parts), n.s.k. -----	(NA)	(X)	20.3	(NA)	(X)	65.8
34482	Other prefabricated and portable metal buildings and parts -----	(NA)	(X)	717.8	(NA)	(X)	647.0
34482 11	Greenhouses, steel and aluminum -----	25	(X)	82.6	20	(X)	78.8
34482 14	Grain storage buildings (including farm and commercial types), steel and aluminum -----	14	(X)	23.7	13	(X)	70.3
34482 15	Other farm service buildings (livestock shelters, machinery storage, etc.), steel and aluminum -----	28	(X)	49.2	18	(X)	46.7
34482 18	Dwellings (including vacation homes and camps), steel and aluminum ³ -----	10	(X)	29.8	(NA)	(X)	27.0
	Small utility buildings (including toolsheds, cabanas, storage houses, etc.): -----						
34482 16	Steel -----	18	(X)	73.0	15	(X)	82.9
34482 26	Aluminum -----	23	(X)	58.7	12	(X)	30.4
	Other (including garages, etc.): -----						
34482 17	Steel -----	29	(X)	75.2	19	(X)	40.4
34482 27	Aluminum -----	26	(X)	107.9	14	(X)	77.8
34482 54	Panels, parts, or sections for prefabricated buildings, not sold as a complete unit; steel and aluminum -----	61	(X)	207.3	35	(X)	122.7
34482 00	Other prefabricated and portable metal buildings and parts, n.s.k. -----	(NA)	(X)	10.2	(NA)	(X)	70.1
34480	Prefabricated metal buildings, n.s.k. -----	(NA)	(X)	225.2	(NA)	(X)	371.2
34480 00	Prefabricated metal buildings, n.s.k. ⁴ -----	(NA)	(X)	158.8	(NA)	(X)	281.9
34480 02	Prefabricated metal buildings, n.s.k. ⁵ -----	(NA)	(X)	66.4	(NA)	(X)	89.3
3449—	MISCELLANEOUS METAL WORK						
	Total -----	(NA)	(X)	3 197.7	(NA)	(X)	2 998.5
34494	Fabricated bar joists and concrete reinforcing bars -----	(NA)	(X)	997.0	(NA)	(X)	1 142.3
	Fabricated bar joists: -----						
34494 47	Long span ----- 1,000 s tons--	30	** 325.0	191.3	26	251.4	133.7
34494 43	Short span (open web) ----- 1,000 s tons--	33	342.3	195.7	36	** 455.1	235.6
34494 52	Fabricated concrete reinforcing bars ----- 1,000 s tons--	72	**1 313.8	582.5	86	**1 578.4	584.3
34494 00	Fabricated bar joists and concrete reinforcing bars, n.s.k. -----	(NA)	(X)	27.5	(NA)	(X)	188.7
34496	Metal plaster bases -----	(NA)	(X)	68.2	(NA)	(X)	81.7
34496 11	Expanded metal lath ----- mil sq yd--	9	** 19.7	22.7	4	20.1	26.1
34496 32	Metal plaster base accessories (including corner beads, screeds, grounds, etc.) -----	9	(X)	45.5	14	(X)	42.1
34496 00	Metal plaster bases, n.s.k. -----	(NA)	(X)	—	(NA)	(X)	13.5

See footnotes at end of table.

34C-28 FABRICATED STRUCTURAL METAL PRODUCTS

MANUFACTURES—INDUSTRY SERIES

Table 6a. Product and Product Classes—Quantity and Value of Shipments by All Producers: 1992 and 1987—Con.

[Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see Value of Shipments in appendixes. For meaning of abbreviations and symbols, see introductory text]

Product code	Product	1992			1987		
		Number of companies with shipments of \$100,000 or more	Product shipments ¹		Number of companies with shipments of \$100,000 or more	Product shipments ¹	
			Quantity ²	Value (million dollars)		Quantity ²	Value (million dollars)
3449—	MISCELLANEOUS METAL WORK—Con.						
34497	Curtain wall	(NA)	(X)	226.4	(NA)	(X)	284.2
34497 73	Steel (including stainless)	13	(X)	72.2	12	(X)	61.2
34497 75	Aluminum	30	(X)	140.3	(NA)	(X)	210.6
34497 79	All other (including combination of metals)	2	(X)	.9			
34497 00	Curtain wall, n.s.k.	(NA)	(X)	13.0	(NA)	(X)	12.4
34498	Custom roll form products	(NA)	(X)	1 567.5	(NA)	(X)	1 145.5
34498 11	Carbon steel	204	(X)	956.9	136	(X)	719.3
34498 13	Stainless steel	111	(X)	168.8	61	(X)	94.1
34498 15	Aluminum	69	(X)	260.4	67	(X)	174.0
34498 17	Other metals	54	(X)	162.9	33	(X)	127.9
34498 00	Custom roll form products, n.s.k.	(NA)	(X)	18.4	(NA)	(X)	30.2
34490	Miscellaneous metal work, n.s.k.	(NA)	(X)	338.5	(NA)	(X)	344.7
34490 00	Miscellaneous metal work, n.s.k. ⁴	(NA)	(X)	285.5	(NA)	(X)	221.5
34490 02	Miscellaneous metal work, n.s.k. ⁵	(NA)	(X)	53.0	(NA)	(X)	123.2

¹Data reported by all producers, not just those with shipments of \$100,000 or more.

²For some establishments, data have been estimated from central unit values which are based on quantity-value relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: *10 to 19 percent estimated; **20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by (S).

³For 1992, product code is revised. See appendix C, parts 1 and 2 for comparability.

⁴Typically for establishments with 5 employees or more.

⁵Typically for establishments with less than 5 employees.

⁶For 1987, product codes were combined to avoid disclosing data for individual companies.

Table 6b. Product Classes—Value of Shipments by All Producers for Specified States: 1992 and 1987

[Million dollars. Product classes shown are those where the data are geographically dispersed, provided dispersion is not approximated by data in table 2. Also, product classes are not shown if they are miscellaneous or "not specified by kind" classes. Statistics for some States are withheld because they are either less than \$2 million in product class shipments or they disclose data for individual companies in 1992. For meaning of abbreviations and symbols, see introductory text]

Product class and geographic area	1992 value of product shipments	1987 value of product shipments	Product class and geographic area	1992 value of product shipments	1987 value of product shipments
34411, FABRICATED STRUCTURAL METAL FOR BUILDINGS			34411, FABRICATED STRUCTURAL METAL FOR BUILDINGS—Con.		
United States	4 261.4	4 259.6	Pennsylvania	288.9	377.7
Alabama	160.9	153.3	Rhode Island	15.6	10.1
Arizona	85.4	57.7	South Carolina	127.6	126.9
Arkansas	75.8	63.2	Tennessee	91.0	65.2
California	449.9	490.8	Texas	374.3	403.8
Colorado	38.7	38.0	Utah	66.9	39.7
Connecticut	51.7	97.7	Virginia	90.9	168.0
Florida	136.2	169.0	Washington	77.4	57.6
Georgia	116.4	103.9	West Virginia	9.7	20.8
Idaho	11.2	8.8	Wisconsin	103.4	85.1
Illinois	250.6	184.4	34412, FABRICATED STRUCTURAL METAL FOR BRIDGES		
Indiana	107.3	94.6	United States	503.0	550.9
Iowa	60.2	43.9	Connecticut	6.3	(NA)
Kansas	37.8	44.9	Ohio	24.7	12.8
Kentucky	25.6	44.0	Utah	12.9	(NA)
Louisiana	33.6	24.1	Virginia	32.0	12.2
Maryland	40.8	29.9	34413, OTHER FABRICATED STRUCTURAL METAL		
Massachusetts	24.9	52.3	United States	2 020.2	1 702.0
Michigan	149.5	125.1	Alabama	31.2	28.0
Minnesota	85.4	44.3	Arizona	6.7	(NA)
Mississippi	70.7	45.7	Arkansas	4.0	(NA)
Missouri	178.3	144.3	California	131.3	125.1
Nebraska	31.9	8.3	Colorado	3.4	5.9
New Hampshire	34.6	40.9	Connecticut	2.9	(NA)
New Jersey	79.4	65.8	Florida	18.2	58.5
New Mexico	5.8	(NA)	Georgia	21.5	13.4
New York	114.9	155.7	Illinois	68.1	99.8
North Carolina	154.5	153.2	Indiana	43.8	32.2
Ohio	174.8	196.0			
Oklahoma	58.1	86.4			
Oregon	67.6	25.7			

See footnotes at end of table.

Table 6b. Product Classes—Value of Shipments by All Producers for Specified States: 1992 and 1987—Con.

[Million dollars. Product classes shown are those where the data are geographically dispersed, provided dispersion is not approximated by data in table 2. Also, product classes are not shown if they are miscellaneous or "not specified by kind" classes. Statistics for some States are withheld because they are either less than \$2 million in product class shipments or they disclose data for individual companies in 1992. For meaning of abbreviations and symbols, see introductory text]

Product class and geographic area	1992 value of product shipments	1987 value of product shipments	Product class and geographic area	1992 value of product shipments	1987 value of product shipments
34413, OTHER FABRICATED STRUCTURAL METAL—Con.			34423, METAL MOLDING AND TRIM AND STORE FRONTS		
Iowa	26.5	(NA)	United States	311.4	364.5
Kansas	42.5	15.2	California	72.1	40.1
Kentucky	19.8	5.2	Florida	5.6	(NA)
Louisiana	322.9	80.2	Georgia	33.7	(NA)
Massachusetts	33.0	28.2	Illinois	25.5	39.8
Michigan	22.3	26.6	Michigan	4.7	(NA)
Minnesota	16.5	4.8	Missouri	2.2	(NA)
Mississippi	58.8	38.4	New Jersey	5.2	(NA)
Missouri	30.3	8.7	Ohio	19.0	47.1
Nebraska	9.3	(NA)	Tennessee	2.7	(NA)
New Jersey	15.0	17.4	Texas	20.7	42.0
New Mexico	2.0	(NA)	Wisconsin	8.0	(NA)
New York	28.8	25.1			
Ohio	80.8	95.2	34424, METAL COMBINATION SCREEN, STORM SASH, AND STORM DOORS		
Oklahoma	45.2	41.3	United States	390.6	412.9
Oregon	40.0	30.3	Connecticut	4.9	9.7
Pennsylvania	71.8	37.6	Florida	3.2	2.3
South Carolina	50.1	70.1	Georgia	3.1	(NA)
Tennessee	33.3	7.9	Illinois	12.9	11.8
Texas	132.1	78.8	Kansas	3.6	5.6
Utah	38.8	41.6	Michigan	2.9	4.4
Virginia	11.6	21.2	Missouri	4.4	6.6
Washington	19.7	23.6	New Jersey	5.4	12.5
Wisconsin	24.2	60.6	New York	10.5	27.6
			North Carolina	53.8	34.5
34421, METAL DOORS AND FRAMES (EXCEPT STORM DOORS)			Ohio	10.0	20.7
United States	3 048.4	2 498.5	Oklahoma	3.3	(NA)
Alabama	51.5	36.5	Tennessee	20.0	30.2
Arizona	50.1	25.5	Texas	14.2	30.9
Arkansas	109.2	71.7	Virginia	4.3	7.0
California	260.9	263.5	Wisconsin	6.9	(NA)
Colorado	6.6	24.9			
Florida	173.8	161.4	34425, METAL WINDOW AND DOOR SCREENS, (EXCEPT COMBINATION) AND METAL WEATHER STRIP		
Georgia	174.0	149.0	United States	254.4	227.2
Illinois	132.7	102.5	California	44.9	43.4
Indiana	172.9	119.3	Florida	9.3	12.7
Kansas	56.1	(NA)	Georgia	6.5	(NA)
Kentucky	4.6	(NA)	Kentucky	2.2	(NA)
Massachusetts	14.8	20.9	Mississippi	2.7	(NA)
Michigan	130.8	122.1	New Jersey	2.7	(NA)
Minnesota	19.1	19.5	New York	3.3	(NA)
Mississippi	22.1	25.3	Ohio	9.0	17.4
Missouri	28.9	(NA)	Texas	14.6	8.1
New Jersey	80.7	64.7	Washington	12.4	(NA)
New York	80.4	101.8	Wisconsin	51.3	(NA)
North Carolina	55.3	40.3			
Ohio	462.2	257.9	34431, HEAT EXCHANGERS AND STEAM CONDENSERS (EXCEPT FOR NUCLEAR APPLICATIONS)		
Oklahoma	20.9	(NA)	United States	1 626.9	916.6
Oregon	65.2	32.0	California	40.2	23.8
Pennsylvania	145.0	139.4	Louisiana	30.3	(NA)
Tennessee	232.7	146.2	Michigan	8.0	(NA)
Texas	149.6	120.6	New Jersey	58.7	51.8
Utah	35.5	(NA)	New York	294.2	162.3
Virginia	56.4	45.1	Ohio	40.1	23.0
Washington	8.0	27.0	Oklahoma	322.6	138.7
Wisconsin	52.9	29.0	Oregon	10.7	6.9
			Pennsylvania	69.2	(NA)
34422, METAL WINDOW SASH AND FRAMES (EXCEPT STORM SASH)			Texas	213.9	97.8
United States	1 549.2	1 540.5	Virginia	36.0	(NA)
Alabama	10.1	19.8	Wisconsin	66.2	37.8
Arizona	50.4	38.9			
California	185.3	166.5	34432, FABRICATED STEEL PLATE (STACKS AND WELDMENTS)		
Florida	92.7	115.8	United States	1 573.6	1 031.3
Georgia	36.3	34.0	Alabama	47.5	20.0
Illinois	22.8	34.8	Arizona	10.0	(NA)
Indiana	75.9	51.1	Arkansas	2.6	3.7
Iowa	8.6	3.9	California	100.0	52.4
Kentucky	11.0	(NA)	Colorado	18.8	(NA)
Louisiana	9.1	(NA)	Connecticut	12.5	6.5
Massachusetts	10.9	15.8	Florida	23.2	17.2
Michigan	75.2	63.2	Georgia	13.4	15.8
Minnesota	9.7	15.9	Idaho	3.2	(NA)
Missouri	133.2	94.3	Illinois	125.2	67.2
New Jersey	30.4	34.6	Indiana	51.3	45.1
New York	61.1	95.7	Iowa	10.1	(NA)
North Carolina	30.7	28.6	Kansas	23.5	4.8
Ohio	40.5	70.2	Kentucky	15.1	(NA)
Oregon	55.9	43.9	Louisiana	28.6	22.1
Pennsylvania	100.4	176.8			
Tennessee	92.0	76.0			
Texas	151.1	142.6			
Virginia	5.8	19.8			
Washington	46.7	35.1			
Wisconsin	65.5	(D)			

