

# Arizona: 2002

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## 2002 Economic Census

*Manufacturing*

Geographic Area Series



U S C E N S U S B U R E A U

*Helping You Make Informed Decisions*

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



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#### Geographic Area Series



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# Introduction to the Economic Census

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## **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. 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 economic census furnishes an important part of the framework for such composite measures as the gross domestic product estimates, input/output measures, production and price indexes, and other statistical series that measure short-term changes in economic conditions. Specific uses of economic census data include the following:

- Policymaking agencies of the federal government use the data to monitor economic activity and to assess the effectiveness of policies.
- 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, which allows them to 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.

## **INDUSTRY CLASSIFICATIONS**

Data from the 2002 Economic Census are published primarily according to the 2002 North American Industry Classification System (NAICS). NAICS was first adopted in the United States, Canada, and Mexico in 1997. The 2002 Economic Census covers the following NAICS sectors:

21	Mining
22	Utilities
23	Construction
31-33	Manufacturing
42	Wholesale Trade
44-45	Retail Trade
48-49	Transportation and Warehousing
51	Information
52	Finance and Insurance
53	Real Estate and Rental and Leasing
54	Professional, Scientific, and Technical Services
55	Management of Companies and Enterprises
56	Administrative and Support and Waste Management and Remediation Services
61	Educational Services
62	Health Care and Social Assistance
71	Arts, Entertainment, and Recreation
72	Accommodation and Food Services
81	Other Services (except Public Administration)

(Not listed above are the Agriculture, Forestry, Fishing, and Hunting sector (NAICS 11), partially covered by the census of agriculture conducted by the U.S. Department of Agriculture, and the Public Administration sector (NAICS 92), largely covered by the census of governments conducted by the Census Bureau.)

The 20 NAICS sectors are subdivided into 100 subsectors (three-digit codes), 317 industry groups (four-digit codes), and, as implemented in the United States, 1,179 industries (six-digit codes).

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## RELATIONSHIP TO HISTORICAL INDUSTRY CLASSIFICATIONS

Prior to the 1997 Economic Census, data were published according to the Standard Industrial Classification (SIC) system. While many of the individual NAICS industries correspond directly to industries as defined under the SIC system, most of the higher level groupings do not. Particular care should be taken in comparing data for retail trade, wholesale trade, and manufacturing, which are sector titles used in both NAICS and SIC, but cover somewhat different groups of industries. The 1997 Economic Census *Bridge Between NAICS and SIC* demonstrates the relationships between NAICS and SIC industries. Where changes are significant, it may not be possible to construct time series that include data for points both before and after 1997.

Most industry classifications remained unchanged between 1997 and 2002, but NAICS 2002 includes substantial revisions within the construction and wholesale trade sectors, and a number of revisions for the retail trade and information sectors. These changes are noted in industry definitions and will be demonstrated in the *Bridge Between NAICS 2002 and NAICS 1997*.

For 2002, data for enterprise support establishments (those functioning primarily to support the activities of their company's operating establishments, such as a warehouse or a research and development laboratory) are included in the industry that reflects their activities (such as warehousing). For 1997, such establishments were termed auxiliaries and were excluded from industry totals.

## BASIS OF REPORTING

The economic census is conducted on an establishment basis. A company operating at more than one location is required to file a separate report for each store, factory, shop, or other location. Each establishment is assigned a separate industry classification based on its primary activity and not that of its parent company. (For selected industries, only payroll, employment, and classification are collected for individual establishments, while other data are collected on a consolidated basis.)

## GEOGRAPHIC AREA CODING

Accurate and complete information on the physical location of each establishment is required to tabulate the census data for states, metropolitan and micropolitan statistical areas, counties, and corporate municipalities (places) including cities, towns, townships, villages, and boroughs. Respondents were required to report their physical location (street address, municipality, county, and state) if it differed from their mailing address. For establishments not surveyed by mail (and those single-establishment companies that did not provide acceptable information on physical location), location information from administrative sources is used as a basis for coding.

## AVAILABILITY OF ADDITIONAL DATA

All results of the 2002 Economic Census are available on the Census Bureau Internet site ([www.census.gov](http://www.census.gov)) and on digital versatile discs (DVD-ROMs) for sale by the Census Bureau. The American FactFinder system at the Internet site allows selective retrieval and downloading of the data. For more information, including a description of reports being issued, see the Internet site, write to the U.S. Census Bureau, Washington, DC 20233-6100, or call Customer Services at 301-763-4100.

## HISTORICAL INFORMATION

The economic census has been taken as an integrated program at 5-year intervals since 1967 and before that for 1954, 1958, and 1963. Prior to that time, individual components 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 the 1840 Decennial Census and subsequent censuses to include mining and some commercial activities. The 1905 Manufactures Census was the first time a census was taken apart

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from the regular decennial population census. Censuses covering retail and wholesale trade and construction industries were added in 1930, as were some service trades in 1933. Censuses of construction, manufacturing, and the other business censuses were suspended during World War II.

The 1954 Economic Census was the first census to be fully integrated, providing comparable census data across economic sectors and 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 report forms.

The range of industries covered in the economic census expanded between 1967 and 2002. The census of construction industries began on a regular basis in 1967, and the scope of service industries, introduced in 1933, was broadened in 1967, 1977, and 1987. While a few transportation industries were covered as early as 1963, it was not until 1992 that the census broadened to include all of transportation, communications, and utilities. Also new for 1992 was coverage of financial, insurance, and real estate industries. With these additions, the economic census and the separate census of governments and census of agriculture collectively covered roughly 98 percent of all economic activity. New for 2002 is coverage of four industries classified in the agriculture, forestry, and fishing sector under the SIC system: landscape architectural services, landscaping services, veterinary services, and pet care services.

Printed statistical reports from the 1992 and earlier censuses provide historical figures for the study of long-term time series and are available in some large libraries. Reports for 1997 were published primarily on the Internet and copies of 1992 reports are also available there. CD-ROMs issued from the 1987, 1992, and 1997 Economic Censuses contain databases that include all or nearly all data published in print, plus additional statistics, such as ZIP Code statistics, published only on CD-ROM.

#### **SOURCES FOR MORE INFORMATION**

More information about the scope, coverage, classification system, data items, and publications for the 2002 Economic Census and related surveys is published in the *Guide to the 2002 Economic Census* at [www.census.gov/econ/census02/guide](http://www.census.gov/econ/census02/guide). More information on the methodology, procedures, and history of the census will be published in the *History of the 2002 Economic Census* at [www.census.gov/econ/www/history.html](http://www.census.gov/econ/www/history.html).



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# Manufacturing

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## SCOPE

The Manufacturing sector (sector 31-33) comprises establishments engaged in the mechanical, physical, or chemical transformation of materials, substances, or components into new products. The assembling of component parts of manufactured products is considered manufacturing, except in cases where the activity is appropriately classified in Sector 23, Construction.

Establishments in the manufacturing sector are often described as plants, factories, or mills and characteristically use power-driven machines and materials-handling equipment. However, establishments that transform materials or substances into new products by hand or in the worker's home and those engaged in selling to the general public products made on the same premises from which they are sold, such as bakeries, candy stores, and custom tailors, may also be included in this sector. Manufacturing establishments may process materials or may contract with other establishments to process their materials for them. Both types of establishments are included in manufacturing.

The materials, substances, or components transformed by manufacturing establishments are raw materials that are products of agriculture, forestry, fishing, mining, or quarrying, as well as products of other manufacturing establishments. The materials used may be purchased directly from producers, obtained through customary trade channels, or secured without recourse to the market by transferring the product from one establishment to another, under the same ownership. The new product of a manufacturing establishment may be finished in the sense that it is ready for utilization or consumption, or it may be semifinished to become an input for an establishment engaged in further manufacturing. For example, the product of the alumina refinery is the input used in the primary production of aluminum; primary aluminum is the input to an aluminum wire drawing plant; and aluminum wire is the input for a fabricated wire product manufacturing establishment.

The subsectors in the manufacturing sector generally reflect distinct production processes related to material inputs, production equipment, and employee skills. In the machinery area, where assembling is a key activity, parts and accessories for manufactured products are classified in the industry of the finished manufactured item when they are made for separate sale. For example, a replacement refrigerator door would be classified with refrigerators and an attachment for a piece of metal working machinery would be classified with metal working machinery. However, components, input from other manufacturing establishments, are classified based on the production function of the component manufacturer. For example, electronic components are classified in Subsector 334, Computer and Electronic Product Manufacturing; and stampings are classified in Subsector 332, Fabricated Metal Product Manufacturing.

Manufacturing establishments often perform one or more activities that are classified outside the manufacturing sector of NAICS. For instance, almost all manufacturing has some captive research and development or administrative operations, such as accounting, payroll, or management. These captive services are treated the same as captive manufacturing activities. When the services are provided by separate establishments, they are classified to the NAICS sector where such services are primary, not in manufacturing.

The boundaries of manufacturing and the other sectors of the classification system can be somewhat blurry. The establishments in the manufacturing sector are engaged in the transformation of materials into new products. Their output is a new product. However, the definition of what constitutes a new product can be somewhat subjective. As clarification, the following activities are

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considered manufacturing in NAICS: milk bottling and pasteurizing; water bottling and processing; fresh fish packaging (oyster shucking, fish filleting); apparel jobbing (assigning of materials to contract factories or shops for fabrication or other contract operations); as well as contracting on materials owned by others; printing and related activities; ready-mixed concrete production; leather converting; grinding of lenses to prescription; wood preserving; electroplating, plating, metal heat treating, and polishing for the trade; lapidary work for the trade; fabricating signs and advertising displays; rebuilding or remanufacturing machinery (i.e., automotive parts); ship repair and renovation; machine shops; and tire retreading.

**Exclusions.** There are activities that are sometimes considered manufacturing, but for NAICS are classified in another sector. These activities include logging, classified in Sector 11, Agriculture, Forestry, Fishing and Hunting is considered a harvesting operation; the beneficiating of ores and other minerals, classified in Sector 21, Mining, is considered part of the activity of mining; the construction of structures and fabricating operations performed at the site of construction by contractors, is classified in Sector 23, Construction; establishments engaged in breaking of bulk and redistribution in smaller lots, including packaging, repackaging, or bottling products, such as liquors or chemicals; the customized assembly of computers; sorting of scrap; mixing paints to customer order; and cutting metals to customer order, classified in Sector 42, Wholesale Trade or Sector 44-45, Retail Trade, produce a modified version of the same product, not a new product; and publishing and the combined activity of publishing and printing, classified in Sector 51, Information, perform the transformation of information into a product where as the value of the product to the consumer lies in the information content, not in the format in which it is distributed (i.e., the book or software diskette).

The tabulations for this sector do not include central administrative offices, warehouses, or other establishments that serve manufacturing establishments within the same organization. Data for such establishments are classified according to the nature of the service they provide. For example, separate headquarters establishments are reported in NAICS Sector 55, Management of Companies and Enterprises.

The reports described below exclude establishments of firms with no paid employees. These “nonemployers,” typically self-employed individuals or partnerships operating businesses that they have not chosen to incorporate, are reported separately in Nonemployer Statistics. The contribution of nonemployers, relatively small for this sector, may be examined at [www.census.gov/nonemployerimpact](http://www.census.gov/nonemployerimpact).

The reports described below cover all manufacturing establishments with one or more paid employees.

**Definitions.** Industry categories are defined in Appendix B, NAICS Codes, Titles, and Descriptions. Other terms are defined in Appendix A, Explanation of Terms.

## REPORTS

The following reports provide statistics on this sector:

**Industry Series.** There are 473 reports, each covering a single NAICS industry (six-digit code). These reports include such statistics as number of establishments, employment, payroll, value added by manufacture, cost of materials consumed, value of shipments, capital expenditures, etc. The industry reports also include data for states with 100 employees or more in the industry. The data in industry reports are preliminary and subject to change in the following reports.

**Geographic Area Series.** There are 51 separate reports, one for each state and the District of Columbia. Each state report presents similar statistics at the “all manufacturing” level for each state and its metropolitan and micropolitan areas with 250 employees or more, and for counties, consolidated cities, and places with 500 employees or more. The state reports also include six-digit NAICS level data for industries with 100 employees or more in the state.