See footnotes at end of table.

34C-30 FABRICATED STRUCTURAL METAL PRODUCTS

MANUFACTURES—INDUSTRY SERIES

Table 6b. Product Classes—Value of Shipments by All Producers for Specified States: 1992 and 1987—Con.

[Million dollars. Product classes shown are those where the data are geographically dispersed, provided dispersion is not approximated by data in table 2. Also, product classes are not shown if they are miscellaneous or "not specified by kind" classes. Statistics for some States are withheld because they are either less than \$2 million in product class shipments or they disclose data for individual companies in 1992. For meaning of abbreviations and symbols, see introductory text]

Product class and geographic area	1992 value of product shipments	1987 value of product shipments	Product class and geographic area	1992 value of product shipments	1987 value of product shipments
34432, FABRICATED STEEL PLATE (STACKS AND WELDMENTS)—Con.			34438, METAL TANKS AND VESSELS, CUSTOM FABRICATED AT THE FACTORY		
Maine	4.8	(NA)	United States	1 079.3	656.9
Maryland	7.6	(NA)	Alabama	29.1	10.6
Massachusetts	38.1	30.6	California	82.8	64.2
Michigan	86.1	68.4	Florida	18.1	3.5
Minnesota	23.9	16.4	Georgia	10.6	7.4
Mississippi	27.1	8.1	Idaho	2.6	(NA)
Missouri	34.9	25.3	Illinois	24.5	16.2
New Jersey	39.3	14.2	Indiana	53.7	5.8
New Mexico	4.0	(NA)	Kansas	28.8	19.8
New York	36.9	35.8	Kentucky	13.2	(NA)
North Carolina	33.3	13.2	Louisiana	71.7	24.5
Ohio	173.7	117.4	Michigan	6.8	(NA)
Oklahoma	100.9	(NA)	Minnesota	35.6	(NA)
Oregon	14.8	10.5	Mississippi	28.3	(NA)
Pennsylvania	150.6	140.9	Missouri	63.5	(NA)
Rhode Island	2.1	(NA)	New Jersey	20.3	12.1
South Carolina	9.2	(NA)	New York	46.6	(NA)
Tennessee	29.1	30.6	North Carolina	12.3	17.0
Texas	77.9	67.8	Ohio	16.2	40.9
Utah	18.4	25.1	Oklahoma	19.0	7.8
Virginia	7.2	4.6	Oregon	6.9	(NA)
Washington	17.9	12.5	Pennsylvania	80.2	54.9
West Virginia	6.7	12.5	South Carolina	8.3	11.9
Wisconsin	106.1	49.8	Tennessee	47.0	10.2
			Texas	218.2	71.1
34433, STEEL POWER BOILERS, PARTS, AND ATTACHMENTS (STATIONARY AND MARINE BUT EXCLUDING NUCLEAR APPLICATIONS)			Washington	17.6	6.6
United States	793.1	654.8	West Virginia	4.6	(NA)
California	30.3	(NA)	Wisconsin	36.9	35.9
New York	30.9	14.8			
Oklahoma	20.3	(NA)	34439, METAL TANKS AND VESSELS, CUSTOM FABRICATED AND FIELD ERECTED		
Pennsylvania	168.5	138.2	United States	757.7	305.2
Texas	103.9	(NA)	Alabama	39.4	(NA)
			California	54.9	16.9
34434, GAS CYLINDERS			Georgia	61.8	(NA)
United States	355.5	237.6	Indiana	13.8	(NA)
California	30.3	(NA)	Kentucky	53.1	(NA)
New York	30.9	14.8	Louisiana	14.7	12.2
Oklahoma	20.3	(NA)	Missouri	8.8	(NA)
Pennsylvania	168.5	138.2	New York	4.6	4.0
Texas	103.9	(NA)	Oklahoma	12.6	3.5
			Pennsylvania	60.7	33.3
34435, METAL TANKS, COMPLETE AT FACTORY (STANDARD LINE PRESSURE)			Texas	89.3	27.3
United States	488.9	466.6	Wisconsin	5.7	(NA)
California	20.1	38.2			
Georgia	27.2	43.9	34441, AIR-CONDITIONING DUCTS AND STOVE PIPE		
Indiana	34.8	54.6	United States	1 024.2	786.0
North Carolina	17.9	10.9	Alabama	12.5	7.1
Oklahoma	8.7	(NA)	California	78.8	68.2
Pennsylvania	10.5	8.7	Connecticut	3.8	(NA)
Texas	22.3	(NA)	Florida	88.8	35.6
Wisconsin	28.9	46.9	Georgia	23.3	13.9
			Illinois	23.2	34.8
34436, NUCLEAR REACTOR STEAM SUPPLY SYSTEMS			Indiana	53.7	44.2
United States	239.7	335.8	Iowa	5.4	(NA)
Pennsylvania	71.4	95.5	Kentucky	11.5	3.1
			Louisiana	6.4	3.3
34437, METAL TANKS, COMPLETE AT FACTORY (STANDARD LINE NONPRESSURE)			Maryland	14.0	10.7
United States	466.4	416.9	Massachusetts	33.8	35.5
Alabama	18.7	25.3	Michigan	10.3	24.8
California	40.9	17.4	Minnesota	53.3	40.6
Florida	11.9	16.2	Mississippi	46.0	21.4
Illinois	36.7	20.3	Missouri	31.9	8.0
Indiana	3.2	18.9	Nevada	3.0	(NA)
Iowa	2.6	(NA)	New Jersey	27.4	23.6
Kansas	51.2	23.7	New York	59.4	79.6
Louisiana	4.9	(NA)	North Carolina	11.9	19.0
Michigan	31.1	9.7	Ohio	70.8	34.2
Minnesota	25.3	23.3	Oklahoma	2.2	(NA)
Missouri	36.5	25.1	Oregon	5.5	6.9
New Jersey	9.7	(NA)	Pennsylvania	100.2	81.0
New York	12.3	11.4	South Carolina	9.8	9.0
North Carolina	3.5	6.9	Texas	74.5	65.3
Pennsylvania	15.5	38.4	Utah	14.0	(NA)
Tennessee	13.7	7.8	Virginia	22.6	29.5
Texas	15.1	25.1	Washington	15.7	10.8
Washington	3.4	9.0	Wisconsin	11.0	8.2
Wisconsin	24.7	30.7			

See footnotes at end of table.

Table 6b. Product Classes—Value of Shipments by All Producers for Specified States: 1992 and 1987—Con.

[Million dollars. Product classes shown are those where the data are geographically dispersed, provided dispersion is not approximated by data in table 2. Also, product classes are not shown if they are miscellaneous or "not specified by kind" classes. Statistics for some States are withheld because they are either less than \$2 million in product class shipments or they disclose data for individual companies in 1992. For meaning of abbreviations and symbols, see introductory text]

Product class and geographic area	1992 value of product shipments	1987 value of product shipments	Product class and geographic area	1992 value of product shipments	1987 value of product shipments
34442, CULVERTS, FLUMES, IRRIGATION PIPES, ETC.			34448, ELECTRONIC ENCLOSURES		
United States	328.0	266.6	United States	1 661.3	1 115.3
California	14.6	(NA)	Alabama	14.8	(NA)
Florida	23.0	25.7	Arizona	26.4	18.7
Georgia	17.8	(NA)	California	465.2	258.7
Kansas	17.2	(NA)	Colorado	36.5	18.6
Nebraska	15.5	(NA)	Connecticut	17.1	14.0
New York	12.9	28.3	Florida	45.5	23.1
North Carolina	14.8	(NA)	Georgia	16.9	5.4
Ohio	7.6	14.4	Illinois	99.3	42.5
Texas	18.5	10.4	Indiana	35.2	19.9
Wisconsin	2.9	2.5	Kentucky	3.3	(NA)
34443, BINS AND VATS			Maryland	15.6	17.3
United States	209.7	145.0	Massachusetts	126.5	130.7
Iowa	6.9	(NA)	Michigan	48.7	41.2
New Jersey	2.7	(NA)	Minnesota	75.5	76.4
Ohio	5.4	7.0	Missouri	12.6	5.0
Pennsylvania	2.0	(NA)	New Hampshire	17.9	24.0
Wisconsin	12.5	(NA)	New Jersey	81.0	96.0
34444, METAL ROOFING AND ROOF DRAINAGE EQUIPMENT			New York	101.9	53.0
United States	1 134.0	856.3	North Carolina	21.1	21.1
Alabama	22.9	26.3	Ohio	60.0	32.0
Arizona	3.8	2.1	Oklahoma	5.8	6.7
California	71.4	77.3	Oregon	18.6	15.0
Florida	72.0	36.3	Pennsylvania	77.7	56.4
Georgia	79.8	23.3	South Carolina	4.2	(NA)
Illinois	59.6	14.9	Texas	52.6	37.7
Kentucky	29.1	2.1	Virginia	8.4	4.3
Louisiana	4.3	(NA)	Washington	40.8	20.0
Michigan	12.0	12.1	Wisconsin	77.7	33.5
Missouri	29.4	(NA)	34449, OTHER SHEET METAL WORK		
New Jersey	17.3	38.9	United States	2 845.0	2 292.6
New York	23.2	10.6	Alabama	41.1	13.2
North Carolina	26.6	8.9	Arizona	54.4	31.7
Ohio	87.2	125.3	California	270.3	268.6
Oregon	13.8	3.4	Colorado	25.8	22.9
Pennsylvania	118.2	84.4	Connecticut	47.8	52.7
Tennessee	52.2	25.3	Florida	42.7	32.5
Texas	107.7	32.8	Georgia	58.5	89.2
Virginia	11.6	(NA)	Idaho	7.0	(NA)
Washington	43.9	(NA)	Illinois	208.8	131.8
34445, METAL FLOORING AND SIDING			Indiana	149.3	100.2
United States	840.7	920.4	Iowa	18.0	4.1
California	70.6	42.5	Kansas	55.2	31.7
Florida	6.2	31.2	Kentucky	43.0	35.1
Georgia	44.6	54.9	Louisiana	14.9	(NA)
Illinois	96.1	64.3	Maryland	19.4	10.1
Indiana	17.4	44.0	Massachusetts	86.3	59.1
Michigan	3.5	15.0	Michigan	143.7	158.3
New York	2.7	(NA)	Minnesota	84.8	48.5
Ohio	107.1	158.0	Mississippi	15.9	13.8
Oregon	9.8	(NA)	Missouri	44.5	20.9
Pennsylvania	69.9	124.6	Nebraska	4.9	3.3
Texas	46.2	49.7	New Hampshire	10.6	(NA)
34447, METAL AWNINGS, CANOPIES, CORNICES, AND SOFFITS			New Jersey	78.1	50.4
United States	493.2	550.1	New Mexico	2.8	6.4
Arizona	13.8	3.2	New York	193.4	92.8
California	35.4	65.1	North Carolina	68.7	56.4
Florida	32.8	33.9	Ohio	242.3	260.8
Illinois	71.8	80.3	Oklahoma	19.1	12.4
Indiana	10.3	20.9	Oregon	39.0	23.9
Maryland	4.2	4.9	Pennsylvania	167.3	121.5
Michigan	14.6	4.4	Rhode Island	2.6	2.8
Ohio	117.3	83.9	South Carolina	15.3	23.4
Oregon	9.7	(NA)	Tennessee	35.5	28.4
Pennsylvania	8.0	12.8	Texas	163.2	146.2
Tennessee	6.3	12.9	Utah	23.5	(NA)
Texas	33.6	34.4	Vermont	3.4	(NA)
Washington	5.8	(NA)	Virginia	20.7	14.4
Wisconsin	9.6	8.4	Washington	56.8	21.2
34461, GRILLES, REGISTERS, AND AIR DIFFUSERS			Wisconsin	151.0	152.3
			United States	321.5	280.8
			Florida	50.2	18.6
			New York	4.2	(NA)

See footnotes at end of table.

34C-32 FABRICATED STRUCTURAL METAL PRODUCTS

MANUFACTURES—INDUSTRY SERIES

Table 6b. Product Classes—Value of Shipments by All Producers for Specified States: 1992 and 1987—Con.

[Million dollars. Product classes shown are those where the data are geographically dispersed, provided dispersion is not approximated by data in table 2. Also, product classes are not shown if they are miscellaneous or "not specified by kind" classes. Statistics for some States are withheld because they are either less than \$2 million in product class shipments or they disclose data for individual companies in 1992. For meaning of abbreviations and symbols, see introductory text]

Product class and geographic area	1992 value of product shipments	1987 value of product shipments	Product class and geographic area	1992 value of product shipments	1987 value of product shipments
34462, STAIRS, RAILINGS, FENCES, AND GATES (OTHER THAN WIRE)			34465, OTHER ARCHITECTURAL AND ORNAMENTAL WORK—Con.		
United States	557.0	411.3	New Jersey	4.2	(NA)
Alabama	23.3	9.8	New York	60.3	45.5
Arizona	3.8	3.4	North Carolina	6.7	7.3
California	58.1	45.1	Ohio	42.4	30.3
Colorado	8.2	7.2	Pennsylvania	39.9	16.4
Connecticut	21.1	13.6	Texas	85.3	42.3
Florida	28.6	10.6	Wisconsin	4.4	6.7
Georgia	11.5	13.9	34481, PREFABRICATED METAL BUILDING SYSTEMS (EXCLUDING FARM SERVICE BUILDINGS, RESIDENTIAL BUILDINGS, AND PARTS)		
Idaho	2.3	(NA)	United States	1 694.7	1 806.7
Illinois	25.4	24.5	Alabama	98.5	97.3
Indiana	9.9	6.7	California	110.3	158.6
Iowa	5.2	2.9	Florida	51.9	22.6
Kansas	2.9	3.3	Georgia	64.8	94.5
Kentucky	4.4	(NA)	Michigan	17.9	(NA)
Louisiana	6.1	(NA)	Mississippi	70.7	68.5
Maryland	13.6	16.2	New York	26.9	(NA)
Massachusetts	17.8	12.2	North Carolina	122.3	142.8
Michigan	13.5	5.5	Ohio	55.6	143.1
Minnesota	14.8	7.2	Pennsylvania	42.8	60.7
Mississippi	8.2	(NA)	Texas	165.2	241.9
Missouri	12.1	14.7	34482, OTHER PREFABRICATED AND PORTABLE METAL BUILDINGS AND PARTS		
New Jersey	18.5	8.0	United States	717.8	647.0
New York	40.3	40.3	Alabama	6.3	10.2
North Carolina	14.7	7.5	California	45.8	27.6
Ohio	24.7	39.3	Colorado	3.8	(NA)
Oklahoma	4.6	3.4	Florida	31.0	37.5
Oregon	5.1	(NA)	Georgia	20.1	15.2
Pennsylvania	34.7	28.4	Illinois	68.6	76.3
South Carolina	2.6	2.7	Iowa	34.3	24.7
Tennessee	8.4	7.7	Kentucky	12.4	(NA)
Texas	31.0	14.1	Louisiana	11.2	(NA)
Utah	15.0	6.8	Michigan	18.1	7.5
Virginia	6.7	9.0	Minnesota	12.7	54.8
Washington	5.3	(NA)	Missouri	17.5	17.3
Wisconsin	15.7	7.7	Nebraska	19.5	35.3
34463, OPEN FLOORING, GRATING, AND STUDS			New York	44.4	59.4
United States	318.5	295.8	North Carolina	16.8	34.8
California	27.1	31.4	Ohio	22.2	8.3
Florida	3.9	13.9	Pennsylvania	72.4	64.7
Illinois	36.5	63.7	Tennessee	3.0	(NA)
Louisiana	2.2	(NA)	Texas	38.0	36.5
Massachusetts	2.1	(NA)	Wisconsin	52.2	6.2
Missouri	3.5	(NA)	34494, FABRICATED BAR JOISTS AND CONCRETE REINFORCING BARS		
New York	7.7	(NA)	United States	997.0	1 142.3
Ohio	32.9	14.6	Alabama	45.3	(NA)
Oregon	2.2	(NA)	Alaska	2.7	(NA)
Pennsylvania	24.4	14.3	Arizona	24.9	22.8
Texas	34.7	(NA)	California	39.6	19.9
34464, SCAFFOLDING; SHORING AND FORMING FOR CONCRETE WORK			Georgia	16.1	21.9
United States	236.9	255.7	Illinois	12.8	32.9
California	9.1	27.2	Kansas	12.1	(NA)
Michigan	2.8	3.1	Maryland	24.1	32.1
Missouri	12.7	6.9	Missouri	17.2	(NA)
Nebraska	3.7	(NA)	Ohio	27.9	39.9
New York	2.6	(NA)	Pennsylvania	120.6	101.1
Ohio	33.3	10.7	South Carolina	60.9	84.0
Pennsylvania	24.2	19.1	Texas	110.8	160.1
Washington	13.5	(NA)	Utah	48.5	32.5
Wisconsin	5.8	12.8	Virginia	47.8	48.1
34465, OTHER ARCHITECTURAL AND ORNAMENTAL WORK			Washington	21.1	16.7
United States	650.2	545.7	Wisconsin	5.5	(NA)
Alabama	32.2	41.6	34496, METAL PLASTER BASES		
Arizona	13.6	4.8	United States	68.2	81.7
California	66.9	44.4	California	23.9	35.4
Connecticut	13.6	5.8	Florida	9.5	(NA)
Florida	2.1	50.7	34497, CURTAIN WALL		
Georgia	27.2	22.4	United States	226.4	284.2
Illinois	72.6	21.8	California	31.5	30.9
Indiana	6.4	(NA)	Georgia	17.6	26.4
Kentucky	19.9	(NA)	Illinois	4.9	(NA)
Louisiana	18.4	13.1	Ohio	37.1	(NA)
Maryland	48.7	51.2	Texas	25.8	24.3
Massachusetts	11.7	6.9			
Michigan	19.4	3.2			
Minnesota	9.8	12.2			
Missouri	3.0	7.8			

See footnotes at end of table.

Table 6b. Product Classes—Value of Shipments by All Producers for Specified States: 1992 and 1987—Con.

[Million dollars. Product classes shown are those where the data are geographically dispersed, provided dispersion is not approximated by data in table 2. Also, product classes are not shown if they are miscellaneous or "not specified by kind" classes. Statistics for some States are withheld because they are either less than \$2 million in product class shipments or they disclose data for individual companies in 1992. For meaning of abbreviations and symbols, see introductory text]

Product class and geographic area	1992 value of product shipments	1987 value of product shipments	Product class and geographic area	1992 value of product shipments	1987 value of product shipments
34498, CUSTOM ROLL FORM PRODUCTS			34498, CUSTOM ROLL FORM PRODUCTS—Con.		
United States	1 567.5	1 145.5	Minnesota	10.7	7.8
Alabama	30.1	92.6	New Jersey	58.7	23.7
Arizona	3.3	(NA)	New York	67.9	52.8
California	117.6	76.0	North Carolina	13.8	14.3
Colorado	7.1	5.0	Ohio	164.3	124.2
Connecticut	9.9	(NA)	Oklahoma	9.8	(NA)
Florida	123.3	94.8	Oregon	13.5	(NA)
Georgia	77.6	55.2	Pennsylvania	125.8	83.6
Illinois	92.9	146.7	Rhode Island	9.0	(NA)
Indiana	79.0	31.5	Tennessee	10.2	12.2
Kentucky	43.7	25.8	Texas	195.1	59.2
Louisiana	4.6	(NA)	Virginia	12.0	6.5
Michigan	43.7	18.5	Washington	20.8	7.6
			Wisconsin	26.8	9.5

Note: For qualifications of data, see footnotes on table 6a.

Table 6c. Historical Statistics for Product Classes—Value Shipped by All Producers: 1992 and Earlier Years

[Million dollars. For meaning of abbreviations and symbols, see introductory text]