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## Subject Series:

- **Industry-Product Analysis Summary.** This report presents value of shipments, value of product shipments, percentage of product shipments of the total value of shipments, and percentage of distribution of value of product shipments on the NAICS six-digit industry level and by the six- and seven-digit product code levels. It also includes miscellaneous receipts at the six- and seven-digit product code levels by NAICS six-digit industry levels.
- **General Summary.** This report contains industry and geographic area statistics summarized in one report. It includes higher levels of aggregation than the industry and state reports, as well as revisions to the data made after the release of the industry and state reports.
- **Product Summary.** This report summarizes the products data published in the industry reports. This report also includes a table with data for products that are primary to more than one industry, which are not in the industry reports.
- **Materials Summary.** This report summarizes the materials data published in the industry reports.
- **Concentration Ratio Summary.** This report publishes data on the percentage of value of shipments and value added accounted for by the 4-, 8-, 20-, and 50-largest companies for each manufacturing industry. Also shown in this report are Herfindahl-Herschmann indexes for each industry.
- **Location of Manufacturing Plants Summary.** This report contains statistics on the number of establishments for the three- and six-digit NAICS industry by state, county, place, and ZIP Code by employment-size of the establishment.

**ZIP Code Statistics.** This report contains statistics on the number of establishments for the three- and six-digit NAICS industry by employment-size of the establishment by ZIP Code.

**Other reports.** Data for this sector are also included in reports with multisector coverage, including Nonemployer Statistics, Comparative Statistics, Bridge Between 2002 NAICS and 1997 NAICS, Business Expenses, and the Survey of Business Owners reports.

## GEOGRAPHIC AREAS COVERED

The level of geographic detail varies by report. Maps are available at [www.census.gov/econ2002maps](http://www.census.gov/econ2002maps). Notes specific to areas in the state are included in Appendix D, Geographic Notes.

1. The United States as a whole.
2. States and the District of Columbia.
3. Metropolitan and micropolitan statistical areas with 250 employees or more. A core based statistical areas (CBSA) contains a core area with a substantial population nucleus, together with adjacent communities having a high degree of social and economic integration with that core. CBSAs are differentiated into metropolitan and micropolitan statistical areas based on size criteria. Both metropolitan and micropolitan areas are defined in terms of entire counties, and are listed in Appendix E, Metropolitan and Micropolitan Statistical Areas.
  - a. Metropolitan Statistical Areas (metro areas). Metro areas have at least one urbanized area of 50,000 or more population, plus adjacent territory that has a high degree of social and economic integration with the core as measured by commuting ties.
  - b. Micropolitan Statistical Areas (micro areas). Micro areas have at least one urban cluster of at least 10,000 but less than 50,000 population, plus adjacent territory that has a high degree of social and economic integration with the core as measured by commuting ties.
  - c. Metropolitan Divisions (metro divisions). If specified criteria are met, a metro area containing a single core with a population of 2.5 million or more may be subdivided to form smaller groupings of counties referred to as Metropolitan Divisions.

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- d. Combined Statistical Areas (combined areas). If specified criteria are met, adjacent metro and micro areas, in various combinations, may become the components of a new set of areas called Combined Statistical Areas. The areas that combine retain their own designations as metro or micro areas within the larger combined area.
4. Counties and county equivalents defined as of January 1, 2002, with 500 employees or more. Counties are the primary divisions of states, except in Louisiana where they are called parishes and in Alaska where they are called boroughs, census areas, and city and boroughs. Maryland, Missouri, Nevada, and Virginia have one place or more that is independent of any county organization and constitutes primary divisions of their states. These places are treated as counties and as places.
  5. Economic places with 500 employees or more.
    - a. Municipalities of 2,500 inhabitants or more defined as of January 1, 2002. These are areas of significant population incorporated as cities, boroughs, villages, or towns according to the 2000 Census of Population. For the economic census, boroughs and census areas in Alaska and boroughs in New York are not included in this category.
    - b. Consolidated cities defined as of January 1, 2002. Consolidated cities are consolidated governments that consist of separately incorporated municipalities.
    - c. Townships in Michigan, New Jersey, and Pennsylvania, and towns in New York, Wisconsin, and the six New England states with 10,000 inhabitants or more (according to the 2000 Census of Population).
    - d. Balance of county. Areas outside the entities listed above, including incorporated municipalities with populations of fewer than 2,500, town and townships not qualifying as noted above, and the remainders of counties outside places are categorized as "Balance of county."

## **DOLLAR VALUES**

All dollar values presented are expressed in current dollars; i.e., 2002 data are expressed in 2002 dollars, and 1997 data, in 1997 dollars. Consequently, when making comparisons with prior years, users of the data should consider the changes in prices that have occurred.

All dollar values are shown in thousands of dollars.

## **COMPARABILITY OF THE 1997 AND 2002 ECONOMIC CENSUSES**

Both the 2002 Economic Census and the 1997 Economic Census present data based on the North American Industry Classification System (NAICS). While there were revisions to selected industries for 2002, this sector is not affected by those revisions.

For 2002, there have been several additional data tables added, which did not exist in 1997. These tables for 2002 include products primary to more than one industry, industry-product analysis, e-commerce value of shipments, and leased and nonleased detail employment statistics by subsectors.

## **RELIABILITY OF DATA**

All data compiled for this sector are subject to nonsampling errors. Nonsampling errors can be attributed to many sources: inability to identify all cases in the actual universe; definition and classification difficulties; differences in the interpretation of questions; errors in recording or coding the data obtained; and other errors of collection, response, coverage, processing, and estimation for missing or misreported data. Selected data in tables titled "Detailed Statistics" are based on the Annual Survey of Manufactures and are subject to sampling errors as well as nonsampling errors.

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No direct measurement of these effects has been obtained except for estimation for missing or misreported data, as by the percentages shown in the tables. Precautionary steps were taken in all phases of the collection, processing, and tabulation of the data in an effort to minimize the effects of nonsampling errors. More information on the reliability of the data is included in Appendix C, Methodology.

## **DISCLOSURE**

In accordance with federal law governing census reports (Title 13 of the United States Code), no data are published that would disclose the operations of an individual establishment or company. However, the number of establishments in a specific industry or geographic area is not considered a disclosure; therefore, this information may be released even though other information is withheld. Techniques employed to limit disclosure are discussed at [www.census.gov/epcd/ec02/disclosure.htm](http://www.census.gov/epcd/ec02/disclosure.htm).

The disclosure analysis for "industry statistics" files 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 capital expenditures. Nonetheless, the suppressed data are included in higher-level totals. A separate disclosure analysis is performed for capital expenditures, which can be suppressed even though value of shipments data are published.

## **AVAILABILITY OF MORE FREQUENT ECONOMIC DATA**

The Census Bureau conducts the Annual Survey of Manufactures (ASM) in each of the 4 years between the economic censuses. The ASM is a probability-based sample of approximately 55,000 establishments and collects many of the same industry statistics (including employment, payroll, value of shipments, etc.) as the economic census. However, there are selected statistics not included in the ASM. Among these are the number of companies and establishments, detailed product and materials data, and substate geographic data. In addition to the ASM, the Census Bureau conducts the Current Industrial Reports (CIR) program. The CIR program publishes selected detailed product statistics for selected manufacturing industries at the U.S. level annually and, in some cases, monthly and/or quarterly. The Census Bureau also conducts the monthly Manufacturers' Shipments, Inventories, and Orders (M3) Program, which publishes detailed statistics for manufacturing industries at the U.S. level.

In addition, the County Business Patterns program offers annual statistics on the number of establishments, employment, and payroll classified by industry within each county, and Statistics of U.S. Businesses provides annual statistics classified by the employment size of the enterprise, further classified by industry for the United States, and by broader categories for states and metropolitan areas.

## **CONTACTS FOR DATA USERS**

Questions about these data may be directed to the U.S. Census Bureau, Manufacturing & Construction Division, Information Services Center, 301-763-4673 or [ask.census.gov](mailto:ask.census.gov).

## **ABBREVIATIONS AND SYMBOLS**

The following abbreviations and symbols are used with these data:

A	Standard error of 100 percent or more
D	Withheld to avoid disclosing data of individual companies; data are included in higher level totals
F	Exceeds 100 percent because data include establishments with payroll exceeding revenue
N	Not available or not comparable
S	Withheld because estimates did not meet publication standards
X	Not applicable
Z	Less than half the unit shown
a	0 to 19 employees
b	20 to 99 employees
c	100 to 249 employees

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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
p	10 to 19 percent estimated
q	20 to 29 percent estimated
r	Revised
s	Sampling error exceeds 40 percent
nsk	Not specified by kind
-	Represents zero (page image/print only)
(CC)	Consolidated city
(IC)	Independent city

**Table 1. Industry Statistics for the State: 2002**

[Includes data for industry groups and industries with 100 employees or more. Data based on the 2002 Economic Census. For information on confidentiality protection, nonsampling error, explanation of terms, and geographical definitions, see note at end of table. For information on geographic areas followed by \*, see Appendix D. For meaning of abbreviations and symbols, see introductory text]

NAICS code	Geographic area and industry	All establishments <sup>2</sup>		All employees		Production workers			Value added (\$1,000)	Total cost of materials (\$1,000)	Total value of shipments (\$1,000)	Total capital expenditures (\$1,000)	
		E <sup>1</sup>	Total	With 20 employees or more	Number <sup>3</sup>	Payroll (\$1,000)	Number <sup>4</sup>	Hours (1,000)					Wages (\$1,000)
<b>ARIZONA</b>													
31-33	Manufacturing .....	1	'4 935	'1 288	'168 155	'7 080 603	'104 924	'206 084	'3 221 229	'25 976 992	'15 724 230	'41 910 739	'977 257
311	Food manufacturing .....	-	'244	53	'8 221	'249 807	'6 140	'12 295	'160 880	'1 365 910	'1 527 179	'2 878 837	'58 086
3111	Animal food manufacturing .....	-	14	3	192	6 588	155	332	4 847	25 986	100 863	125 214	997
31111	Animal food manufacturing ....	-	14	3	192	6 588	155	332	4 847	25 986	100 863	125 214	997
311119	Other animal food manufacturing .....	1	10	2	c	D	D	D	D	D	D	D	947
3113	Sugar and confectionery product manufacturing .....	-	17	2	e	D	D	D	D	D	D	D	D
31134	Nonchocolate confectionery manufacturing .....	-	7	2	c	D	D	D	D	D	D	D	D
311340	Nonchocolate confectionery manufacturing .....	-	7	2	c	D	D	D	D	D	D	D	D
3114	Fruit and vegetable preserving and specialty food manufacturing .....	2	15	4	285	9 432	207	336	5 365	33 930	33 796	67 785	D
31141	Frozen food manufacturing ....	-	3	2	c	D	D	D	D	D	D	D	D
311412	Frozen specialty food manufacturing .....	-	3	2	c	D	D	D	D	D	D	D	D
31142	Fruit and vegetable canning, pickling, and drying .....	4	12	2	c	D	D	D	D	D	D	D	D
311421	Fruit and vegetable canning .	2	9	2	161	5 396	121	268	3 045	14 008	11 687	25 754	661
3115	Dairy product manufacturing ....	-	11	8	1 224	55 647	747	1 713	32 361	630 466	437 888	1 069 158	13 343
31151	Dairy product (except frozen) manufacturing .....	-	9	8	g	D	D	D	D	D	D	D	D
311511	Fluid milk manufacturing ....	1	6	5	f	D	D	D	D	D	D	D	D
311513	Cheese manufacturing .....	-	1	1	c	D	D	D	D	D	D	D	D
311514	Dry, condensed, and evaporated dairy product manufacturing .....	-	2	2	e	D	D	D	D	D	D	D	D
3116	Animal slaughtering and processing .....	-	26	4	1 589	41 246	1 371	3 178	32 266	138 881	559 530	689 259	3 321
31161	Animal slaughtering and processing .....	-	26	4	1 589	41 246	1 371	3 178	32 266	138 881	559 530	689 259	3 321
311611	Animal (except poultry) slaughtering .....	-	13	2	g	D	D	D	D	D	D	D	D
311612	Meat processed from carcasses .....	3	10	1	c	D	D	D	D	D	D	D	244
3118	Bakeries and tortilla manufacturing .....	1	'122	24	'2 843	'80 024	'1 929	'3 735	'46 395	'192 779	'122 023	'313 301	'14 057
31181	Bread and bakery product manufacturing .....	1	'99	19	'2 243	'64 088	'1 425	'2 946	'35 026	'140 631	'95 972	'235 741	D
311811	Retail bakeries .....	2	62	4	437	6 543	199	252	2 862	13 191	7 943	21 129	D
311812	Commercial bakeries .....	1	'37	15	'1 806	'57 545	'1 226	'2 694	'32 164	'127 440	'88 029	'214 612	'7 072
31183	Tortilla manufacturing .....	1	19	4	503	13 150	418	660	9 349	44 821	22 556	67 302	5 271
311830	Tortilla manufacturing .....	1	19	4	503	13 150	418	660	9 349	44 821	22 556	67 302	5 271
3119	Other food manufacturing .....	1	37	7	1 787	47 940	1 486	2 488	33 984	317 662	232 489	548 707	10 806
31191	Snack food manufacturing ....	2	4	3	c	D	D	D	D	D	D	D	D
311919	Other snack food manufacturing .....	2	4	3	c	D	D	D	D	D	D	D	D
31199	All other food manufacturing ...	-	26	4	1 493	39 203	1 319	2 171	29 564	101 988	156 639	258 326	4 860
311991	Perishable prepared food manufacturing .....	-	6	3	1 249	34 391	1 127	1 814	26 977	90 307	147 628	237 664	4 240
311999	All other miscellaneous food manufacturing .....	5	20	1	244	4 812	192	357	2 587	11 681	9 011	20 662	620
312	Beverage and tobacco product manufacturing .....	1	37	12	g	D	D	D	D	D	D	D	24 751
3121	Beverage manufacturing .....	1	36	11	g	D	D	D	D	D	D	D	D
31211	Soft drink and ice manufacturing .....	1	28	11	g	D	D	D	D	D	D	D	24 469
312111	Soft drink manufacturing ....	1	11	8	1 349	46 483	457	934	13 467	173 186	433 152	608 435	23 608
312113	Ice manufacturing .....	1	13	2	c	D	D	D	D	D	D	D	470
313	Textile mills .....	-	17	2	598	15 232	540	1 209	13 002	40 834	119 505	160 406	D
3131	Fiber, yarn, and thread mills .....	-	3	1	f	D	D	D	D	D	D	D	D
31311	Fiber, yarn, and thread mills ...	-	3	1	f	D	D	D	D	D	D	D	D
313112	Yarn texturizing, throwing, and twisting mills .....	-	2	1	f	D	D	D	D	D	D	D	D
314	Textile product mills .....	1	91	15	1 305	31 640	1 005	1 937	19 993	77 109	67 682	146 931	1 703
3141	Textile furnishings mills .....	3	32	1	193	4 187	158	291	2 484	15 007	9 277	23 981	140
31412	Curtain and linen mills .....	2	31	1	c	D	D	D	D	D	D	D	D
314121	Curtain and drapery mills ....	4	25	-	134	2 810	106	189	1 475	6 510	4 426	10 679	75
3149	Other textile product mills .....	1	59	14	1 112	27 453	847	1 646	17 509	62 102	58 405	122 950	1 563
31491	Textile bag and canvas mills ...	1	23	5	e	D	D	D	D	D	D	D	587
314912	Canvas and related product mills .....	2	21	4	e	D	D	D	D	D	D	D	D
31499	All other textile product mills ...	1	36	9	f	D	D	D	D	D	D	D	976
314991	Rope, cordage, and twine mills .....	-	3	2	c	D	D	D	D	D	D	D	53
314999	All other miscellaneous textile product mills .....	1	33	7	682	16 087	496	912	9 708	41 514	41 183	84 845	923



**Table 1. Industry Statistics for the State: 2002—Con.**

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NAICS code	Geographic area and industry	All establishments <sup>2</sup>			All employees		Production workers			Value added (\$1,000)	Total cost of materials (\$1,000)	Total value of shipments (\$1,000)	Total capital expenditures (\$1,000)
		E <sup>1</sup>	Total	With 20 employees or more	Number <sup>3</sup>	Payroll (\$1,000)	Number <sup>4</sup>	Hours (1,000)	Wages (\$1,000)				
<b>ARIZONA—Con.</b>													
315	Apparel manufacturing .....	6	71	8	873	16 702	760	1 314	12 813	25 289	15 782	40 819	D
3151	Apparel knitting mills .....	2	4	2	190	3 752	156	275	2 915	3 853	5 306	9 076	29
31519	Other apparel knitting mills ....	2	4	2	190	3 752	156	275	2 915	3 853	5 306	9 076	29
315191	Outerwear knitting mills .....	2	4	2	190	3 752	156	275	2 915	3 853	5 306	9 076	29
3152	Cut and sew apparel manufacturing .....	7	52	5	501	9 423	447	785	7 399	15 658	6 505	22 058	D
31521	Cut and sew apparel contractors .....	7	42	4	453	7 949	409	723	6 637	12 619	2 788	15 306	89
315212	Women's, girls', and infants' cut and sew apparel contractors .....	8	35	3	397	7 084	363	634	6 073	11 057	2 118	13 050	76
3159	Apparel accessories and other apparel manufacturing .....	7	15	1	182	3 527	157	254	2 499	5 778	3 971	9 685	42
31599	Apparel accessories and other apparel manufacturing .....	7	15	1	182	3 527	157	254	2 499	5 778	3 971	9 685	42
315991	Hat, cap, and millinery manufacturing .....	8	3	1	145	2 489	129	202	1 873	3 763	2 250	6 019	14
316	Leather and allied product manufacturing .....	4	25	2	c	D	D	D	D	D	D	D	D
3169	Other leather and allied product manufacturing .....	3	18	2	161	3 504	131	244	1 973	7 169	3 079	10 051	D
31699	Other leather and allied product manufacturing .....	3	18	2	161	3 504	131	244	1 973	7 169	3 079	10 051	D
316991	Luggage manufacturing .....	2	6	1	112	2 339	94	174	1 369	4 381	1 791	6 169	17
321	Wood product manufacturing .....	2	217	87	9 177	246 389	6 876	13 926	152 370	466 960	554 067	1 017 760	24 643
3211	Sawmills and wood preservation ..	3	11	3	426	10 192	387	801	9 164	12 627	25 282	37 381	D
32111	Sawmills and wood preservation .....	3	11	3	426	10 192	387	801	9 164	12 627	25 282	37 381	D
321113	Sawmills .....	3	9	2	e	D	D	D	D	D	D	D	D
3212	Veneer, plywood, and engineered wood product manufacturing .....	—	36	23	2 155	56 353	1 741	3 573	36 829	104 573	127 746	232 387	D
32121	Veneer, plywood, and engineered wood product manufacturing .....	—	36	23	2 155	56 353	1 741	3 573	36 829	104 573	127 746	232 387	D
321214	Truss manufacturing .....	—	31	22	2 104	54 845	1 697	3 482	35 643	101 533	122 310	223 584	D
3219	Other wood product manufacturing .....	2	170	61	6 596	179 844	4 748	9 552	106 377	349 760	401 039	747 992	14 293
32191	Millwork .....	2	84	34	3 011	81 896	1 814	3 626	39 615	160 232	175 540	335 277	8 045
321911	Wood window and door manufacturing .....	2	31	14	1 103	30 370	797	1 623	17 721	58 338	54 455	112 981	3 965
321912	Cut stock, resawing lumber, and planing .....	—	13	6	1 269	35 606	485	997	10 608	69 304	82 114	150 291	2 891
321918	Other millwork (including flooring) .....	5	40	14	639	15 920	532	1 006	11 286	32 590	38 971	72 005	1 189
32192	Wood container and pallet manufacturing .....	5	30	7	494	11 005	421	813	8 198	19 134	22 684	41 992	627
321920	Wood container and pallet manufacturing .....	5	30	7	494	11 005	421	813	8 198	19 134	22 684	41 992	627
32199	All other wood product manufacturing .....	2	56	20	3 091	86 943	2 513	5 113	58 564	170 394	202 815	370 723	5 621
321991	Manufactured home (mobile home) manufacturing .....	—	13	10	2 248	63 321	1 854	3 815	42 931	115 110	148 021	261 478	2 120
321992	Prefabricated wood building manufacturing .....	8	15	4	467	13 980	358	716	8 357	26 619	33 315	59 141	1 033
321999	All other miscellaneous wood product manufacturing .....	3	28	6	376	9 642	301	582	7 276	28 665	21 479	50 104	2 468
322	Paper manufacturing .....	2	43	25	2 762	113 162	2 129	4 645	77 223	357 495	443 190	797 518	19 249
3221	Pulp, paper, and paperboard mills .....	—	4	3	f	D	D	D	D	D	D	D	D
32212	Paper mills .....	—	4	3	f	D	D	D	D	D	D	D	D
322121	Paper (except newsprint) mills .....	—	3	2	c	D	D	D	D	D	D	D	D
322122	Newsprint mills .....	—	1	1	e	D	D	D	D	D	D	D	D
3222	Converted paper product manufacturing .....	4	39	22	g	D	D	D	D	D	D	D	D
32221	Paperboard container manufacturing .....	1	17	10	952	36 896	730	1 639	24 830	71 655	154 338	226 624	D
322211	Corrugated and solid fiber box manufacturing .....	—	13	8	812	32 535	621	1 398	21 353	62 199	143 666	206 467	2 562
322212	Folding paperboard box manufacturing .....	9	2	1	c	D	D	D	D	D	D	D	D
32222	Paper bag and coated and treated paper manufacturing ..	—	6	3	c	D	D	D	D	D	D	D	D
322222	Coated and laminated paper manufacturing .....	—	5	2	144	6 229	83	180	3 036	10 465	14 813	25 029	D
32223	Stationery product manufacturing .....	1	6	4	e	D	D	D	D	D	D	D	D
322232	Envelope manufacturing .....	—	3	2	250	8 820	201	423	6 071	18 308	16 258	34 651	399
32229	Other converted paper product manufacturing .....	9	10	5	f	D	D	D	D	D	D	D	D
322299	All other converted paper product manufacturing .....	8	9	4	594	23 993	454	956	16 621	110 591	38 655	149 077	D