Product code	Product class	1992	1991 ¹	1990 ¹	1989 ¹	1988 ¹	1987	1982	1977
3441-	Fabricated structural metal	8 061.3	8 579.5	9 072.1	8 668.4	8 050.3	7 746.0	7 956.3	4 860.9
34411	Fabricated structural metal for buildings	4 261.4	4 222.1	4 797.6	4 840.7	4 453.6	4 259.6	4 588.0	2 578.5
34412	Fabricated structural metal for bridges	503.0	609.0	660.9	550.1	578.8	550.9	422.8	280.2
34413	Other fabricated structural metal	2 020.2	2 168.8	2 036.8	1 929.9	1 782.8	1 702.0	2 153.6	1 474.1
34410	Fabricated structural metal, n.s.k.	1 276.7	1 579.6	1 576.8	1 347.7	1 235.1	1 233.5	792.0	528.0
3442-	Metal doors, sash, and trim	6 412.3	5 974.7	6 473.8	6 785.5	6 154.6	5 986.0	4 349.8	2 974.1
34421	Metal doors and frames (except storm doors)	3 048.4	2 393.2	2 551.5	2 699.1	2 577.8	2 498.5	1 668.6	1 089.3
34422	Metal window sash and frames (except storm sash)	1 549.2	1 507.5	1 685.0	1 767.8	1 576.9	1 540.5	1 279.6	801.9
34423	Metal molding and trim and store fronts	311.4	385.2	388.2	461.2	409.0	364.5	285.6	191.1
34424	Metal combination screen, storm sash, and storm doors	390.6	503.0	523.4	518.2	396.2	412.9	565.6	401.7
34425	Metal window and door screens, (except combination) and metal weather strip	254.4	302.7	306.3	301.0	198.6	227.2	168.6	152.4
34420	Metal doors, sash, and trim, n.s.k.	858.3	883.2	1 019.4	1 038.3	996.2	942.3	381.8	337.7
3443-	Fabricated plate work (boiler shops)	8 491.8	7 874.2	8 065.3	7 643.2	7 210.8	6 202.6	8 094.5	6 641.2
34431	Heat exchangers and steam condensers (except for nuclear applications)	1 626.9	1 349.4	1 298.1	1 259.2	1 084.2	916.6	1 220.5	900.5
34432	Fabricated steel plate (stacks and weldments)	1 573.6	1 300.7	1 457.2	1 377.4	1 223.0	1 031.3	1 656.9	1 095.5
34433	Steel power boilers, parts, and attachments (stationary and marine but excluding nuclear applications)	793.1	872.4	835.0	884.9	783.0	654.8	963.1	960.3
34434	Gas cylinders	355.5	390.3	389.2	365.7	293.2	237.6	221.5	173.3
34435	Metal tanks, complete at factory (standard line pressure)	488.9	514.9	606.0	508.3	582.8	466.6	446.7	298.5
34436	Nuclear reactor steam supply systems	239.7	329.9	343.0	359.9	430.4	335.8	634.4	695.4
34437	Metal tanks, complete at factory (standard line nonpressure)	466.4	440.9	455.8	479.4	510.7	416.9	603.1	486.2
34438	Metal tanks and vessels, custom fabricated at the factory	1 079.3	1 036.3	1 024.5	906.0	813.6	656.9	1 164.2	770.6
34439	Metal tanks and vessels, custom fabricated and field erected	757.7	517.8	533.2	416.9	355.2	305.2	452.4	663.2
34430	Fabricated plate work (boiler shops), n.s.k.	1 110.6	1 121.5	1 123.4	1 085.4	1 134.6	1 180.9	731.6	597.7
3444-	Sheet metal work	10 650.6	9 198.3	9 397.4	9 122.7	9 659.7	9 009.2	6 572.6	4 607.5
34441	Air-conditioning ducts and stove pipe	1 024.2	787.9	792.6	826.7	859.8	786.0	(NA)	(NA)
34442	Culverts, flumes, irrigation pipes, etc.	328.0	367.5	371.7	362.2	457.9	286.6	396.3	371.2
34443	Bins and vats	209.7	151.9	148.2	96.1	74.5	145.0	(NA)	(NA)
34444	Metal roofing and roof drainage equipment	1 134.0	867.1	970.2	990.0	868.9	856.3	655.5	597.7
34445	Metal flooring and siding	840.7	938.7	996.3	999.4	911.2	920.4	950.7	775.8
34447	Metal awnings, canopies, cornices, and soffits	493.2	554.9	591.7	533.2	519.2	550.1	(NA)	(NA)
34448	Electronic enclosures	1 661.3	1 167.2	1 134.2	1 109.6	919.8	1 115.3	(NA)	(NA)
34449	Other sheet metal work	2 845.0	2 164.3	2 060.5	2 107.2	2 352.7	2 292.6	(NA)	(NA)
34440	Sheet metal work, n.s.k.	2 114.3	2 198.7	2 332.0	2 098.2	2 695.8	2 077.1	1 103.4	741.4
3446-	Architectural metal work	2 411.7	2 243.9	2 300.5	2 306.0	2 261.5	2 193.4	1 422.0	950.9
34461	Grilles, registers, and air diffusers	321.5	305.1	340.7	337.0	254.9	280.8	(NA)	(NA)
34462	Stairs, railings, fences, and gates (other than wire)	557.0	496.0	500.5	465.8	427.6	411.3	(NA)	(NA)
34463	Open flooring, grating, and studs	318.5	327.5	353.6	346.5	327.5	295.8	(NA)	(NA)
34464	Scaffolding, shoring and forming for concrete work	236.9	234.6	263.4	263.6	234.5	255.7	(NA)	(NA)
34465	Other architectural and ornamental work	650.2	570.1	542.0	521.2	589.2	545.7	(NA)	(NA)
34460	Architectural metal work, n.s.k.	327.4	310.6	300.3	371.8	427.7	404.0	(NA)	(NA)
3448-	Prefabricated metal buildings	2 637.6	2 778.1	2 920.7	3 013.6	2 881.3	2 825.0	2 215.1	1 656.0
34481	Prefabricated metal building systems (excluding farm service buildings, residential buildings, and parts)	1 694.7	1 750.6	1 828.1	1 968.7	1 928.6	1 806.7	1 385.6	912.2
34482	Other prefabricated and portable metal buildings and parts	717.8	497.2	570.4	629.8	589.8	647.0	709.8	630.2
34480	Prefabricated metal buildings, n.s.k.	225.2	530.3	522.3	415.1	362.9	371.2	119.8	113.6
3449-	Miscellaneous metal work	3 197.7	3 055.6	3 605.8	3 664.7	3 580.0	2 998.5	2 489.9	1 332.9
34494	Fabricated bar joists and concrete reinforcing bars	997.0	920.2	1 232.3	1 346.1	1 377.7	1 142.3	1 231.3	900.1
34496	Metal plaster bases	68.2	64.8	71.4	79.8	82.4	81.7	167.5	(NA)
34497	Curtain wall	226.4	188.5	225.4	260.9	319.3	284.2	395.0	(NA)
34498	Custom roll form products	1 567.5	1 512.3	1 672.1	1 651.3	1 401.3	1 145.5	599.2	359.2
34490	Miscellaneous metal work, n.s.k.	338.5	369.9	404.6	326.6	399.2	344.7	96.8	73.6

¹Figures are estimates derived from a representative sample of manufacturing establishments. Standard errors associated with estimates are published in annual survey of manufactures publications for this period.

Table 7. Materials Consumed by Kind: 1992 and 1987

[Includes cost of materials consumed or put into production by establishments classified only in this industry. For further explanation, see Cost of Materials in appendixes. For meaning of abbreviations and symbols, see introductory text]

Material code	Material	1992 delivered cost (million dollars)	1987 delivered cost (million dollars)
INDUSTRY 3441, FABRICATED STRUCTURAL METAL			
Materials, ingredients, containers, and supplies -----		3 562.9	3 850.7
Fabricated metal products (except castings and forgings):			
349008	Pipe -----	52.9] 71.5
349409	Valves and pipe fittings -----	2.1	
344309	Parts specially designed for steel power boilers, not elsewhere classified ..	(D)	
340066	All other fabricated metal products -----	214.0	
Castings (rough and semifinished):			
332001	Iron and steel -----	30.3] 8.0
336005	Aluminum and aluminum-base alloy -----	3.0	
336003	Other nonferrous -----	3.7	
346000	Forgings -----	5.3	2.4 (NA)
Shapes and forms (except castings, forgings, and fabricated metal products):			
Steel:			
331064	Bars and bar shapes, except concrete reinforcing bars -----	116.2	(NA)
331009	Concrete reinforcing bars -----	77.1	(NA)
331022	Sheet and strip -----	258.6	(NA)
331082	Plate -----	297.3	(NA)
Structural shapes (except sheet pilings):			
331040	Wide flange beams -----	574.0	(NA)
331052	All other structural shapes -----	272.8	(NA)
331039	All other shapes and forms (including sheet pilings) -----	163.2	(NA)
333002	Nonferrous refinery shapes -----	(D)	(NA)
Copper and copper-base alloy:			
335152	Pipe and tube -----	.6	3.1
335190	All other shapes and forms -----	2.4	1.6
Aluminum and aluminum-base alloy:			
335301	Sheet, plate, foil, and welded tubing -----	32.1	(NA)
335011	All other (except sheet, plate, foil, and welded tubing) -----	17.4	(NA)
335043	All other nonferrous shapes and forms -----	7.7	(NA)
285101	Paints, varnishes, lacquers, stains, shellacs, japans, enamels, and allied products -----	38.1	20.8
354800	Welding electrodes -----	24.0	12.4
970099	All other materials and components, parts, containers, and supplies -----	424.1	(NA)
971000	Materials, ingredients, containers, and supplies, n.s.k. ¹ -----	944.7	1 057.6
INDUSTRY 3442, METAL DOORS, SASH, AND TRIM			
Materials, ingredients, containers, and supplies -----		3 564.7	3 185.4
Fabricated metal products (except castings and forgings):			
342940	Builders' hardware (including door locks, locksets, lock trim, miscellaneous sash, screen hardware, etc.) -----	207.5	154.6
345001	Bolts, nuts, screws, rivets, and screw machine products -----	41.7	50.8
340069	All other fabricated metal products -----	117.9	(NA)
Castings (rough and semifinished):			
332001	Iron and steel -----	9.6	34.3
336010	Nonferrous (aluminum, copper, etc.) -----	21.7	22.4
346000	Forgings -----		(NA)
Shapes and forms (except castings, forgings, and fabricated metal products):			
Steel:			
331007	Bars, bar shapes, and plates -----	15.1	(NA)
331022	Sheet and strip -----	319.5	(NA)
331071	Structural shapes -----	55.0	(NA)
331027	Wire and wire products -----	13.7	(NA)
331088	All other steel shapes and forms -----	112.6	(NA)
335105	Copper and copper-base alloy -----	.6	2.0
Aluminum and aluminum-base alloy:			
335301	Sheet, plate, foil, and welded tubing -----	168.9	(NA)
335405	Extruded shapes, including extruded rod, bar, pipe, tube, etc. -----	600.2	597.4
330008	All other aluminum and aluminum-base alloy shapes and forms, including refinery shapes -----	186.3	(NA)
335099	All other nonferrous shapes and forms (excluding home scrap) -----	41.1	(NA)
190020	Aluminum and aluminum-base alloy scrap (excluding home scrap) -----	88.2	10.3
308007	Plastics products consumed in the form of sheets, rods, tubes, and other shapes -----	109.3	60.0
321101	Flat glass (plate, float, and sheet) -----	291.1	263.3
970099	All other materials and components, parts, containers, and supplies -----	745.4	(NA)
971000	Materials, ingredients, containers, and supplies, n.s.k. ¹ -----	419.0	640.5
INDUSTRY 3443, FABRICATED PLATE WORK (BOILER SHOPS)			
Materials, ingredients, containers, and supplies -----		3 667.3	2 841.8
Fabricated metal products (except castings and forgings):			
349008	Pipe -----	97.0] 66.9
349409	Valves and pipe fittings -----	106.4	
344309	Parts specially designed for steel power boilers, not elsewhere classified ..	61.9	
340066	All other fabricated metal products -----	307.2	
Castings (rough and semifinished):			
332001	Iron and steel -----	93.2	50.4
336005	Aluminum and aluminum-base alloy -----	17.3	12.3
336003	Other nonferrous -----	10.9	4.2
346000	Forgings -----	38.8	(NA)

See footnotes at end of table.

Table 7. Materials Consumed by Kind: 1992 and 1987—Con.