**Table 1. Industry Statistics for the State: 2002—Con.**

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NAICS code	Geographic area and industry	All establishments <sup>2</sup>			All employees		Production workers			Value added (\$1,000)	Total cost of materials (\$1,000)	Total value of shipments (\$1,000)	Total capital expenditures (\$1,000)
		E <sup>1</sup>	Total	With 20 employees or more	Number <sup>3</sup>	Payroll (\$1,000)	Number <sup>4</sup>	Hours (1,000)	Wages (\$1,000)				
<b>ARIZONA—Con.</b>													
323	Printing and related support activities .....	2	589	94	7 065	229 396	4 964	9 009	140 792	512 491	259 591	768 942	42 560
3231	Printing and related support activities .....	2	589	94	7 065	229 396	4 964	9 009	140 792	512 491	259 591	768 942	42 560
32311	Printing .....	3	534	84	6 087	193 359	4 139	7 442	114 058	441 417	243 256	680 925	39 664
323110	Commercial lithographic printing .....	2	219	52	3 415	111 609	2 321	4 201	67 556	250 780	138 985	386 590	24 000
323112	Commercial flexographic printing .....	4	12	4	269	9 067	199	402	5 499	20 790	16 881	37 609	1 416
323113	Commercial screen printing ..	2	69	10	725	19 383	517	861	10 512	35 341	22 746	57 845	1 450
323114	Quick printing .....	3	141	6	783	23 548	527	928	14 109	51 129	24 391	75 457	D
323115	Digital printing .....	2	28	3	267	8 953	163	249	4 396	18 344	8 591	26 939	760
323116	Manifold business forms printing .....	2	20	6	359	12 238	234	503	6 997	44 930	20 696	65 400	7 540
323119	Other commercial printing ...	3	32	2	177	5 736	108	212	3 263	13 974	6 608	20 586	458
32312	Support activities for printing...	1	55	10	978	36 037	825	1 567	26 734	71 074	16 335	88 017	2 896
323121	Tradebinding and related work .....	5	24	6	365	9 579	316	570	7 084	16 397	5 079	21 462	2 121
323122	Prepress services .....	—	31	4	613	26 458	509	997	19 650	54 677	11 256	66 555	775
324	Petroleum and coal products manufacturing .....	1	25	5	405	16 863	283	488	10 454	60 482	121 025	181 389	D
3241	Petroleum and coal products manufacturing .....	1	25	5	405	16 863	283	488	10 454	60 482	121 025	181 389	D
32412	Asphalt paving, roofing, and saturated materials manufacturing .....	1	21	5	391	16 103	275	470	10 186	58 144	117 516	175 542	D
324121	Asphalt paving mixture and block manufacturing .....	1	16	5	342	14 248	239	407	9 022	46 806	102 217	148 644	D
325	Chemical manufacturing .....	3	'173	'46	'3 603	'166 725	'2 118	'4 030	'78 451	'636 843	'398 855	'1 041 126	'40 500
3251	Basic chemical manufacturing ...	2	22	5	414	21 481	224	454	9 748	65 676	77 287	145 228	5 672
32512	Industrial gas manufacturing ...	—	7	2	132	6 373	82	172	3 570	34 472	33 754	68 593	2 035
325120	Industrial gas manufacturing ...	—	7	2	132	6 373	82	172	3 570	34 472	33 754	68 593	2 035
32518	Other basic inorganic chemical manufacturing .....	—	6	1	144	7 387	60	120	2 295	14 179	5 974	23 870	D
325188	All other basic inorganic chemical manufacturing ....	—	6	1	144	7 387	60	120	2 295	14 179	5 974	23 870	D
32519	Other basic organic chemical manufacturing .....	8	6	2	c	D	D	D	D	D	D	D	D
3253	Pesticide, fertilizer, and other agricultural chemical manufacturing .....	2	15	3	183	9 125	118	244	5 117	30 892	42 442	72 983	4 049
32531	Fertilizer manufacturing .....	1	11	2	151	7 657	96	199	4 320	23 060	33 545	56 364	3 865
3254	Pharmaceutical and medicine manufacturing .....	2	31	12	1 242	69 230	714	1 124	30 333	324 074	111 754	440 321	16 677
32541	Pharmaceutical and medicine manufacturing .....	2	31	12	1 242	69 230	714	1 124	30 333	324 074	111 754	440 321	16 677
325411	Medicinal and botanical manufacturing .....	4	11	3	c	D	D	D	D	D	D	D	D
325412	Pharmaceutical preparation manufacturing .....	1	16	8	1 017	59 345	560	826	24 790	297 841	90 528	392 504	13 313
3255	Paint, coating, and adhesive manufacturing .....	3	28	4	283	10 552	169	333	5 072	35 677	35 537	71 719	D
32551	Paint and coating manufacturing .....	6	21	1	155	6 139	89	169	2 640	20 342	18 947	39 670	801
325510	Paint and coating manufacturing .....	6	21	1	155	6 139	89	169	2 640	20 342	18 947	39 670	801
32552	Adhesive manufacturing .....	—	7	3	128	4 413	80	164	2 432	15 335	16 590	32 049	D
325520	Adhesive manufacturing ....	—	7	3	128	4 413	80	164	2 432	15 335	16 590	32 049	D
3256	Soap, cleaning compound, and toilet preparation manufacturing ..	3	26	6	356	10 882	237	485	5 537	49 474	32 935	82 187	D
32562	Toilet preparation manufacturing .....	3	11	4	e	D	D	D	D	D	D	D	839
325620	Toilet preparation manufacturing .....	3	11	4	e	D	D	D	D	D	D	D	839
3259	Other chemical product and preparation manufacturing .....	5	'48	'15	'1 086	'44 242	'626	'1 326	'21 946	'128 505	'95 553	'222 742	D
32591	Printing ink manufacturing ....	'4	'6	'2	c	D	D	D	D	D	D	D	'521
325910	Printing ink manufacturing ...	'4	'6	'2	c	D	D	D	D	D	D	D	'521
32592	Explosives manufacturing .....	—	2	1	c	D	D	D	D	D	D	D	D
325920	Explosives manufacturing ...	—	2	1	c	D	D	D	D	D	D	D	D
32599	All other chemical product and preparation manufacturing ...	6	40	12	713	29 219	451	950	16 191	87 996	74 350	162 465	D
325991	Custom compounding of purchased resins .....	5	13	4	160	6 247	100	189	3 465	16 309	21 889	38 050	5 476
325992	Photographic film, paper, plate, and chemical manufacturing .....	2	11	3	141	4 795	79	176	1 920	9 031	7 832	16 747	D
325998	All other miscellaneous chemical product and preparation manufacturing .	7	16	5	412	18 177	272	585	10 806	62 656	44 629	107 668	D

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			Total	With 20 employees or more	Number <sup>3</sup>	Payroll (\$1,000)	Number <sup>4</sup>	Hours (1,000)	Wages (\$1,000)				
<b>ARIZONA—Con.</b>													
326	Plastics and rubber products manufacturing .....	1	217	95	8 556	268 174	6 511	13 032	167 393	759 229	641 961	1 385 302	62 798
3261	Plastics product manufacturing ..	1	190	85	8 071	252 162	6 157	12 320	157 723	726 450	614 272	1 325 247	61 017
32611	Plastics packaging materials and un laminated film and sheet manufacturing .....	1	13	6	404	14 877	305	610	10 044	32 704	41 275	73 679	1 226
326112	Plastics packaging film and sheet (including laminated) manufacturing .....	—	5	3	250	10 243	201	455	7 805	23 265	31 549	54 536	956
32612	Plastics pipe, pipe fitting, and un laminated profile shape manufacturing .....	1	16	10	905	28 995	769	1 707	22 237	131 808	130 007	256 968	21 164
326121	Un laminated plastics profile shape manufacturing .....	1	11	6	332	10 646	270	557	7 574	33 735	35 910	68 076	12 925
326122	Plastics pipe and pipe fitting manufacturing .....	1	5	4	573	18 349	499	1 150	14 663	98 073	94 097	188 892	8 239
32614	Polystyrene foam product manufacturing .....	—	8	5	465	11 288	418	922	9 186	55 057	49 121	104 956	1 183
326140	Polystyrene foam product manufacturing .....	—	8	5	465	11 288	418	922	9 186	55 057	49 121	104 956	1 183
32615	Urethane and other foam product (except polystyrene) manufacturing .....	—	8	4	202	5 400	140	296	2 916	22 070	16 651	38 163	1 565
326150	Urethane and other foam product (except polystyrene) manufacturing .....	—	8	4	202	5 400	140	296	2 916	22 070	16 651	38 163	1 565
32616	Plastics bottle manufacturing ..	1	8	4	317	11 671	287	590	9 865	41 171	47 787	85 638	4 950
326160	Plastics bottle manufacturing .....	1	8	4	317	11 671	287	590	9 865	41 171	47 787	85 638	4 950
32619	Other plastics product manufacturing .....	1	134	55	5 740	178 587	4 209	8 136	102 504	440 084	325 154	758 010	30 664
326191	Plastics plumbing fixture manufacturing .....	2	15	7	e	D	D	D	D	D	D	D	D
326199	All other plastics product manufacturing .....	1	117	47	5 216	161 531	3 882	7 516	94 385	400 961	293 061	688 439	29 074
3262	Rubber product manufacturing ...	2	27	10	485	16 012	354	712	9 670	32 779	27 689	60 055	1 781
32621	Tire manufacturing .....	—	10	3	c	D	D	D	D	D	D	D	D
326212	Tire retreading .....	—	8	3	c	D	D	D	D	D	D	D	D
32629	Other rubber product manufacturing .....	3	15	6	307	9 446	220	457	5 115	20 405	12 942	33 221	D
326291	Rubber product manufacturing for mechanical use .....	1	5	3	147	5 028	101	212	2 673	10 378	5 480	15 757	86
326299	All other rubber product manufacturing .....	5	10	3	160	4 418	119	245	2 442	10 027	7 462	17 464	D
327	Nonmetallic mineral product manufacturing .....	1	277	106	6 905	236 948	5 292	10 433	158 660	727 425	592 179	1 318 080	49 920
3271	Clay product and refractory manufacturing .....	4	46	10	779	24 026	589	1 147	14 679	50 688	30 584	81 064	1 740
32711	Pottery, ceramics, and plumbing fixture manufacturing .....	6	33	7	484	16 212	354	706	9 107	30 621	18 173	48 996	1 033
327112	Vitreous china, fine earthenware, and other pottery product manufacturing .....	8	27	2	c	D	D	D	D	D	D	D	D
327113	Porcelain electrical supply manufacturing .....	4	6	5	e	D	D	D	D	D	D	D	D
32712	Clay building material and refractories manufacturing ....	2	13	3	295	7 814	235	441	5 572	20 067	12 411	32 068	707
327121	Brick and structural clay tile manufacturing .....	—	1	1	c	D	D	D	D	D	D	D	D
3272	Glass and glass product manufacturing .....	2	32	6	476	16 874	326	683	10 975	36 067	26 828	62 861	2 800
32721	Glass and glass product manufacturing .....	2	32	6	476	16 874	326	683	10 975	36 067	26 828	62 861	2 800
327215	Glass product manufacturing made of purchased glass ..	1	24	6	429	15 135	286	602	9 593	30 977	24 575	55 518	2 581
3273	Cement and concrete product manufacturing .....	1	145	77	4 838	169 512	3 745	7 354	115 792	563 221	483 088	1 044 449	41 724
32731	Cement manufacturing .....	1	4	3	279	12 192	213	492	8 411	92 570	50 778	145 021	D
327310	Cement manufacturing .....	1	4	3	279	12 192	213	492	8 411	92 570	50 778	145 021	D
32732	Ready-mix concrete manufacturing .....	2	68	35	2 055	67 432	1 713	3 013	52 046	196 535	248 102	444 197	13 330
327320	Ready-mix concrete manufacturing .....	2	68	35	2 055	67 432	1 713	3 013	52 046	196 535	248 102	444 197	13 330
32733	Concrete pipe, brick, and block manufacturing .....	1	37	21	1 122	39 606	846	1 774	25 226	144 690	110 365	253 360	10 107
327331	Concrete block and brick manufacturing .....	1	30	16	755	26 262	527	1 073	14 624	96 798	89 065	183 825	6 358
327332	Concrete pipe manufacturing .....	—	7	5	367	13 344	319	701	10 602	47 892	21 300	69 535	3 749
32739	Other concrete product manufacturing .....	1	36	18	1 382	50 282	973	2 075	30 109	129 426	73 843	201 871	D
327390	Other concrete product manufacturing .....	1	36	18	1 382	50 282	973	2 075	30 109	129 426	73 843	201 871	D
3274	Lime and gypsum product manufacturing .....	—	6	3	170	6 971	137	260	4 886	27 200	21 807	49 223	D

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			Total	With 20 employees or more	Number <sup>3</sup>	Payroll (\$1,000)	Number <sup>4</sup>	Hours (1,000)	Wages (\$1,000)				
<b>ARIZONA—Con.</b>													
327	Nonmetallic mineral product manufacturing—Con.												
3279	Other nonmetallic mineral product manufacturing .....	1	48	10	642	19 565	495	989	12 328	50 249	29 872	80 483	D
32799	All other nonmetallic mineral product manufacturing .....	1	46	10	f	D	D	D	D	D	D	D	D
327991	Cut stone and stone product manufacturing .....	3	32	6	449	13 193	366	697	9 093	25 419	9 670	34 938	1 111
327999	All other miscellaneous nonmetallic mineral product manufacturing .....	—	7	4	133	3 811	92	211	2 266	8 903	9 540	18 664	243
331	Primary metal manufacturing .....	—	72	30	4 552	171 154	3 648	7 658	124 428	524 249	583 868	1 133 312	41 859
3311	Iron and steel mills and ferroalloy manufacturing .....	—	2	1	c	D	D	D	D	D	D	D	D
33111	Iron and steel mills and ferroalloy manufacturing .....	—	2	1	c	D	D	D	D	D	D	D	D
331111	Iron and steel mills .....	—	2	1	c	D	D	D	D	D	D	D	D
3312	Steel product manufacturing from purchased steel .....	—	10	4	e	D	D	D	D	D	D	D	D
33121	Iron and steel pipe and tube manufacturing from purchased steel .....	—	2	1	c	D	D	D	D	D	D	D	D
331210	Iron and steel pipe and tube manufacturing from purchased steel .....	—	2	1	c	D	D	D	D	D	D	D	D
33122	Rolling and drawing of purchased steel .....	1	8	3	c	D	D	D	D	D	D	D	371
331222	Steel wire drawing .....	1	8	3	c	D	D	D	D	D	D	D	371
3313	Alumina and aluminum production and processing .....	1	12	8	1 112	44 407	963	2 075	36 047	80 606	97 831	192 940	D
33131	Alumina and aluminum production and processing ...	1	12	8	1 112	44 407	963	2 075	36 047	80 606	97 831	192 940	D
331314	Secondary smelting and alloying of aluminum .....	3	2	2	c	D	D	D	D	D	D	D	D
331316	Aluminum extruded product manufacturing .....	—	5	4	921	37 184	813	1 757	31 093	62 591	68 450	145 305	5 947
3314	Nonferrous metal (except aluminum) production and processing .....	—	19	7	1 809	72 611	1 362	2 745	49 769	323 763	290 464	623 398	30 579
33141	Nonferrous metal (except aluminum) smelting and refining .....	—	5	3	1 450	59 170	1 080	2 135	40 320	280 822	185 500	477 698	D
331411	Primary smelting and refining of copper .....	—	1	1	g	D	D	D	D	D	D	D	D
331419	Primary smelting and refining of nonferrous metal (except copper and aluminum) .....	—	4	2	c	D	D	D	D	D	D	D	D
33142	Copper rolling, drawing, extruding, and alloying .....	—	4	2	c	D	D	D	D	D	D	D	D
331422	Copper wire (except mechanical) drawing .....	—	3	2	c	D	D	D	D	D	D	D	D
33149	Nonferrous metal (except copper and aluminum) rolling, drawing, extruding, and alloying .....	2	10	2	c	D	D	D	D	D	D	D	D
3315	Foundries .....	1	29	10	1 044	33 615	856	1 814	24 849	61 275	41 767	101 454	3 596
33151	Ferrous metal foundries .....	—	10	3	463	15 780	379	754	11 679	24 636	27 056	50 747	698
331512	Steel investment foundries ..	—	4	2	e	D	D	D	D	D	D	D	D
331513	Steel foundries (except investment) .....	—	6	1	c	D	D	D	D	D	D	D	D
33152	Nonferrous metal foundries .....	2	19	7	581	17 835	477	1 060	13 170	36 639	14 711	50 707	2 898
331522	Nonferrous (except aluminum) die-casting foundries .....	—	2	1	c	D	D	D	D	D	D	D	D
331524	Aluminum foundries (except die-casting) .....	1	4	1	c	D	D	D	D	D	D	D	D
331525	Copper foundries (except die-casting) .....	1	9	3	167	4 702	145	295	3 563	7 153	3 776	10 921	D
332	Fabricated metal product manufacturing .....	2	916	211	18 286	681 236	13 234	25 647	418 386	1 917 582	1 297 742	3 216 007	80 728
3321	Forging and stamping .....	3	29	14	857	34 954	684	1 468	22 587	88 233	86 113	177 274	3 903
33211	Forging and stamping .....	3	29	14	857	34 954	684	1 468	22 587	88 233	86 113	177 274	3 903
332114	Custom roll forming .....	3	6	4	c	D	D	D	D	D	D	D	D
332116	Metal stamping .....	2	18	9	598	25 813	492	1 089	16 459	68 227	47 162	118 024	2 487
3323	Architectural and structural metals manufacturing .....	3	250	78	6 484	207 600	4 615	8 633	126 244	529 239	443 960	964 346	21 358
33231	Plate work and fabricated structural product manufacturing .....	4	69	27	2 260	77 341	1 540	2 907	46 179	239 707	207 546	447 008	4 991
332311	Prefabricated metal building and component manufacturing .....	9	10	2	610	17 311	408	679	9 743	33 393	44 465	77 758	1 323
332312	Fabricated structural metal manufacturing .....	3	52	23	1 496	52 829	1 001	1 940	30 463	189 562	156 453	346 438	3 364
332313	Plate work manufacturing ...	—	7	2	154	7 201	131	288	5 973	16 752	6 628	22 812	304