[Includes cost of materials consumed or put into production by establishments classified only in this industry. For further explanation, see Cost of Materials in appendixes. For meaning of abbreviations and symbols, see introductory text]

Material code	Material	1992 delivered cost (million dollars)	1987 delivered cost (million dollars)
INDUSTRY 3443, FABRICATED PLATE WORK (BOILER SHOPS)—Con.			
Shapes and forms (except castings, forgings, and fabricated metal products):			
Steel:			
331064	Bars and bar shapes, except concrete reinforcing bars -----		(NA)
331009	Concrete reinforcing bars -----	86.4	(NA)
331022	Sheet and strip -----	350.5	(NA)
331082	Plate -----	455.7	(NA)
Structural shapes (except sheet piling):			
331040	Wide flange beams -----	30.4	(NA)
331052	All other structural shapes -----	41.8	(NA)
331039	All other shapes and forms (including sheet piling) -----	127.6	(NA)
333002	Nonferrous refinery shapes -----	8.0	(NA)
Copper and copper-base alloy:			
335152	Pipe and tube -----	30.4	28.5
335190	All other shapes and forms -----	16.6	10.3
Aluminum and aluminum-base alloy:			
335301	Sheet, plate, foil, and welded tubing -----	59.8	(NA)
335011	All other (except sheet, plate, foil, and welded tubing) -----	48.0	(NA)
335043	All other nonferrous shapes and forms -----	41.0	(NA)
285101	Paints, varnishes, lacquers, stains, shellacs, japans, enamels, and allied products -----	43.0	21.5
354800	Welding electrodes -----	49.2	26.4
970099	All other materials and components, parts, containers, and supplies -----	695.1	(NA)
971000	Materials, ingredients, containers, and supplies, n.s.k. ¹ -----	851.3	1 015.6
INDUSTRY 3444, SHEET METAL WORK			
Materials, ingredients, containers, and supplies -----		4 930.3	4 202.9
Fabricated metal products (except castings and forgings):			
345001	Bolts, nuts, screws, washers, rivets, and screw machine products -----	86.5	46.5
340098	All other fabricated metal products -----	346.0	(NA)
Castings (rough and semifinished):			
332001	Iron and steel -----	30.2	6.7
336010	Nonferrous (aluminum, copper, etc.) -----	12.3	(NA)
346000	Forgings -----	1.2	(NA)
Shapes and forms (except castings, forgings, and fabricated metal products):			
Steel:			
331007	Bars, bar shapes, and plates -----	63.4	(NA)
331009	Concrete reinforcing bars -----		(NA)
331022	Sheet and strip -----	1 327.6	(NA)
331071	Structural shapes -----	72.5	(NA)
331037	All other steel shapes and forms -----	208.5	(NA)
335105	Copper and copper-base alloy -----	7.8	17.8
Aluminum and aluminum-base alloy:			
335301	Sheet, plate, foil, and welded tubing -----	657.6	(NA)
335405	Extruded shapes, including extruded rod, bar, pipe, tube, etc. -----	77.1	80.5
330008	All other aluminum and aluminum-base alloy shapes and forms, including refinery shapes -----	152.0	(NA)
335099	All other nonferrous shapes and forms -----	20.7	(NA)
190060	Scrap, including iron, steel, aluminum, and aluminum-base alloy (excluding home scrap) -----	19.5	11.1
321101	Flat glass (plate, float, and sheet) -----	17.4	22.1
265001	Paperboard containers, boxes, and corrugated paperboard -----	52.8	41.6
285101	Paints, varnishes, lacquers, stains, shellacs, japans, enamels, and allied products -----	78.6	83.5
970099	All other materials and components, parts, containers, and supplies -----	554.2	(NA)
971000	Materials, ingredients, containers, and supplies, n.s.k. ¹ -----	1 144.5	1 219.8
INDUSTRY 3446, ARCHITECTURAL METAL WORK			
Materials, ingredients, containers, and supplies -----		944.1	925.2
Fabricated metal products (except castings and forgings):			
345001	Bolts, nuts, screws, washers, rivets, and screw machine products -----	14.0	10.6
340098	Other fabricated metal products -----	27.8	(NA)
330091	Castings (rough and semifinished) -----	21.2	(NA)
346000	Forgings -----	1.7	(NA)
Shapes and forms (except castings, forgings, and fabricated metal products):			
Steel:			
331007	Bars, bar shapes, and plates -----	49.8	(NA)
331009	Concrete reinforcing bars -----	4.3	(NA)
331022	Sheet and strip -----	207.2	(NA)
331071	Structural shapes -----	38.2	(NA)
331037	All other steel shapes and forms -----	44.5	(NA)
335105	Copper and copper-base alloy -----	4.2	3.6
Aluminum and aluminum-base alloy:			
335301	Sheet, plate, foil, and welded tubing -----	27.1	(NA)
335405	Extruded shapes, including extruded rod, bar, pipe, tube, etc. -----	54.9	63.6
330008	All other aluminum and aluminum-base alloy shapes and forms, including refinery shapes -----	9.7	(NA)
335099	All other nonferrous shapes and forms -----	5.0	(NA)
190023	Iron and steel scrap, excluding home scrap -----	.6	1.7
285101	Paints, varnishes, lacquers, stains, shellacs, japans, enamels, and allied products -----	17.8	12.5
970099	All other materials and components, parts, containers, and supplies -----	133.5	(NA)
971000	Materials, ingredients, containers, and supplies, n.s.k. ¹ -----	282.9	337.2

See footnotes at end of table.

34C-36 FABRICATED STRUCTURAL METAL PRODUCTS

MANUFACTURES—INDUSTRY SERIES

Table 7. Materials Consumed by Kind: 1992 and 1987—Con.

[Includes cost of materials consumed or put into production by establishments classified only in this industry. For further explanation, see Cost of Materials in appendixes. For meaning of abbreviations and symbols, see introductory text]

Material code	Material	1992 delivered cost (million dollars)	1987 delivered cost (million dollars)
INDUSTRY 3448, PREFABRICATED METAL BUILDINGS			
Materials, ingredients, containers, and supplies -----		1 510.5	1 607.4
Fabricated metal products (except castings and forgings):			
345001	Bolts, nuts, screws, washers, rivets, and screw machine products -----	45.8	41.2
340098	Other fabricated metal products -----	58.5	(NA)
330091	Castings (rough and semifinished) -----	1.0	(NA)
346000	Forgings -----	(D)	(NA)
Shapes and forms (except castings, forgings, and fabricated metal products):			
Steel:			
331007	Bars, bar shapes, and plates -----	135.4	(NA)
331009	Concrete reinforcing bars -----	(D)	(NA)
331022	Sheet and strip -----	559.6	(NA)
331071	Structural shapes -----	51.7	(NA)
331037	All other steel shapes and forms -----	166.9	(NA)
335105	Copper and copper-base alloy -----	(D)	(NA)
Aluminum and aluminum-base alloy:			
335301	Sheet, plate, foil, and welded tubing -----	60.8	(NA)
335405	Extruded shapes, including extruded rod, bar, pipe, tube, etc. -----	24.3	37.4
330008	All other aluminum and aluminum-base alloy shapes and forms, including refinery shapes -----	26.3	(NA)
335099	All other nonferrous shapes and forms -----	2.2	(NA)
190023	Iron and steel scrap, excluding home scrap -----	(D)	(NA)
285101	Paints, varnishes, lacquers, stains, shellacs, japans, enamels, and allied products -----	18.1	38.8
970099	All other materials and components, parts, containers, and supplies -----	135.9	(NA)
971000	Materials, ingredients, containers, and supplies, n.s.k. ¹ -----	152.8	280.1
INDUSTRY 3449, MISCELLANEOUS METAL WORK			
Materials, ingredients, containers, and supplies -----		2 004.8	1 729.7
Fabricated metal products (except castings and forgings):			
345001	Bolts, nuts, screws, washers, rivets, and screw machine products -----	12.7	1.9
340098	Other fabricated metal products -----	43.1	(NA)
330091	Castings (rough and semifinished) -----	16.6	(NA)
346000	Forgings -----	(D)	(NA)
Shapes and forms (except castings, forgings, and fabricated metal products):			
Steel:			
331007	Bars, bar shapes, and plates -----	326.0	(NA)
331009	Concrete reinforcing bars -----	263.7	(NA)
331022	Sheet and strip -----	475.8	(NA)
331071	Structural shapes -----	68.4	(NA)
331037	All other steel shapes and forms -----	135.6	(NA)
335105	Copper and copper-base alloy -----	8.2	(D)
Aluminum and aluminum-base alloy:			
335301	Sheet, plate, foil, and welded tubing -----	72.6	(NA)
335405	Extruded shapes, including extruded rod, bar, pipe, tube, etc. -----	19.2	32.5
330008	All other aluminum and aluminum-base alloy shapes and forms, including refinery shapes -----	59.2	(NA)
335099	All other nonferrous shapes and forms -----	(D)	(NA)
190023	Iron and steel scrap, excluding home scrap -----	30.8	(D)
285101	Paints, varnishes, lacquers, stains, shellacs, japans, enamels, and allied products -----	22.5	11.5
970099	All other materials and components, parts, containers, and supplies -----	168.3	(NA)
971000	Materials, ingredients, containers, and supplies, n.s.k. ¹ -----	251.3	378.5

¹Total cost of materials of establishments that did not report detailed materials data, including establishments that were not mailed a form.

Appendix A.

Explanation of Terms

This appendix is in two sections. Section 1 includes items requested of all establishments mailed census of manufactures forms including annual survey of manufactures (ASM) forms. Note that this section also includes several items (number of establishments and companies, value added, classes of products, and specialization and coverage ratios) not included on the report forms but derived from information collected on the forms. Section 2 covers supplementary items requested only from establishments included in the ASM sample. Results of the supplementary ASM inquiries are included in table 3c of this report.

SECTION 1. ITEMS COLLECTED OR DERIVED BASED ON ALL CENSUS OF MANUFACTURES (INCLUDING ASM) REPORT FORMS

Number of establishments and companies. A separate report was required for each manufacturing establishment (plant) with one employee or more. An establishment is defined as a single physical location where manufacturing is performed. A company, on the other hand, is defined as a business organization consisting of one establishment or more under common ownership or control.

If the company operated at different physical locations, even if the individual locations were producing the same line of goods, a separate report was requested for each location. If the company operated in two or more distinct lines of manufacturing at the same location, a separate report was requested for each activity.

An establishment not in operation for any portion of the year was requested to return the report form with the proper notation in the "Operational Status" section of the form. In addition, the establishment was requested to report data on any employees, capital expenditures, inventories, or shipments from inventories during the year.

In this report, data are shown for establishments in operation at any time during the year. A comparison with the number of establishments in operation at the end of the year will be provided in the Introduction of the *General Summary* subject report.

Employment and related items. The report forms requested separate information on production workers for a specific payroll period within each quarter of the year and on other employees as of the payroll period which included the 12th of March.

All employees. This item includes all full-time and part-time employees on the payrolls of operating manufacturing establishments during any part of the pay period which included the 12th of the months specified on the report form. Included are all persons on paid sick leave,

paid holidays, and paid vacations during these pay periods. Officers of corporations are included as employees; proprietors and partners of unincorporated firms are excluded. The "all employees" number is the average number of production workers plus the number of other employees in mid-March. The number of production workers is the average for the payroll periods including the 12th of March, May, August, and November.

Production workers. This item includes workers (up through the line-supervisor level) engaged in fabricating, processing, assembling, inspecting, receiving, storing, handling, packing, warehousing, shipping (but not delivering), maintenance, repair, janitorial and guard services, product development, auxiliary production for plant's own use (e.g., power plant), recordkeeping, and other services closely associated with these production operations at the establishment covered by the report. Employees above the working-supervisor level are excluded from this item.

All other employees. This item covers nonproduction employees of the manufacturing establishment including those engaged in factory supervision above the line-supervisor level. It includes sales (including driver salespersons), sales delivery (highway truckdrivers and their helpers), advertising, credit, collection, installation and servicing of own products, clerical and routine office function, executive, purchasing, financing, legal, personnel (including cafeteria, medical, etc.), professional, and technical employees. Also included are employees on the payroll of the manufacturing establishment engaged in the construction of major additions or alterations to the plant and utilized as a separate work force.

In addition to reports sent to operating manufacturing establishments, information on employment during the payroll period which included March 12 and annual payrolls also was requested of auxiliary units (e.g., administrative offices, warehouses, and research and development

laboratories) of multiestablishment companies. However, these figures are not included in the totals for individual industries shown in this report. They are included in the *General Summary* and geographic area reports as a separate category.

Payroll. This item includes the gross earnings of all employees on the payrolls of operating manufacturing establishments paid in the calendar year 1992. Respondents were told they could follow the definition of payrolls used for calculating the Federal withholding tax. It includes all forms of compensation, such as salaries, wages, commissions, dismissal pay, bonuses, vacation and sick leave pay, and compensation in kind, prior to such deductions as employees' Social Security contributions, withholding taxes, group insurance, union dues, and savings bonds. The total includes salaries of officers of corporations; it excludes payments to proprietors or partners of unincorporated concerns. Also excluded are payments to members of Armed Forces and pensioners carried on the active payrolls of manufacturing establishments.

The census definition of payrolls is identical to that recommended to all Federal statistical agencies by the Office of Management and Budget. It should be noted that this definition does not include employers' Social Security contributions or other nonpayroll labor costs, such as employees' pension plans, group insurance premiums, and workers' compensation.

The ASM provides estimates of employers' supplemental labor costs, both those required by Federal and State laws and those incurred voluntarily or as part of collective bargaining agreements. (Supplemental labor costs are explained later in this appendix.)