**Table 1. Industry Statistics for the State: 2002—Con.**

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NAICS code	Geographic area and industry	All establishments <sup>2</sup>		All employees		Production workers			Value added (\$1,000)	Total cost of materials (\$1,000)	Total value of shipments (\$1,000)	Total capital expenditures (\$1,000)	
		E <sup>1</sup>	Total	With 20 employees or more	Number <sup>3</sup>	Payroll (\$1,000)	Number <sup>4</sup>	Hours (1,000)					Wages (\$1,000)
<b>ARIZONA—Con.</b>													
332	Fabricated metal product manufacturing—Con.												
3323	Architectural and structural metals manufacturing—Con.												
33232	Ornamental and architectural metal products manufacturing .....	2	181	51	4 224	130 259	3 075	5 726	80 065	289 532	236 414	517 338	16 367
332321	Metal window and door manufacturing .....	2	27	13	1 429	47 508	956	1 879	26 023	89 213	94 239	176 645	5 090
332322	Sheet metal work manufacturing .....	1	89	28	1 754	54 634	1 233	2 231	33 796	133 396	100 053	231 703	7 525
332323	Ornamental and architectural metal work manufacturing ..	3	65	10	1 041	28 117	886	1 616	20 246	66 923	42 122	108 990	3 752
3324	Boiler, tank, and shipping container manufacturing .....	—	19	5	352	13 536	264	543	9 068	42 049	64 535	106 230	D
33242	Metal tank (heavy gauge) manufacturing .....	4	12	2	164	4 557	122	255	2 628	9 703	7 076	16 789	220
332420	Metal tank (heavy gauge) manufacturing .....	4	12	2	164	4 557	122	255	2 628	9 703	7 076	16 789	220
33243	Metal can, box, and other metal container (light gauge) manufacturing .....	—	4	2	c	D	D	D	D	D	D	D	D
332431	Metal can manufacturing .....	—	1	1	c	D	D	D	D	D	D	D	D
3325	Hardware manufacturing .....	—	18	7	456	17 944	282	569	8 064	60 737	69 252	132 971	3 144
33251	Hardware manufacturing .....	—	18	7	456	17 944	282	569	8 064	60 737	69 252	132 971	3 144
332510	Hardware manufacturing .....	—	18	7	456	17 944	282	569	8 064	60 737	69 252	132 971	3 144
3326	Spring and wire product manufacturing .....	1	26	6	422	14 411	327	676	9 665	42 862	35 654	76 648	2 939
33261	Spring and wire product manufacturing .....	1	26	6	422	14 411	327	676	9 665	42 862	35 654	76 648	2 939
332612	Spring (light gauge) manufacturing .....	—	5	1	c	D	D	D	D	D	D	D	D
332618	Other fabricated wire product manufacturing .....	3	20	4	236	8 326	179	397	5 403	20 401	20 385	38 753	1 130
3327	Machine shops; turned product; and screw, nut, and bolt manufacturing .....	2	359	59	4 497	169 035	3 442	6 827	117 994	320 310	144 286	466 419	24 080
33271	Machine shops .....	2	314	40	3 172	117 645	2 325	4 471	79 105	218 494	95 289	314 891	10 754
332710	Machine shops .....	2	314	40	3 172	117 645	2 325	4 471	79 105	218 494	95 289	314 891	10 754
33272	Turned product and screw, nut, and bolt manufacturing .....	—	45	19	1 325	51 390	1 117	2 356	38 889	101 816	48 997	151 528	13 326
332721	Precision turned product manufacturing .....	—	37	16	1 053	38 584	902	1 860	30 152	71 258	34 993	106 554	12 657
332722	Bolt, nut, screw, rivet, and washer manufacturing .....	2	8	3	272	12 806	215	496	8 737	30 558	14 004	44 974	669
3328	Coating, engraving, heat treating, and allied activities .....	3	106	16	1 478	42 188	1 204	2 307	30 145	90 307	33 393	123 562	D
33281	Coating, engraving, heat treating, and allied activities ..	3	106	16	1 478	42 188	1 204	2 307	30 145	90 307	33 393	123 562	D
332811	Metal heat treating .....	1	10	1	154	5 250	120	231	3 607	13 255	2 894	16 189	D
332812	Metal coating, engraving (except jewelry and silverware), and allied services to manufacturers ..	3	48	10	872	23 729	728	1 438	17 253	51 431	22 062	73 186	2 847
332813	Electroplating, plating, polishing, anodizing, and coloring .....	3	48	5	452	13 209	356	638	9 285	25 621	8 437	34 187	1 628
3329	Other fabricated metal product manufacturing .....	2	98	26	3 666	178 744	2 357	4 503	92 599	737 157	417 359	1 158 660	17 314
33291	Metal valve manufacturing ....	2	18	9	g	D	D	D	D	D	D	D	12 562
332912	Fluid power valve and hose fitting manufacturing .....	—	8	6	1 788	109 959	1 019	1 961	54 358	397 724	271 207	673 422	D
332913	Plumbing fixture fitting and trim manufacturing .....	9	3	1	c	D	D	D	D	D	D	D	D
33299	All other fabricated metal product manufacturing .....	1	80	17	g	D	D	D	D	D	D	D	4 752
332994	Small arms manufacturing ...	2	8	3	320	10 556	242	514	7 645	38 413	14 204	52 208	567
332995	Other ordnance and accessories manufacturing .	—	2	1	e	D	D	D	D	D	D	D	D
332999	All other miscellaneous fabricated metal product manufacturing .....	1	53	11	838	26 999	674	1 289	18 739	62 550	42 944	105 134	2 476
333	Machinery manufacturing .....	2	308	80	9 266	364 578	5 740	11 332	173 550	828 227	787 501	1 591 262	43 602
3331	Agriculture, construction, and mining machinery manufacturing .....	1	26	11	1 427	48 753	1 021	2 070	28 403	127 815	181 688	302 097	5 732
33311	Agricultural implement manufacturing .....	—	11	6	1 024	30 279	763	1 609	18 480	93 716	131 587	217 301	4 862
333111	Farm machinery and equipment manufacturing ..	—	7	3	e	D	D	D	D	D	D	D	D
333112	Lawn and garden tractor and home lawn and garden equipment manufacturing ..	—	4	3	f	D	D	D	D	D	D	D	D
33312	Construction machinery manufacturing .....	5	7	4	270	12 353	216	380	8 667	23 812	37 470	61 368	280
333120	Construction machinery manufacturing .....	5	7	4	270	12 353	216	380	8 667	23 812	37 470	61 368	280

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			Total	With 20 employees or more	Number <sup>3</sup>	Payroll (\$1,000)	Number <sup>4</sup>	Hours (1,000)	Wages (\$1,000)				
<b>ARIZONA—Con.</b>													
333	Machinery manufacturing—Con.												
3331	Agriculture, construction, and mining machinery manufacturing—Con.												
33313	Mining and oil and gas field machinery manufacturing . . . .	1	8	1	133	6 121	42	81	1 256	10 287	12 631	23 428	590
333131	Mining machinery and equipment manufacturing . .	1	7	1	c	D	D	D	D	D	D	D	D
3332	Industrial machinery manufacturing . . . . .	—	'57	'23	'2 545	'122 662	'1 337	'2 850	'48 507	'261 521	'254 363	'494 575	'20 080
33321	Sawmill and woodworking machinery manufacturing . . . . .	—	5	3	110	3 585	81	184	2 284	5 469	5 827	11 323	111
333210	Sawmill and woodworking machinery manufacturing . .	—	5	3	110	3 585	81	184	2 284	5 469	5 827	11 323	111
33329	Other industrial machinery manufacturing . . . . .	—	'47	'20	'2 421	'118 565	'1 245	'2 647	'45 937	'255 202	'247 935	'481 807	'19 947
333293	Printing machinery and equipment manufacturing . .	—	'7	'3	'251	'8 208	'195	'361	'5 124	'18 658	'10 517	'29 217	'332
333295	Semiconductor machinery manufacturing . . . . .	—	21	11	1 625	91 554	675	1 477	29 071	207 376	211 211	397 064	18 500
333298	All other industrial machinery manufacturing . . . . .	2	'13	'6	'530	'18 242	'366	'792	'11 473	'28 045	'25 274	'53 470	'1 080
3333	Commercial and service industry machinery manufacturing . . . . .	4	57	8	1 153	37 881	616	1 039	12 940	84 741	66 488	151 122	3 343
33331	Commercial and service industry machinery manufacturing . . . . .	4	57	8	1 153	37 881	616	1 039	12 940	84 741	66 488	151 122	3 343
333314	Optical instrument and lens manufacturing . . . . .	2	11	1	153	9 772	52	105	2 315	19 167	9 353	28 541	567
333319	Other commercial and service industry machinery manufacturing . . . . .	5	29	6	879	23 348	482	782	8 003	55 941	49 211	104 990	2 381
3334	Ventilation, heating, air-conditioning, and commercial refrigeration equipment manufacturing . . . . .	—	30	12	1 576	49 486	1 129	2 178	26 095	154 520	122 386	280 876	2 593
33341	Ventilation, heating, air-conditioning, and commercial refrigeration equipment manufacturing . . . . .	—	30	12	1 576	49 486	1 129	2 178	26 095	154 520	122 386	280 876	2 593
333415	Air-conditioning and warm air heating equipment and commercial and industrial refrigeration equipment manufacturing . . . . .	—	19	11	1 508	47 245	1 079	2 086	24 888	149 340	119 244	272 583	2 430
3335	Metalworking machinery manufacturing . . . . .	4	85	14	1 273	50 315	892	1 684	32 409	98 110	53 394	150 383	5 082
33351	Metalworking machinery manufacturing . . . . .	4	85	14	1 273	50 315	892	1 684	32 409	98 110	53 394	150 383	5 082
333511	Industrial mold manufacturing . . . . .	—	25	6	502	19 123	381	722	14 506	38 258	15 810	53 325	2 473
333514	Special die and tool, die set, jig, and fixture manufacturing . . . . .	2	29	3	270	9 542	188	286	6 074	16 752	6 257	23 038	933
333515	Cutting tool and machine tool accessory manufacturing . . . . .	7	23	1	147	5 002	108	194	3 318	10 082	5 096	15 164	240
333518	Other metalworking machinery manufacturing . .	9	2	1	c	D	D	D	D	D	D	D	D
3336	Engine, turbine, and power transmission equipment manufacturing . . . . .	5	7	2	104	5 323	68	129	3 083	14 325	8 068	22 933	249
33361	Engine, turbine, and power transmission equipment manufacturing . . . . .	5	7	2	104	5 323	68	129	3 083	14 325	8 068	22 933	249
3339	Other general purpose machinery manufacturing . . . . .	4	46	10	1 188	50 158	677	1 382	22 113	87 195	101 114	189 276	6 523
33392	Material handling equipment manufacturing . . . . .	8	10	1	296	12 450	178	385	5 117	6 547	29 700	37 411	D
333922	Conveyor and conveying equipment manufacturing . .	9	3	1	e	D	D	D	D	D	D	D	D
33399	All other general purpose machinery manufacturing . . . . .	2	29	8	812	33 686	484	978	16 226	63 701	69 290	132 692	5 796
333999	All other miscellaneous general purpose machinery manufacturing . . . . .	1	22	8	773	31 486	465	936	15 334	59 608	64 877	123 851	5 633
334	Computer and electronic product manufacturing . . . . .	—	322	133	32 390	1 715 327	15 528	30 596	582 639	10 999 380	2 446 284	13 580 259	219 502
3341	Computer and peripheral equipment manufacturing . . . . .	4	31	7	f	D	D	D	D	D	D	D	3 876
33411	Computer and peripheral equipment manufacturing . . . . .	4	31	7	f	D	D	D	D	D	D	D	3 876
334119	Other computer peripheral equipment manufacturing . .	3	21	5	515	28 212	349	677	17 247	41 170	55 496	95 348	3 079