As in the case of employment figures, the payrolls of separate auxiliary units of multiestablishment companies are not included in the totals for individual industries or industry groups.

Production-worker hours. This item covers hours worked or paid for at the plant, including actual overtime hours (not straight-time equivalent hours). It excludes hours paid for vacations, holidays, or sick leave.

Cost of materials. This term refers to direct charges actually paid or payable for items consumed or put into production during the year, including freight charges and other direct charges incurred by the establishment in acquiring these materials. It includes the cost of materials or fuel consumed, whether purchased by the individual establishment from other companies, transferred to it from other establishments of the same company, or withdrawn from inventory during the year.

The important components of this cost item are (1) all raw materials, semifinished goods, parts, containers, scrap, and supplies put into production or used as operating supplies and for repair and maintenance during the year, (2) electric energy purchased, (3) fuels consumed for heat, power, or the generation of electricity, (4) work done by

others on materials or parts furnished by manufacturing establishments (contract work), and (5) products bought and resold in the same condition. (See discussion of duplication of data below.)

Specific materials consumed. In addition to the total cost of materials, which every establishment was required to report, information also was collected for most manufacturing industries on the consumption of major materials used in manufacturing. The inquiries were restricted to those materials which were important parts of the cost of production in a particular industry and for which cost information was available from manufacturers' records. Information on the establishments consuming less than a specified amount (usually \$25,000) of a specific material were not requested to report consumption of that material separately. Also, the cost of materials for the small establishments for which either administrative records or short forms were used was imputed as "not specified by kind." (See Census of Manufactures for the importance of administrative records in the industry.)

Value of shipments. This item covers the received or receivable net selling values, f.o.b. plant (exclusive of freight and taxes), of all products shipped, both primary and secondary, as well as all miscellaneous receipts, such as receipts for contract work performed for others, installation and repair, sales of scrap, and sales of products bought and resold without further processing. Included are all items made by or for the establishments from materials owned by it, whether sold, transferred to other plants of the same company, or shipped on consignment. The net selling value of products made in one plant on a contract basis from materials owned by another was reported by the plant providing the materials.

In the case of multiunit companies, the manufacturer was requested to report the value of products transferred to other establishments of the same company at full economic or commercial value, including not only the direct cost of production but also a reasonable proportion of "all other costs" (including company overhead) and profit. (See discussion of duplication of data below.)

Individual products. As in previous censuses, data were collected for most industries on the quantity and value of individual products shipped. In the 1992 census program, information was collected on the output of almost 11,000 individual product items. The term "product," as used in the census of manufactures, represents the finest level of detail for which output information was requested. Consequently, it is not necessarily synonymous with the term "product" as used in the marketing sense. In some cases, it may be much more detailed and, in other cases, it is more aggregative. For example, "pharmaceutical preparations" was distributed into over 100 terms; whereas, "motor gasoline" was reported as a single item.

Approximately 6,300 of the product items were listed separately on the 1992 census report forms. Data for

about 4,500 products were obtained in the monthly, quarterly, or annual surveys comprising the Current Industrial Reports series of the Census Bureau. Totals for the year 1992 for these items, as derived from the commodity surveys, are shown in the "products shipped" table.

The list of products for which separate information was collected was prepared after consultation with industry and government representatives. Comparability with previous figures was given considerable weight in the selection of product categories so that comparable 1987 information is presented for most products.

Typically, both quantity and value of shipments information were collected. However, if quantity was not significant or could not be reported by manufacturers, only value of shipments was collected.

Shipments include both commercial shipments and transfers of products to other plants of the same company. For industries in which a considerable portion of the total shipments is transferred to other plants of the same company, separate information on interplant transfers also was collected. Moreover, for products that are used to a large degree within the same establishment as materials or components in the fabrication of other products, total production and often consumption of the item within the plant was collected. Typically, the information on production also was collected for products for which there are significant differences between total production and shipments in a given year because of wide fluctuations in finished goods inventories. Other measures of output of products with long production cycles were used as appropriate and feasible.

Classes of products. To summarize the product information, the separate products were aggregated into classes of products that, in turn, were grouped into all primary products of each industry. The code structure used is a seven-digit number for the individual product, a five-digit number for the class of product, and a four-digit number for the total primary products in an industry. (See Census of Manufactures, Industry Classification of Establishments, for application of the coding structure to the assignment of SIC codes for establishments.)

In the 1992 census, the 11,000 products were grouped into approximately 1,500 separate classes on the basis of general similarity of manufacturing processes, types of materials used, etc. However, the grouping of products was affected by the economic significance of the class and, in some cases, dissimilar products were grouped because the products were not sufficiently significant to warrant separate classes.

Duplication in cost of materials and value of shipments. The aggregate of the cost of materials and value of shipments figures for industry groups and for all manufacturing industries includes large amounts of duplication since the products of some industries are used as materials by others. This duplication results, in part, from the addition of related industries representing successive stages

in the production of a finished manufactured product. Examples are the addition of flour mills to bakeries in the food group and the addition of pulp mills to paper mills in the paper and allied products group of industries. Estimates of the overall extent of this duplication indicate that the value of manufactured products exclusive of such duplication (the value of finished manufactures) tends to approximate two-thirds of the total value of products reported in the annual survey.

Duplication of products within individual industries is significant within a number of industry groups, e.g., machinery and transportation industries. These industries frequently include complete machinery and their parts. In this case, the parts made for original equipment are materials consumed for assembly plants in the same industry.

Even when no significant amount of duplication is involved, value of shipments figures are deficient as measures of the relative economic importance of individual manufacturing industries or geographic areas because of the wide variation in ratio of materials, labor, and other processing costs of value of shipments, both among industries and within the same industry.

Before 1962, cost of materials and value of shipments were not published for some industries which included considerable duplication. Since then, these data have been published for all industries at the U.S. level and beginning in 1964, for all geographic levels.

Value added by manufacture. This measure of manufacturing activity is derived by subtracting the cost of materials, supplies, containers, fuel, purchased electricity, and contract work from the value of shipments (products manufactured plus receipts for services rendered). The result of this calculation is adjusted by the addition of value added by merchandising operations (i.e., the difference between the sales value and the cost of merchandise sold without further manufacture, processing, or assembly) plus the net change in finished goods and work-in-process between the beginning- and end-of-year inventories.

For those industries where value of production is collected instead of value of shipments (see footnote in table 1a), value added is adjusted only for the change in work-in-process inventories between the beginning and end of year. For those industries where value of work done is collected, the value added does not include an adjustment for the change in finished goods or work-in-process inventories.

"Value added" avoids the duplication in the figure for value of shipments that results from the use of products of some establishments as materials by others. Value added is considered to be the best value measure available for comparing the relative economic importance of manufacturing among industries and geographic areas.

New and used capital expenditures. For establishments in operation and any known plants under construction, manufacturers were asked to report their new expenditures for (1) permanent additions and major alterations to

manufacturing establishments, and (2) machinery and equipment used for replacement and additions to plant capacity if they were of the type for which depreciation accounts were ordinarily maintained.

The totals for new expenditures include expenditures leased from nonmanufacturing concerns through capital leases. New facilities owned by the Federal Government but operated under contract by private companies, and plant and equipment furnished to the manufacturer by communities and nonprofit organizations are excluded. Also excluded are expenditures for used plant and equipment (although reported in the census), expenditures for land, and cost of maintenance and repairs charged as current operating expenses.

Manufacturers also were requested to report the value of all used buildings and equipment purchased during the year at the purchase price. For any equipment or structure transferred for the use of the reporting establishment by the parent company or one of its subsidiaries, the value at which it was transferred to the establishment was to be reported. Furthermore, if the establishment changed ownership during the year, the cost of the fixed assets (building and equipment) was to be reported under used capital expenditures.

Total expenditures for used plant and equipment is a universe figure; it is collected on all census forms. However, the breakdown of this figure between expenditures for used buildings and other structures and expenditures for used machinery and equipment is collected only on the ASM form. The data for total new capital expenditures, new building expenditures, and new machinery expenditures, as well as the data for total used expenditures, are shown in table 3b.

End-of-year inventories. Respondents were asked to report their 1991 and 1992 end-of-year inventories at cost or market. Effective with the 1982 Economic Census, this change to a uniform instruction for reporting inventories was introduced for all sector reports. Prior to 1982, respondents were permitted to value inventories using any generally accepted accounting method (FIFO, LIFO, market, to name a few). In 1982, LIFO users were asked to first report inventory values prior to the LIFO adjustment and then to report the LIFO reserve and the LIFO value after adjustment for the reserve.

SECTION 2. ITEMS COLLECTED ONLY ON ASM REPORT FORMS

The following items were collected only from establishments included in the ASM sample:

Supplemental labor costs. Supplemental labor costs are divided into legally required expenditures and payments for voluntary programs. The legally required portion consists primarily of Federal old age and survivors' insurance, unemployment compensation, and workers' compensation. Payments for voluntary programs include all programs not specifically required by legislation whether they

Because of this change in reporting instructions, the 1982 through 1992 data for inventories and value added by manufacture included in the tables of this report are not comparable to the prior-year data shown in table 1a of this report and in historical census of manufactures and annual survey of manufactures publications.

In using inventory data by stage of fabrication for "all industries" and at the two-digit industry level, it should be noted that an item treated as a finished product by an establishment in one industry may be reported as a raw material by another establishment in a different industry. For example, the finished-product inventories of a steel mill would be reported as raw materials by a stamping plant. Such differences are present in the inventory figures by stage of fabrication shown for individual industries, industry groups, and "all manufacturing", which are aggregates of figures reported by establishments in specified industries.

Specialization and coverage ratios. These items are not collected on the report forms but are derived from the data shown in table 5b. An establishment is classified in a particular industry if its shipments of primary products of that industry exceed in value its shipments of the products of any other single industry.

An establishment's shipments include those products assigned to an industry (primary products), those considered primary to other industries (secondary products), and receipts for miscellaneous activities (merchandising, contract work, resales, etc.). Specialization and coverage ratios have been developed to measure the relationship of primary product shipments to the data on shipments for the industry shown in tables 1a through 5a and data on product shipments shown in tables 6a through 6c.

Specialization ratio represents the ratio of primary product shipments to total product shipments (primary and secondary, excluding miscellaneous receipts) for the establishments classified in the industry.

Coverage ratio represents the ratio of primary products shipped by the establishments classified in the industry to the total shipments of such products that are shipped by all manufacturing establishments wherever classified.

were employer initiated or the result of collective bargaining. They include the employer portion of such plans as insurance premiums, premiums for supplemental accident and sickness insurance, pension plans, supplemental unemployment compensation, welfare plans, stock purchase plans on which the employer payment is not subject to withholding tax, and deferred profit-sharing plans. They exclude such items as company-operated cafeterias, in-plant medical services, free parking lots, discounts on employee purchases, and uniforms and work clothing for employees.

While the excluded items do benefit employees and all or part of their cost generally is similar to the items covered in the ASM labor costs statistics, accounting records generally do not provide reliable figures on net employee benefits of these types.

Retirements of depreciable assets. Included in this item is the gross value of assets sold, retired, scrapped, destroyed, etc., during 1992. When a complete operation or establishment changed ownership, the respondent was instructed to report the value of the assets sold at the original cost as recorded in the books of the seller. The respondent also was requested to report retirements of equipment or structures owned by a parent company that the establishment was using as if it were a tenant.

Depreciation charges for fixed assets. This item includes depreciation and amortization charged during the year against assets. Depreciation charged against fixed assets acquired since the beginning of the year and against assets sold or retired during the year are components of this category. Respondents were requested to make certain that they did not report accumulated depreciation.

Rental payments. Total rental payments is collected on all census forms. However, the breakdown between rental payments for buildings and other structures and rental payments for machinery and equipment is collected only on the ASM forms. This item includes rental payments for the use of all items for which depreciation reserves would be maintained if they were owned by the establishment, e.g., structures and buildings, and production, office, and transportation equipment. Excluded are royalties and other payments for the use of intangibles and depletable assets, and land rents where separable.

When an establishment of a multiestablishment company was charged rent by another part of the same company for the use of assets owned by the company, it was instructed to exclude that cost from rental payments. However, the book value (original cost) of these company-owned assets was to be reported as assets of the establishment at the end of the year.

If there were assets at an establishment rented from another company and the rents were paid centrally by the head office of the establishment, the company was instructed to report these rental payments as if they were paid directly by the establishment.

Depreciable assets. Total value of gross depreciable assets is collected on all census forms. However, the detail for depreciable assets is collected only on the ASM forms. The data encompass all fixed depreciable assets on the books of establishments at the beginning and end of the year. The values shown (book value) represent the actual cost of assets at the time they were acquired, including all costs incurred in making the assets usable (such as transportation and installation). Included are all

buildings, structures, machinery, and equipment (production, office, and transportation equipment) for which depreciation reserves are maintained. Excluded are nondepreciable capital assets, including inventories and intangible assets, such as timber and mineral rights.

The definition of fixed depreciable assets is consistent with the definition of capital expenditures. For example, expenditures include actual capital outlays during the year, rather than the final value of equipment put in place and buildings completed during the year. Accordingly, the value of assets at the end of the year includes the value of construction in progress. In addition, respondents were requested to make certain that assets at the beginning of the year plus new and used capital expenditures, less retirements, equalled assets at the end of the year.

New and used capital expenditures. The data for total new capital expenditures, new building expenditures, new machinery expenditures, and total used capital expenditures are collected on all census forms. However, the breakdown between expenditures for used buildings and other structures and expenditures for used machinery and equipment is collected only on the ASM form. (See further explanation on capital expenditures in section 1.)

Quantity of electric energy consumed for heat and power. Data on the cost of purchased electric energy are collected on all census forms. However, data on the quantity of purchased electric energy are collected only on the ASM forms. In addition, information is collected on the quantity of electric energy generated by the establishment and the quantity of electric energy sold or transferred to other plants of the same company.

Breakdown of new capital expenditures for machinery and equipment. ASM establishments were requested to separate their capital expenditures for new machinery and equipment into (1) automobiles, trucks, etc., for highway use, (2) computers and peripheral data processing equipment, and (3) all other.

The category "automobiles, trucks, etc., for highway use" is intended to measure expenditures for vehicles designed for highway use that were acquired through a purchase or lease-purchase agreement. Vehicles normally operating off public highways (vehicles specifically designed to transport materials, property, or equipment on mining, construction, logging, and petroleum development projects) are excluded from this item.

Foreign content of cost of materials. Establishments included in the ASM sample panel were requested to provide information on foreign-made materials purchased or transferred from foreign sources. This includes materials acquired from a central warehouse or other domestic establishment of the same company but made in an operation outside of the 50 States, District of Columbia, Puerto Rico, or U.S. territories.

Cost of purchased services. ASM establishments were requested to provide information on the cost of purchased services for the repair of buildings and other structures, the repair of machinery, communication services, legal services, accounting and bookkeeping services, advertising, software and other data processing services, and refuse removal. Each of these items reflect the costs paid directly by the establishment, and exclude salaries paid to employees of the establishment for these services.

Included in the cost of purchased services for the repair of buildings and machinery are payments made for all maintenance and repair work on buildings and equipment, such as painting, roof repairs, replacing parts, and overhauling equipment. Such payments made to other establishments of the same company and for repair and maintenance of any leased property also are included. Extensive repairs or reconstruction that were capitalized are considered capital expenditures for used buildings and machinery and are, therefore, excluded from this item. Repair and maintenance costs provided by an owner as part of a rental contract or incurred directly by an establishment in using its own work force also are excluded.

Included in the cost of purchased advertising services are payments for printing, media coverage, and other advertising services and materials.

Included in the cost of purchased software and other data processing services are all purchases by the establishment from other companies. Excluded are services provided by other establishments of the same company (such as by a separate data processing unit).

Included in the cost of purchased refuse removal services are all costs of refuse removal services paid by the establishment, including costs for hazardous waste removal or treatment. Excluded are all costs included in rental payments or as capital expenditures.

Three basic approaches were utilized to produce these statistics.

1. For items 1 through 6, data were estimated (imputed) for all non-ASM establishments using the available data in the establishment record and industry-based parameters. The statistics were then generated by simply tabulating all census records including the imputed value for non-ASM establishments and the unweighted value for ASM establishments. Separate imputation rates were developed and are shown in the table. For quantity of purchased electricity for heat and power (item 7), a similar procedure was used; however, the imputation parameters were geographically-based instead of industry-based. For quantities of generated less sold electricity, no imputation was performed for non-ASM establishments. The estimates for these items are simply tabulations of unweighted ASM values.

Since the published statistics for these items were developed from the complete census universe and not just the ASM establishments, there are no sampling variances associated with these statistics. However, there is an unknown level of bias for each of the items due to the imputation of the non-ASM establishments. This bias is felt to be small due to the strong correlation between the items being imputed and the collected items that were used to generate the impute values.

2. For items 8 and 9, the estimates were developed using a ratio estimation methodology. For item 8, an estimate of the breakout of new capital expenditures for machinery and equipment into the three categories was made from ASM establishments reporting these categories. The estimated proportions were then applied to the corresponding census value for new capital expenditures for machinery and equipment to produce the estimates.

The estimates for item 9, foreign content of cost of materials, were developed in a similar manner based on costs of parts, supplies, and components (item 5a) as the control total for the three categories.

For items 8 and 9, an adjustment ratio of the following form was computed:

$$R_j = \frac{NMc}{TMEasm}$$

where:

NMc = the census value of new capital expenditures for machinery and equipment

TMEasm = the weighted ASM value of new capital expenditures for machinery and equipment from reporters of the detailed breakout data

3. For item 10, cost of purchased services, the estimates were made by simply tabulating weighted data for all the ASM records that reported the item. A response coverage ratio (a measure of the extent to which respondents reported for each item) is shown in table 3c for the types of services. It is derived for each item by calculating the ratio of the weighted employment (establishment data multiplied by sample weight, see appendix B) for those ASM establishments that reported the specific inquiry to the weighted total employment for all ASM establishments classified in the industry.

Appendix B.

Annual Survey of Manufactures Sampling and Estimating Methodologies

DESCRIPTION OF SURVEY SAMPLE

The annual survey of manufactures (ASM) contains two components. The mail portion of the survey is a probability sample of about 64,000 manufacturing establishments selected from a total of about 216,000 establishments. These 216,000 establishments represent all manufacturing establishments of multiunit companies and all single-establishment companies mailed schedules in the 1987 Census of Manufactures. This mail portion is supplemented annually by a Social Security Administration list of new manufacturing establishments opened after 1987 and a list of new multiunit manufacturing establishments identified from the Census Bureau's Company Organization Survey.

For the current panel, all establishments of companies with 1987 shipments in manufacturing in excess of \$500 million were included in the survey panel with certainty. There are approximately 500 such companies collectively accounting for approximately 18,000 establishments. For the remaining portion of the mail survey, the establishment was defined as the sampling unit. For this portion, all establishments with 250 employees or more and establishments with a very large value of shipments also were included in the survey panel with certainty. A total of 12,100 establishments were selected from this portion of the universe with certainty. Therefore, of the 64,000 manufacturing establishments included in the ASM panel, approximately 31,000 are selected with certainty. These certainty establishments collectively account for approximately 80 percent of the total value of shipments in the 1987 census.

Smaller establishments in the remaining portion of the mail survey were sampled with probabilities ranging from 0.999 to 0.005 in accordance with mathematical theory for optimum allocation of a sample. The probabilities of selection assigned to the smaller establishments were proportional to measures of size determined for each establishment. The measures of size depend directly upon each establishment's 1987 product class values and the historic variability of the year-to-year shipments of each product class. Product classes displaying more volatile year-to-year change in shipments at the establishment level were sampled at a heavier rate.

This method of assigning measures of size was used in order to maximize the precision (that is, minimize the variance of estimates of the year-to-year change) in the value of product class shipments. Implicitly, it also gave weight differences in employment, value added, and other

general statistics, since these are highly correlated with value of shipments. Individual sample selection probabilities were obtained by multiplying each establishment's final measure of size by an overall sampling fraction coefficient calculated to yield a total expected sample size.

The sample selection procedure gave each establishment in the sampling frame an independent chance of selection. This method of independent selection permits the rotation of small establishments out of a given sample panel without introducing a bias into the survey estimates.

The nonmail portion of the survey includes all single-establishment companies that were tabulated as administrative records in the 1987 Census of Manufactures. Although this portion contained approximately 134,000 establishments, it accounted for less than 2 percent of the estimate for total value of shipments at the total manufacturing level. This portion was not sampled; rather, the data for every establishment in this group were estimated based on selected information obtained annually from the administrative records of the Internal Revenue Service and the Social Security Administration. This administrative-records information, which includes payroll, total employment, industry classification, and physical location of the establishment, was obtained under conditions which safeguard the confidentiality of both tax and census records. Estimates of data other than payroll and employment for these small establishments were developed from industry averages.

The corresponding estimates for the mail and nonmail establishments were added together, along with the base-year differences, as defined in the Description of Estimating Procedure section, to produce the figures shown in this publication.

DESCRIPTION OF ESTIMATING PROCEDURES

Most of the ASM estimates for the years 1988-1991 were computed using a difference estimation procedure. For each item, a base-year difference was developed. This base-year difference is equal to the difference between the 1987 census published number for an item total and the linear ASM estimate of the total for 1987. The ASM linear estimate was obtained by multiplying each sample establishment's data by its sample weight (the reciprocal of its probability of selection) and summing the weighted values.

These base-year differences were then added to the corresponding current-year linear estimates, which include the sum of the estimates for the mail and nonmail

establishments, to produce the estimates for the years 1983-1991. Estimates developed by this procedure usually are far more reliable than comparable linear estimates developed from the current sample data alone.

However, the 1992 sample estimates for the purchased service items, shown in table 3c, are strictly ASM linear estimates developed only from ASM establishments that reported the specific item.

The remaining estimates in table 3c, showing the breakdown of expenditures for new machinery and equipment and costs of parts (separated into purchases from foreign sources and purchases from domestic sources), were computed as ratio estimates. To do this, linear estimates of the new machinery detail items were developed from the ASM establishments and were ratio adjusted to the corresponding census total for new machinery. In a similar fashion, the ASM linear estimates of the detailed purchased materials items were ratio adjusted to the corresponding census total for cost of parts.

QUALIFICATIONS OF THE DATA

The estimates developed from the sample are apt to differ somewhat from the results of a survey covering all companies in the sampled lists but otherwise conducted under essentially the same conditions as the actual sample survey. The estimates of the magnitude of the sampling errors (the differences between the estimates obtained and the results theoretically obtained from a comparable, complete-coverage survey) are provided by the standard errors of the estimates.

The particular sample selected for the ASM is one of a large number of similar probability samples that, by chance, might have been selected under the same specifications. Each of the possible samples would yield somewhat different sets of results, and the standard errors are measures of the variation of all the possible sample estimates around the theoretical, comparable, complete-coverage values.

Estimates of the standard errors have been computed from the sample data for selected statistics in this report. They are presented in the form of relative standard errors (the standard errors divided by the estimated values to which they refer).

In conjunction with its associated estimate, the relative standard error may be used to define confidence intervals (ranges that would include the comparable, complete-coverage value for specified percentages of all the possible samples).

The complete-coverage value would be included in the range:

1. From one standard error below to one standard error above the derived estimate for about two-thirds of all possible samples.
2. From two standard errors below to two standard errors above the derived estimate for about 19 of 20 of all possible samples.
3. From three standard errors below to three standard errors above the derived estimate for nearly all samples.

An inference that the comparable, complete-survey result would be within the indicated ranges would be correct in approximately the relative frequencies shown. Those proportions, therefore, may be interpreted as defining the confidence that the estimates from a particular sample would differ from complete-coverage results by as much as one, two, or three standard errors, respectively.

For example, suppose an estimated total is shown as 50,000 with an associated relative standard error of 2 percent, that is, a standard error of 1,000 (2 percent of 50,000). There is approximately 67 percent confidence that the interval 49,000 to 51,000 includes the complete-coverage total, about 95 percent confidence that the interval 48,000 to 52,000 includes the complete-coverage total and almost certain confidence that the interval 47,000 to 53,000 includes the complete-coverage total.