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<b>ARIZONA—Con.</b>													
334	Computer and electronic product manufacturing—Con.												
3342	Communications equipment manufacturing .....	3	31	13	g	D	D	D	D	D	D	D	6 077
33422	Radio and television broadcasting and wireless communications equipment manufacturing .....	3	21	9	1 055	51 658	622	1 413	21 770	113 698	103 080	218 686	D
334220	Radio and television broadcasting and wireless communications equipment manufacturing .....	3	21	9	1 055	51 658	622	1 413	21 770	113 698	103 080	218 686	D
33429	Other communications equipment manufacturing ....	2	7	4	183	7 091	104	133	1 842	21 992	11 890	33 628	976
334290	Other communications equipment manufacturing ..	2	7	4	183	7 091	104	133	1 842	21 992	11 890	33 628	976
3343	Audio and video equipment manufacturing .....	7	12	3	293	10 255	163	346	3 756	85 657	32 512	117 166	518
33431	Audio and video equipment manufacturing .....	7	12	3	293	10 255	163	346	3 756	85 657	32 512	117 166	518
334310	Audio and video equipment manufacturing .....	7	12	3	293	10 255	163	346	3 756	85 657	32 512	117 166	518
3344	Semiconductor and other electronic component manufacturing .....	—	140	70	20 540	1 053 718	11 121	21 969	418 366	9 314 882	1 285 539	10 728 298	140 688
33441	Semiconductor and other electronic component manufacturing .....	—	140	70	20 540	1 053 718	11 121	21 969	418 366	9 314 882	1 285 539	10 728 298	140 688
334411	Electron tube manufacturing .	9	5	1	e	D	D	D	D	D	D	D	D
334412	Bare printed circuit board manufacturing .....	2	16	10	559	18 144	430	868	11 278	39 261	27 153	66 409	1 501
334413	Semiconductor and related device manufacturing .....	—	46	25	13 254	775 007	6 295	12 319	271 723	8 721 628	774 229	9 606 039	101 709
334416	Electronic coil, transformer, and other inductor manufacturing .....	—	9	3	c	D	D	D	D	D	D	D	D
334417	Electronic connector manufacturing .....	—	4	2	1 052	32 743	847	1 352	23 739	57 709	50 016	106 700	D
334418	Printed circuit assembly (electronic assembly) manufacturing .....	—	23	16	4 078	167 449	2 575	5 465	81 670	373 087	344 468	727 217	34 497
334419	Other electronic component manufacturing .....	—	35	13	1 134	44 431	602	1 203	18 716	101 253	57 810	158 899	2 087
3345	Navigational, measuring, electromedical, and control instruments manufacturing .....	—	93	36	9 205	541 560	2 793	5 205	106 652	1 270 579	861 257	2 141 708	52 546
33451	Navigational, measuring, electromedical, and control instruments manufacturing ...	—	93	36	9 205	541 560	2 793	5 205	106 652	1 270 579	861 257	2 141 708	52 546
334510	Electromedical and electrotherapeutic apparatus manufacturing...	2	6	3	694	39 637	301	504	10 588	15 897	69 504	86 184	3 663
334511	Search, detection, navigation, guidance, aeronautical, and nautical system and instrument manufacturing .....	—	23	12	5 021	307 233	1 153	2 288	50 572	937 424	467 586	1 413 253	39 626
334513	Instruments and related products manufacturing for measuring, displaying, and controlling industrial process variables .....	—	14	3	1 256	83 460	352	656	11 723	101 213	137 228	235 665	1 475
334514	Totalizing fluid meter and counting device manufacturing .....	7	3	2	109	4 454	62	67	1 889	6 023	8 115	14 138	295
334515	Instrument manufacturing for measuring and testing electricity and electrical signals .....	—	24	7	672	27 565	239	483	7 671	57 195	26 551	83 453	2 733
334516	Analytical laboratory instrument manufacturing ..	1	8	2	166	7 768	76	123	2 795	26 779	11 226	36 562	660
334519	Other measuring and controlling device manufacturing .....	—	10	6	1 240	69 214	579	1 014	20 082	120 965	136 038	262 009	3 968
3346	Manufacturing and reproducing magnetic and optical media.....	—	15	4	452	17 488	348	802	12 107	140 406	85 705	223 624	15 797
33461	Manufacturing and reproducing magnetic and optical media...	—	15	4	452	17 488	348	802	12 107	140 406	85 705	223 624	15 797
334612	Prerecorded compact disc (except software), tape, and record reproducing .....	3	12	3	c	D	D	D	D	D	D	D	D
334613	Magnetic and optical recording media manufacturing .....	—	2	1	c	D	D	D	D	D	D	D	D
335	Electrical equipment, appliance, and component manufacturing .....	1	83	24	3 232	115 133	2 034	3 762	46 449	315 513	281 260	594 253	20 561

**Table 1. Industry Statistics for the State: 2002—Con.**

[Includes data for industry groups and industries with 100 employees or more. Data based on the 2002 Economic Census. For information on confidentiality protection, nonsampling error, explanation of terms, and geographical definitions, see note at end of table. For information on geographic areas followed by \*, see Appendix D. For meaning of abbreviations and symbols, see introductory text]

NAICS code	Geographic area and industry	E1	All establishments <sup>2</sup>		All employees		Production workers			Value added (\$1,000)	Total cost of materials (\$1,000)	Total value of shipments (\$1,000)	Total capital expenditures (\$1,000)
			Total	With 20 employees or more	Number <sup>3</sup>	Payroll (\$1,000)	Number <sup>4</sup>	Hours (1,000)	Wages (\$1,000)				
<b>ARIZONA—Con.</b>													
335	Electrical equipment, appliance, and component manufacturing—Con.												
3351	Electric lighting equipment manufacturing .....	—	16	4	647	26 558	401	830	10 658	78 607	46 152	124 636	2 354
33512	Lighting fixture manufacturing ..	—	16	4	647	26 558	401	830	10 658	78 607	46 152	124 636	2 354
335121	Residential electric lighting fixture manufacturing .....	1	6	1	c	D	D	D	D	D	D	D	56
335129	Other lighting equipment manufacturing .....	—	9	3	495	22 296	282	562	8 005	69 813	42 732	112 259	D
3352	Household appliance manufacturing .....	—	6	2	c	D	D	D	D	D	D	D	496
33522	Major appliance manufacturing.	—	3	1	c	D	D	D	D	D	D	D	D
335222	Household refrigerator and home freezer manufacturing .....	—	1	1	c	D	D	D	D	D	D	D	D
3353	Electrical equipment manufacturing .....	2	29	10	f	D	D	D	D	D	D	D	1 736
33531	Electrical equipment manufacturing .....	2	29	10	f	D	D	D	D	D	D	D	1 736
335311	Power, distribution, and specialty transformer manufacturing .....	—	3	2	c	D	D	D	D	D	D	D	34
335312	Motor and generator manufacturing .....	3	8	3	279	8 215	225	431	5 976	16 842	16 361	33 202	827
335313	Switchgear and switchboard apparatus manufacturing ...	3	9	3	133	5 453	96	194	3 194	9 139	13 970	23 476	652
335314	Relay and industrial control manufacturing .....	1	9	2	122	5 431	60	129	1 108	9 659	6 238	16 021	223
3359	Other electrical equipment and component manufacturing .....	1	32	8	1 720	57 864	1 051	1 800	20 931	127 446	183 864	310 537	15 975
33591	Battery manufacturing .....	—	3	2	c	D	D	D	D	D	D	D	D
335911	Storage battery manufacturing .....	—	3	2	c	D	D	D	D	D	D	D	D
33592	Communication and energy wire and cable manufacturing ..	1	9	2	g	D	D	D	D	D	D	D	D
335929	Other communication and energy wire manufacturing ..	—	8	2	1 155	37 629	741	1 187	13 255	68 546	137 021	206 384	D
33593	Wiring device manufacturing ...	2	5	1	c	D	D	D	D	D	D	D	359
335931	Current-carrying wiring device manufacturing .....	2	4	1	122	3 429	65	130	1 573	8 242	14 224	22 368	D
33599	All other electrical equipment and component manufacturing .....	1	15	3	c	D	D	D	D	D	D	D	1 153
335999	All other miscellaneous electrical equipment and component manufacturing ..	1	14	3	195	8 181	103	212	2 447	23 332	14 885	38 095	D
336	Transportation equipment manufacturing .....	—	222	86	29 570	1 730 902	13 682	27 719	525 461	4 396 849	4 139 890	8 645 624	152 252
3362	Motor vehicle body and trailer manufacturing .....	1	34	9	852	27 390	678	1 423	17 933	67 203	63 001	129 148	3 074
33621	Motor vehicle body and trailer manufacturing .....	1	34	9	852	27 390	678	1 423	17 933	67 203	63 001	129 148	3 074
336211	Motor vehicle body manufacturing .....	—	13	5	591	20 050	476	1 026	13 389	46 870	45 251	91 211	2 594
336214	Travel trailer and camper manufacturing .....	4	14	3	190	4 209	157	301	3 010	9 153	11 733	20 821	250
3363	Motor vehicle parts manufacturing .....	—	85	26	3 458	128 875	2 456	5 032	72 568	353 230	468 644	818 872	D
33631	Motor vehicle gasoline engine and engine parts manufacturing .....	4	22	3	e	D	D	D	D	D	D	D	D
336312	Gasoline engine and engine parts manufacturing .....	4	20	2	250	7 745	171	298	4 635	12 152	17 137	29 339	441
33632	Motor vehicle electrical and electronic equipment manufacturing .....	3	7	3	e	D	D	D	D	D	D	D	D
336322	Other motor vehicle electrical and electronic equipment manufacturing .....	3	5	2	244	8 525	146	259	3 257	37 507	39 891	77 156	D
33633	Motor vehicle steering and suspension component (except spring) manufacturing .....	—	4	1	e	D	D	D	D	D	D	D	47
336330	Motor vehicle steering and suspension component (except spring) manufacturing .....	—	4	1	e	D	D	D	D	D	D	D	47
33634	Motor vehicle brake system manufacturing .....	—	7	2	150	5 370	104	168	2 250	13 581	17 007	31 437	1 152
336340	Motor vehicle brake system manufacturing .....	—	7	2	150	5 370	104	168	2 250	13 581	17 007	31 437	1 152
33635	Motor vehicle transmission and power train parts manufacturing .....	—	12	4	208	7 920	130	276	3 784	19 892	14 937	34 465	2 654
336350	Motor vehicle transmission and power train parts manufacturing .....	—	12	4	208	7 920	130	276	3 784	19 892	14 937	34 465	2 654
33636	Motor vehicle seating and interior trim manufacturing ....	1	3	1	e	D	D	D	D	D	D	D	D
336360	Motor vehicle seating and interior trim manufacturing ..	1	3	1	e	D	D	D	D	D	D	D	D