In addition to the sample errors, the estimates are subject to various response and operational errors: errors of collection, reporting, coding, transcription, imputation for nonresponse, etc. These operational errors also would occur if a complete canvass were to be conducted under the same conditions as the survey. Explicit measures of their effects generally are not available. However, it is believed that most of the important operational errors were detected and corrected in the course of the Census Bureau's review of the data for reasonableness and consistency. The small operational errors usually remain. To some extent, they are compensating in the aggregated totals shown. When important operational errors were detected too late to correct the estimates, the data were suppressed or were specifically qualified in the tables.

As derived, the estimated standard errors included part of the effect of the operational errors. The total errors, which depend upon the joint effect of the sampling and operational errors, are usually of the order of size indicated by the standard error, or only moderately higher. However, for particular estimates, the total error may considerably exceed the standard errors shown.

The concept of complete coverage under the conditions prevailing for the ASM is not identical to the complete coverage of the census of manufactures, as the censuses have been conducted. Nearly all types of operational errors that affect the ASM also occur in the censuses. The ASM and the censuses, are conducted under quite different conditions, and operational errors can be better controlled in the ASM than in the censuses. As a result, for many of the census figures, the errors are of the same order of size as the total errors of the corresponding annual survey estimates. The differences between the census and ASM operating conditions also disturb, to some degree, the comparability of the ASM and census data.

Any figures shown in the tables in this publication having an associated standard error exceeding 15 percent may be of limited reliability. However, the figure may be combined with higher-level totals, creating a broader aggregate, which then may be of acceptable reliability.

Part 2. Comparability of Product Classes and Product Codes That Changed: 1987 to 1992

1987		1992		1987		1992		1987		1992	
34211 21		34320 81	34323 25	34433 13	34433 10	34842 15		34842 16			
34211 42	34211 25	34320 82	34322 27	34433 13	34433 15	34842 17		34842 16			
34211 61	34211 80	34320 83	34323 32	34433 17	34433 19	34842 25		34842 16			
34211 98	34211 55	34320 84	34322 30	34433 17	34433 24	34842 27		34842 26			
34211 98	34211 30	34320 85	34323 27	34433 22	34433 26	34842 51		34842 54			
		34320 86	34322 30	34433 22	34433 28	34842 53		34842 54			
34212 00	34212 05	34320 87	34323 27	34433 32	34433 30	34842 56		34842 54			
34212 00	34212 10	34320 89	34323 32	34433 32	34433 34	34842 63		34842 65			
34212 00	34212 16	34320 90	34322 01	34433 36	34433 37	34842 64		34842 74			
		34320 91	34322 03	34433 36	34433 40	34842 67		34842 65			
				34433 38	34433 41	34842 73		34842 74			
34231 32	34231 33										
34231 34	34231 33	34320 92	34322 05	34433 38	34433 44	34916 77		34916 78			
34231 61	34231 97	34320 93	34322 07	34433 39	34433 48	34916 79		34916 78			
34231 98	34231 97	34320 94	34322 12	34433 42	34433 46						
		34320 95	34322 12	34433 42	34433 47	34921		3492C			
34234 11	34234 14	34320 96	34322 15	34433 43	34433 46						
34234 22	34234 14	34320 97	34322 15	34433 43	34433 47	34921		3492D			
		34320 99	34323 32	34433 49	34433 15						
34235 33	34235 41			34433 49	34433 24	34921 00		3492C 00			
34235 39	34235 41			34433 49	34433 28	34921 00		3492D 00			
		34333 17	34333 21	34433 49	34433 34						
		34333 17	34333 35	34433 49	34433 34	34922		3492E			
		34333 60	34333 65	34433 50	34433 08						
34236 99	34236 85	34333 81	34333 65	34433 50	34433 35	34922		3492F			
34236 99	34236 98			34433 50	34433 48						
				34433 50	34433 51	34922 00		3492E 00			
34250 00	34250 41	34334 00	34334 10			34922 00		3492F 00			
		34334 00	34334 22								
34293 15	34293 00	34334 00	34334 30	34434 13	34434 14	34923		3492A			
34293 17	34293 00	34334 00	34334 40	34434 15	34434 14						
		34334 00	34334 62	34434 17	34434 16	34923		3492B			
		34334 00	34334 74	34434 19	34434 16						
34298 32	34298 98					34923 00		3492A 00			
34298 99	34298 98			34435 21	34435 20	34923 00		3492B 00			
				34435 23	34435 20						
34320	34321	34335 31	34335 20	34435 31	34435 35	34924		3492J			
		34335 35	34335 25	34435 31	34435 35						
		34335 44	34335 20	34435 33	34435 35	34924		3492K			
34320	34322	34335 46	34335 25	34435 37	34435 42						
				34435 39	34435 42	34924 00		3492J 00			
34320	34323					34924 00		3492K 00			
		34339 10	34339 06	34438 07	34438 08						
34320 01	34321 02	34339 10	34339 08	34438 14	34438 13	34925		3492M			
34320 03	34321 02	34339 10	34339 11	34438 16	34438 13						
34320 05	34321 05	34339 10	34339 13	34438 17	34438 20	34925		3492N			
34320 07	34321 05			34438 19	34438 22						
34320 09	34321 08					34925 00		3492M 00			
34320 10	34321 10					34925 00		3492N 00			
34320 11	34321 08	34411 21	34411 41	34443 11	34443 14						
34320 12	34321 12	34411 22	34411 42	34443 13	34443 14	34926		3492H			
34320 13	34321 13	34411 23	34411 43	34443 21	34443 24	34926 00		3492H 00			
34320 14	34321 13	34411 24	34411 44	34443 23	34443 24						
34320 15	34321 14	34411 26	34411 46			34927		3492G			
	34321 15	34411 27	34411 47			34927 00		3492G 00			
		34411 61	34411 41								
34320 17	34321 17	34411 62	34411 42	34482 13	34482 18						
34320 18	34321 18	34411 62	34411 42	34482 23	34482 18						
34320 22	34321 20	34411 63	34411 43			34961 22		34961 52			
34320 25	34321 28	34411 64	34411 44			34961 31		34961 34			
34320 26	34321 22	34411 64	34411 44	34626 15	34626 16	34961 33		34961 34			
34320 27	34321 25	34411 66	34411 46	34626 17	34626 16	34961 35		34961 34			
34320 29	34321 30	34411 67	34411 47			34961 51		34961 52			
34320 31	34321 32			34627 11	34627 12						
34320 35	34321 34	34412 12	34412 00	34627 13	34627 12	34964 41		34964 00			
34320 39	34321 36	34412 16	34412 00	34627 15	34627 16	34964 43		34964 00			
		34412 17	34412 00	34627 17	34627 16	34964 45		34964 00			
		34412 61	34412 00			34964 51		34964 00			
34320 47	34323 20			34628 11	34628 12	34964 53		34964 00			
34320 48	34323 23			34628 13	34628 12	34964 55		34964 00			
34320 49	34322 18			34628 15	34628 16						
34320 52	34322 21	34413 11	34413 16	34628 17	34628 16	34965 17		34965 00			
34320 54	34322 24	34413 41	34413 20			34965 57		34965 00			
34320 57	34322 33	34413 51	34413 23			34965 65		34965 00			
34320 58	34322 36	34413 55	34413 26								
34320 59	34322 39	34413 57	34413 29	34661 00	34661 05	34966 23		34966 13			
34320 63	34322 45	34413 58	34413 59	34661 00	34661 20	34966 25		34966 13			
34320 67	34322 50	34413 61	34413 16	34661 00	34661 22	34966 27		34966 21			
		34413 71	34413 20			34966 29		34966 21			
34320 69	34322 50	34413 82	34413 29	34662 00	34662 30	34968 41		34968 42			
34320 71	34323 02	34413 83	34413 23	34662 00	34662 32	34968 45		34968 42			
34320 72	34323 05	34413 83	34413 26			34968 46		34968 42			
34320 74	34323 08	34413 83	34413 59			34968 46		34968 42			
34320 75	34323 11			34699 98	34699 51	34968 61		34968 63			
34320 76	34323 14			34699 98	34699 97	34968 65		34968 63			
34320 78	34323 17					34968 77		34968 98			
34320 80	34322 27	34422 23	34422 30			34968 99		34968 98			
		34422 29	34422 30	34790 00	34790 77						

Part 3. Current Industrial Reports by Product Code

[Not applicable for this report]

Publication Program

1992 CENSUS OF MANUFACTURES

Publications of the 1992 Census of Manufactures, containing preliminary and final data on manufacturing establishments in the United States, are described below. Publications order forms for the specific reports may be obtained from any Department of Commerce district office or from Data User Services Division, Customer Services, Bureau of the Census, Washington, DC 20233-8300.

Preliminary Reports

Industry series—83 reports (MC92-I-20A(P) to -39D(P))

Preliminary industry data are issued in 83 separate reports covering 459 industries. Preliminary summary data for the United States and States are released in one report.

Final Reports

Industry series—83 reports (MC92-1-20A to -39D)

Each of the 83 reports provides information for a group of related industries ("dairy products" includes industries for butter, cheese, milk, etc.). Final figures for the United States are shown for each of the 459 manufacturing industries on quantity and value of products shipped and materials consumed, cost of fuels and electric energy, capital expenditures, assets, rents, inventories, employment, payroll, payroll supplements, hours worked, value added by manufacture, number of establishments, and number of companies. Comparative statistics for earlier years are provided where available.

For each industry, data on value of shipments, value added by manufacture, capital expenditures, employment, and payroll are shown by employment-size class of establishment, State, and degree of primary product specialization.

Geographic area series—51 reports (MC92-A-1 to -51)

A separate report is being published for each State and the District of Columbia. Each report presents data for industry groups and industries on value of shipments, cost of materials, value added by manufacture, employment, payroll, hours worked, new capital expenditures, and number of manufacturing establishments for the State, MA's, counties, and selected places. Comparative statistics for earlier census years are shown for the State and large MA's. Manufacturing totals are presented for each county and for places with significant manufacturing activity. Detailed statistics (including inventories, assets, rents, and energy costs) are presented only in statewide totals.

Subject series—3 reports (MC92-S-1 to -3)

Each of the three reports contains detailed statistics for an individual subject, such as concentration ratios in manufacturing, manufacturers' shipments to the Federal Government, and a general national-level summary.

Reference series—1 report (MC92-R-1)

The *Numerical List of Manufactured and Mineral Products* includes a description of the principal products and services published in the 1992 Censuses of Manufactures and Mineral Industries.

Location of Manufacturing Plants—1 report (MC92-LM)

This report includes data for number of establishments by four-digit SIC industry and by employment-size class for counties, incorporated places of 2,500 inhabitants or more, and Zip Codes for each State. This report is available only on compact disc-read only memory (CD-ROM).

Analytical Reports—2 reports (AR92-1 and -2)

Exports From Manufacturing Establishments (AR92-1)

This report presents data on exports by two- and three-digit SIC industry groups for the United States and States. Information is presented on value of direct report shipments and estimates of the employment required to manufacture these products. Included are estimates of employment in manufacturing and nonmanufacturing establishments that supply parts, materials, and services for production of manufactured exports.

Selected Characteristics of Manufacturing Establishments That Export (AR92-2)

This report presents data on the number of manufacturing companies and establishments that export by major group, State, employment size, and ratios of exports to shipments.

Electronic Media

All data included in the printed reports are available on CD-ROM. The CD-ROM's provide the same information found in the reports as well as additional information not published in the final reports, such as location of manufacturing plants. Electronic media products are available for users who wish to summarize, rearrange, or process large amounts of data. These products, with corresponding technical documentation, are sold by Data User Services Division, Customer Services, Bureau of the Census, Washington, DC 20233-8300.

OTHER ECONOMIC CENSUSES REPORTS

Data on retail trade, wholesale trade, financial, insurance, real estate, service industries, construction industries, mineral industries, transportation, communications, utilities, enterprise statistics, minority-owned businesses, and women-owned businesses also are available from the 1992 Economic Census. A separate series of reports covers the census of outlying areas—Puerto Rico, Virgin Islands of the United States, Guam, and the Commonwealth of the Northern Mariana Islands. Separate announcements describing these reports are available free of charge from Data User Services Division, Customer Services, Bureau of the Census, Washington, DC 20233-8300.