**Table 1. Industry Statistics for the State: 2002—Con.**

[Includes data for industry groups and industries with 100 employees or more. Data based on the 2002 Economic Census. For information on confidentiality protection, nonsampling error, explanation of terms, and geographical definitions, see note at end of table. For information on geographic areas followed by \*, see Appendix D. For meaning of abbreviations and symbols, see introductory text]

NAICS code	Geographic area and industry	E <sup>1</sup>	All establishments <sup>2</sup>		All employees		Production workers			Value added (\$1,000)	Total cost of materials (\$1,000)	Total value of shipments (\$1,000)	Total capital expenditures (\$1,000)
			Total	With 20 employees or more	Number <sup>3</sup>	Payroll (\$1,000)	Number <sup>4</sup>	Hours (1,000)	Wages (\$1,000)				
<b>ARIZONA—Con.</b>													
336	Transportation equipment manufacturing—Con.												
3363	Motor vehicle parts manufacturing—Con.												
33637	Motor vehicle metal stamping ..	—	2	2	c	D	D	D	D	D	D	D	D
336370	Motor vehicle metal stamping ..	—	2	2	c	D	D	D	D	D	D	D	D
33639	Other motor vehicle parts manufacturing ..	—	28	10	g	D	D	D	D	D	D	D	D
336399	All other motor vehicle parts manufacturing ..	—	27	9	1 804	74 595	1 374	2 907	45 864	214 244	345 177	555 067	16 919
3364	Aerospace product and parts manufacturing ..	—	80	44	24 809	1 559 673	10 212	20 610	425 523	3 943 974	3 565 891	7 623 128	122 867
33641	Aerospace product and parts manufacturing ..	—	80	44	24 809	1 559 673	10 212	20 610	425 523	3 943 974	3 565 891	7 623 128	122 867
336411	Aircraft manufacturing ..	—	7	6	4 639	298 210	2 440	5 663	120 698	301 468	950 725	1 301 189	D
336412	Aircraft engine and engine parts manufacturing ..	—	28	15	5 577	311 891	2 411	4 481	92 123	1 348 933	963 015	2 339 651	40 829
336413	Other aircraft parts and auxiliary equipment manufacturing ..	—	38	18	h	D	D	D	D	D	D	D	21 120
336414	Guided missile and space vehicle manufacturing ..	—	3	3	j	D	D	D	D	D	D	D	D
336419	Other guided missile and space vehicle parts and auxiliary equipment manufacturing ..	—	2	1	c	D	D	D	D	D	D	D	D
3366	Ship and boat building ..	3	9	4	e	D	D	D	D	D	D	D	D
33661	Ship and boat building ..	3	9	4	e	D	D	D	D	D	D	D	D
336612	Boat building ..	3	7	4	c	D	D	D	D	D	D	D	620
3369	Other transportation equipment manufacturing ..	—	'11	3	c	D	D	D	D	D	D	D	'973
33699	Other transportation equipment manufacturing ..	—	'11	3	c	D	D	D	D	D	D	D	'973
336991	Motorcycle, bicycle, and parts manufacturing ..	—	6	2	c	D	D	D	D	D	D	D	D
337	Furniture and related product manufacturing ..	3	'412	87	'9 010	'238 060	'7 196	'13 824	'160 833	'533 279	'445 558	'985 657	'41 525
3371	Household and institutional furniture and kitchen cabinet manufacturing ..	3	'323	58	'7 190	'178 420	'5 897	'11 276	'124 029	'388 868	'340 887	'735 716	'34 600
33711	Wood kitchen cabinet and countertop manufacturing ..	1	163	27	2 591	75 762	1 980	3 889	49 126	201 148	147 059	347 046	25 129
337110	Wood kitchen cabinet and countertop manufacturing ..	1	163	27	2 591	75 762	1 980	3 889	49 126	201 148	147 059	347 046	25 129
33712	Household and institutional furniture manufacturing ..	4	'160	31	'4 599	'102 658	'3 917	'7 387	'74 903	'187 720	'193 828	'388 670	'9 471
337121	Upholstered household furniture manufacturing ..	2	28	6	376	8 696	326	601	6 878	20 992	22 562	43 563	651
337122	Nonupholstered wood household furniture manufacturing ..	5	'109	20	'3 744	'81 222	'3 211	'5 959	'59 696	'141 280	'152 377	'294 550	'5 066
337124	Metal household furniture manufacturing ..	4	11	2	142	3 848	112	223	2 605	S	8 512	14 548	210
337127	Institutional furniture manufacturing ..	1	8	2	c	D	D	D	D	D	D	D	D
337129	Wood television, radio, and sewing machine cabinet manufacturing ..	—	3	1	c	D	D	D	D	D	D	D	D
3372	Office furniture (including fixtures) manufacturing ..	4	61	20	1 142	37 421	806	1 581	23 587	67 772	43 934	111 326	4 687
33721	Office furniture (including fixtures) manufacturing ..	4	61	20	1 142	37 421	806	1 581	23 587	67 772	43 934	111 326	4 687
337211	Wood office furniture manufacturing ..	6	8	3	139	3 803	108	217	2 516	6 988	4 868	11 856	D
337212	Custom architectural woodwork and millwork manufacturing ..	4	27	9	590	20 432	402	816	12 008	37 863	22 466	59 712	D
337215	Showcase, partition, shelving, and locker manufacturing ..	4	22	7	373	11 890	268	491	8 144	19 090	14 242	33 569	436
3379	Other furniture related product manufacturing ..	—	28	9	678	22 219	493	967	13 217	76 639	60 737	138 615	2 238
33791	Mattress manufacturing ..	—	15	5	451	17 431	345	672	10 726	63 541	50 034	113 280	1 310
337910	Mattress manufacturing ..	—	15	5	451	17 431	345	672	10 726	63 541	50 034	113 280	1 310
33792	Blind and shade manufacturing ..	—	13	4	227	4 788	148	295	2 491	13 098	10 703	25 335	928
337920	Blind and shade manufacturing ..	—	13	4	227	4 788	148	295	2 491	13 098	10 703	25 335	928
339	Miscellaneous manufacturing ..	2	'574	'87	'10 620	'416 017	'6 515	'11 785	'178 687	'1 211 001	'554 974	'1 758 438	'41 744

**Table 1. Industry Statistics for the State: 2002—Con.**

[Includes data for industry groups and industries with 100 employees or more. Data based on the 2002 Economic Census. For information on confidentiality protection, nonsampling error, explanation of terms, and geographical definitions, see note at end of table. For information on geographic areas followed by \*, see Appendix D. For meaning of abbreviations and symbols, see introductory text]

NAICS code	Geographic area and industry	All establishments <sup>2</sup>		All employees		Production workers			Value added (\$1,000)	Total cost of materials (\$1,000)	Total value of shipments (\$1,000)	Total capital expenditures (\$1,000)	
		E <sup>1</sup>	Total	With 20 employees or more	Number <sup>3</sup>	Payroll (\$1,000)	Number <sup>4</sup>	Hours (1,000)					Wages (\$1,000)
<b>ARIZONA—Con.</b>													
339	Miscellaneous manufacturing—Con.												
3391	Medical equipment and supplies manufacturing .....	3	'238	33	'5 085	'225 764	'2 977	'5 071	'93 671	'776 525	'229 272	'1 001 588	'20 311
33911	Medical equipment and supplies manufacturing .....	3	'238	33	'5 085	'225 764	'2 977	'5 071	'93 671	'776 525	'229 272	'1 001 588	'20 311
339111	Laboratory apparatus and furniture manufacturing ....	2	5	1	103	4 755	65	149	2 660	6 892	3 469	10 323	181
339112	Surgical and medical instrument manufacturing ..	3	16	9	1 198	57 588	590	994	13 840	198 699	37 303	240 028	3 267
339113	Surgical appliance and supplies manufacturing ....	3	40	11	2 683	130 693	1 480	2 426	54 571	511 193	171 144	674 424	14 621
339114	Dental equipment and supplies manufacturing ....	4	16	1	119	3 499	78	84	1 421	5 751	2 466	8 182	297
339116	Dental laboratories .....	4	'154	11	'920	'27 097	'716	'1 325	'19 879	'48 412	'11 805	'59 871	'1 677
3399	Other miscellaneous manufacturing .....	2	'336	'54	'5 535	'190 253	'3 538	'6 714	'85 016	'434 476	'325 702	'756 850	'21 433
33991	Jewelry and silverware manufacturing .....	5	45	—	131	3 598	96	156	2 022	7 095	8 563	15 612	262
33992	Sporting and athletic goods manufacturing .....	—	37	8	1 913	73 286	1 206	2 454	32 076	185 333	121 788	309 168	12 723
339920	Sporting and athletic goods manufacturing .....	—	37	8	1 913	73 286	1 206	2 454	32 076	185 333	121 788	309 168	12 723
33993	Doll, toy, and game manufacturing .....	2	17	1	c	D	D	D	D	D	D	D	145
339932	Game, toy, and children's vehicle manufacturing .....	2	16	1	115	3 128	75	117	1 310	9 344	8 823	17 754	D
33995	Sign manufacturing .....	4	117	17	1 404	54 602	685	1 288	18 854	100 076	94 570	197 567	3 717
339950	Sign manufacturing .....	4	117	17	1 404	54 602	685	1 288	18 854	100 076	94 570	197 567	3 717
33999	All other miscellaneous manufacturing .....	3	'108	'28	'1 925	'54 128	'1 445	'2 637	'29 945	'129 636	'88 771	'210 614	'4 520
339992	Musical instrument manufacturing .....	1	9	1	162	3 263	144	236	2 239	16 396	3 031	11 352	216
339999	All other miscellaneous manufacturing .....	3	'87	'26	'1 645	'47 385	'1 204	'2 181	'25 125	'104 383	'80 474	'185 046	'4 163

<sup>1</sup>Some payroll and sales data for 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 statistics 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 where estimated data based on administrative-record data account for 10 percent or more of the figures shown: 1–10 to 19 percent; 2–20 to 29 percent; 3–30 to 39 percent; 4–40 to 49 percent; 5–50 to 59 percent; 6–60 to 69 percent; 7–70 to 79 percent; 8–80 to 89 percent; 9–90 percent or more.

<sup>2</sup>Includes establishments with payroll at any time during the year.

<sup>3</sup>Industries with 100 employees or more are shown. Some statistics are withheld to avoid disclosing data for individual companies. If employment is 100 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.

<sup>4</sup>Number of employees figures represent average number of production workers for pay period that includes the 12th of March, May, August, and November plus other employees for payroll period that includes the 12th of March.

Note: The data in this table are based on the 2002 Economic Census. To maintain confidentiality, the Census Bureau suppresses data to protect the identity of any business or individual. The census results in this table contain nonsampling errors. Data users who create their own estimates using data from American FactFinder tables should cite the Census Bureau as the source of the original data only. For explanation of terms, see Appendix A. For full technical documentation, see Appendix C. For geographical definitions, see Appendix D.

**Table 2. Industry Statistics for Metropolitan and Micropolitan Statistical Areas: 2002**

[Includes data for industry groups and industries with 250 employees or more. Data based on the 2002 Economic Census. For information on confidentiality protection, nonsampling error, explanation of terms, and geographical definitions, see note at end of table. For definitions of CSAs, MeSAs, MISAs, and MDs, see Appendix E. For information on geographic areas followed by \*, see Appendix D. For meaning of abbreviations and symbols, see introductory text]

NAICS code	Geographic area and industry	E <sup>1</sup>	All establishments <sup>2</sup>		All employees		Production workers			Value added (\$1,000)	Total cost of materials (\$1,000)	Total value of shipments (\$1,000)	Total capital expenditures (\$1,000)
			Total	With 20 employees or more	Number <sup>3</sup>	Payroll (\$1,000)	Number <sup>4</sup>	Hours (1,000)	Wages (\$1,000)				
<b>FLAGSTAFF, AZ METROPOLITAN STATISTICAL AREA</b>													
31-33	Manufacturing .....	3	100	19	3 596	155 821	2 193	3 697	73 468	597 513	146 965	731 387	18 351
339	Miscellaneous manufacturing .....	4	23	7	h	D	D	D	D	D	D	D	D
3391	Medical equipment and supplies manufacturing .....	4	11	6	g	D	D	D	D	D	D	D	D
33911	Medical equipment and supplies manufacturing .....	4	11	6	g	D	D	D	D	D	D	D	D
339112	Surgical and medical instrument manufacturing ..	9	1	1	e	D	D	D	D	D	D	D	D
339113	Surgical appliance and supplies manufacturing .....	3	6	5	g	D	D	D	D	D	D	D	D
<b>LAKE HAVASU CITY-KINGMAN, AZ MICROPOLITAN STATISTICAL AREA</b>													
31-33	Manufacturing .....	1	'164	30	'3 385	'105 642	'2 672	'5 430	'73 142	'353 329	'384 119	'738 682	'31 671
321	Wood product manufacturing .....	-	8	2	e	D	D	D	D	D	D	D	428
3212	Veneer, plywood, and engineered wood product manufacturing .....	-	4	2	262	2 365	213	325	1 753	5 490	4 424	9 912	D
32121	Veneer, plywood, and engineered wood product manufacturing .....	-	4	2	262	2 365	213	325	1 753	5 490	4 424	9 912	D
321214	Truss manufacturing .....	-	4	2	262	2 365	213	325	1 753	5 490	4 424	9 912	D
326	Plastics and rubber products manufacturing .....	2	7	4	503	19 170	359	825	11 172	51 434	59 436	111 329	1 630
3261	Plastics product manufacturing ..	2	6	3	e	D	D	D	D	D	D	D	D
32619	Other plastics product manufacturing .....	-	4	2	e	D	D	D	D	D	D	D	D
326199	All other plastics product manufacturing .....	-	3	2	e	D	D	D	D	D	D	D	260
327	Nonmetallic mineral product manufacturing .....	3	15	5	373	14 388	296	639	10 773	55 401	20 366	75 626	1 730
331	Primary metal manufacturing .....	-	4	4	e	D	D	D	D	D	D	D	D
336	Transportation equipment manufacturing .....	1	17	6	e	D	D	D	D	D	D	D	757
337	Furniture and related product manufacturing .....	-	18	2	f	D	D	D	D	D	D	D	D
3371	Household and institutional furniture and kitchen cabinet manufacturing .....	-	16	1	e	D	D	D	D	D	D	D	D
33711	Wood kitchen cabinet and countertop manufacturing .....	-	14	1	e	D	D	D	D	D	D	D	D
337110	Wood kitchen cabinet and countertop manufacturing ..	-	14	1	e	D	D	D	D	D	D	D	D
<b>NOGALES, AZ MICROPOLITAN STATISTICAL AREA</b>													
31-33	Manufacturing .....	2	41	8	f	D	D	D	D	D	D	D	D
<b>PAYSON, AZ MICROPOLITAN STATISTICAL AREA</b>													
31-33	Manufacturing .....	-	21	2	g	D	D	D	D	D	D	D	D
331	Primary metal manufacturing .....	-	1	1	g	D	D	D	D	D	D	D	D
3314	Nonferrous metal (except aluminum) production and processing .....	-	1	1	g	D	D	D	D	D	D	D	D
33141	Nonferrous metal (except aluminum) smelting and refining .....	-	1	1	g	D	D	D	D	D	D	D	D
331411	Primary smelting and refining of copper .....	-	1	1	g	D	D	D	D	D	D	D	D

See footnotes at end of table.

**Table 2. Industry Statistics for Metropolitan and Micropolitan Statistical Areas: 2002—Con.**

[Includes data for industry groups and industries with 250 employees or more. Data based on the 2002 Economic Census. For information on confidentiality protection, nonsampling error, explanation of terms, and geographical definitions, see note at end of table. For definitions of CSAs, MeSAs, MISAs, and MDs, see Appendix E. For information on geographic areas followed by \*, see Appendix D. For meaning of abbreviations and symbols, see introductory text.]

NAICS code	Geographic area and industry	E1	All establishments <sup>2</sup>		All employees		Production workers			Value added (\$1,000)	Total cost of materials (\$1,000)	Total value of shipments (\$1,000)	Total capital expenditures (\$1,000)
			Total	With 20 employees or more	Number <sup>3</sup>	Payroll (\$1,000)	Number <sup>4</sup>	Hours (1,000)	Wages (\$1,000)				
	<b>PHOENIX-MESA-SCOTTSDALE, AZ METROPOLITAN STATISTICAL AREA</b>												
31-33	Manufacturing .....	1	'3 446	'984	'121 324	'5 041 257	'77 297	'153 238	'2 404 757	'20 197 745	'11 401 775	'31 727 962	'692 717
311	Food manufacturing .....	—	157	45	6 394	199 643	4 641	9 803	125 038	1 225 564	1 356 482	2 571 237	51 282
3115	Dairy product manufacturing .....	—	11	8	1 224	55 647	747	1 713	32 361	630 466	437 888	1 069 158	13 343
31151	Dairy product (except frozen) manufacturing .....	—	9	8	1 221	55 557	745	1 709	32 305	630 083	437 616	1 068 503	13 328
311511	Fluid milk manufacturing ....	1	6	5	686	29 318	377	839	14 344	101 761	210 371	313 821	5 688
311514	Dry, condensed, and evaporated dairy product manufacturing .....	—	2	2	e	D	D	D	D	D	D	D	D
3116	Animal slaughtering and processing .....	—	14	4	g	D	D	D	D	D	D	D	D
31161	Animal slaughtering and processing .....	—	14	4	g	D	D	D	D	D	D	D	D
311611	Animal (except poultry) slaughtering .....	—	5	2	g	D	D	D	D	D	D	D	D
3118	Bakeries and tortilla manufacturing .....	1	74	20	2 389	68 677	1 650	3 255	40 309	161 958	110 138	271 141	12 232
31181	Bread and bakery product manufacturing .....	1	63	16	1 918	56 205	1 260	2 649	31 430	118 607	88 250	205 981	D
311811	Retail bakeries .....	1	36	3	302	4 599	134	169	1 923	9 897	6 228	16 119	D
311812	Commercial bakeries .....	1	27	13	1 616	51 606	1 126	2 480	29 507	108 710	82 022	189 862	6 565
31183	Tortilla manufacturing .....	1	9	4	e	D	D	D	D	D	D	D	D
311830	Tortilla manufacturing .....	1	9	4	e	D	D	D	D	D	D	D	D
3119	Other food manufacturing .....	2	27	5	f	D	D	D	D	D	D	D	D
31199	All other food manufacturing ...	3	17	2	e	D	D	D	D	D	D	D	D
312	Beverage and tobacco product manufacturing .....	—	15	8	847	32 087	412	834	12 164	138 178	346 539	486 664	18 556
3121	Beverage manufacturing .....	—	14	7	f	D	D	D	D	D	D	D	D
31211	Soft drink and ice manufacturing .....	—	12	7	f	D	D	D	D	D	D	D	D
312111	Soft drink manufacturing ....	—	6	5	735	28 495	355	721	10 529	107 289	341 593	450 975	17 855
314	Textile product mills .....	1	64	12	g	D	D	D	D	D	D	D	D
3149	Other textile product mills .....	1	39	12	f	D	D	D	D	D	D	D	D
31491	Textile bag and canvas mills ...	1	15	5	e	D	D	D	D	D	D	D	D
31499	All other textile product mills ...	1	24	7	f	D	D	D	D	D	D	D	D
314999	All other miscellaneous textile product mills .....	1	22	6	f	D	D	D	D	D	D	D	D
315	Apparel manufacturing .....	6	53	8	f	D	D	D	D	D	D	D	D
3152	Cut and sew apparel manufacturing .....	7	37	5	e	D	D	D	D	D	D	D	D
31521	Cut and sew apparel contractors .....	7	31	4	e	D	D	D	D	D	D	D	D
315212	Women's, girls', and infants' cut and sew apparel contractors .....	9	26	3	e	D	D	D	D	D	D	D	D
321	Wood product manufacturing .....	1	138	64	7 169	200 668	5 253	10 824	119 777	375 723	460 470	833 254	11 904
3212	Veneer, plywood, and engineered wood product manufacturing ....	—	22	14	g	D	D	D	D	D	D	D	D
32121	Veneer, plywood, and engineered wood product manufacturing .....	—	22	14	g	D	D	D	D	D	D	D	D
321214	Truss manufacturing .....	—	20	14	g	D	D	D	D	D	D	D	2 203
3219	Other wood product manufacturing .....	2	112	49	5 630	155 165	4 015	8 151	90 960	293 846	347 193	638 351	9 585
32191	Millwork .....	2	57	24	g	D	D	D	D	D	D	D	4 702
321911	Wood window and door manufacturing .....	2	19	9	596	17 024	435	901	10 357	29 811	25 497	55 358	858
321912	Cut stock, resawing lumber, and planing .....	—	9	6	g	D	D	D	D	D	D	D	2 855
321918	Other millwork (including flooring) .....	7	29	9	e	D	D	D	D	D	D	D	989
32192	Wood container and pallet manufacturing .....	5	18	7	e	D	D	D	D	D	D	D	492
321920	Wood container and pallet manufacturing .....	5	18	7	e	D	D	D	D	D	D	D	492
32199	All other wood product manufacturing .....	2	37	18	2 947	82 864	2 406	4 918	56 025	159 932	195 011	352 992	4 391
321991	Manufactured home (mobile home) manufacturing .....	—	13	10	2 248	63 321	1 854	3 815	42 931	115 110	148 021	261 478	2 120
321992	Prefabricated wood building manufacturing .....	8	9	4	444	13 280	341	681	7 929	25 404	31 665	56 276	978
321999	All other miscellaneous wood product manufacturing .....	4	15	4	255	6 263	211	422	5 165	19 418	15 325	35 238	1 293

See footnotes at end of table.

**Table 2. Industry Statistics for Metropolitan and Micropolitan Statistical Areas: 2002—Con.**

[Includes data for industry groups and industries with 250 employees or more. Data based on the 2002 Economic Census. For information on confidentiality protection, nonsampling error, explanation of terms, and geographical definitions, see note at end of table. For definitions of CSAs, MeSAs, MISAs, and MDs, see Appendix E. For information on geographic areas followed by \*, see Appendix D. For meaning of abbreviations and symbols, see introductory text.]

NAICS code	Geographic area and industry	E <sup>1</sup>	All establishments <sup>2</sup>		All employees		Production workers			Value added (\$1,000)	Total cost of materials (\$1,000)	Total value of shipments (\$1,000)	Total capital expenditures (\$1,000)
			Total	With 20 employees or more	Number <sup>3</sup>	Payroll (\$1,000)	Number <sup>4</sup>	Hours (1,000)	Wages (\$1,000)				
	<b>PHOENIX-MESA-SCOTTSDALE, AZ METROPOLITAN STATISTICAL AREA—Con.</b>												
322	Paper manufacturing .....	4	35	18	g	D	D	D	D	D	D	D	D
3222	Converted paper product manufacturing .....	4	35	18	g	D	D	D	D	D	D	D	D
32221	Paperboard container manufacturing .....	1	14	7	f	D	D	D	D	D	D	D	D
322211	Corrugated and solid fiber box manufacturing .....	—	10	5	f	D	D	D	D	D	D	D	D
32223	Stationery product manufacturing .....	1	6	4	348	11 996	277	583	7 887	24 034	29 580	53 670	620
322232	Envelope manufacturing .....	—	3	2	250	8 820	201	423	6 071	18 308	16 258	34 651	399
32229	Other converted paper product manufacturing .....	9	9	4	f	D	D	D	D	D	D	D	D
322299	All other converted paper product manufacturing .....	8	8	3	f	D	D	D	D	D	D	D	D
323	Printing and related support activities .....	2	437	78	5 626	188 446	4 006	7 283	115 926	428 010	213 305	638 412	36 002
3231	Printing and related support activities .....	2	437	78	5 626	188 446	4 006	7 283	115 926	428 010	213 305	638 412	36 002
32311	Printing .....	2	394	68	4 709	154 388	3 230	5 801	90 433	360 302	198 886	555 681	33 347
323110	Commercial lithographic printing .....	2	161	41	2 584	88 277	1 792	3 227	53 325	201 980	112 364	311 275	19 978
323113	Commercial screen printing .....	3	54	9	f	D	D	D	D	D	D	D	793
323114	Quick printing .....	3	100	5	612	18 746	407	731	11 112	40 958	19 577	60 477	3 077
323116	Manifold business forms printing .....	3	15	6	333	11 546	217	464	6 520	42 086	19 322	61 218	7 179
32312	Support activities for printing .....	1	43	10	917	34 058	776	1 482	25 493	67 708	14 419	82 731	2 655
323121	Tradebinding and related work .....	5	20	6	333	8 724	289	523	6 493	14 863	4 058	18 911	D
323122	Prepress services .....	—	23	4	584	25 334	487	959	19 000	52 845	10 361	63 820	D
324	Petroleum and coal products manufacturing .....	1	16	4	e	D	D	D	D	D	D	D	D
3241	Petroleum and coal products manufacturing .....	1	16	4	e	D	D	D	D	D	D	D	D
32412	Asphalt paving, roofing, and saturated materials manufacturing .....	1	14	4	e	D	D	D	D	D	D	D	D
324121	Asphalt paving mixture and block manufacturing .....	—	11	4	e	D	D	D	D	D	D	D	D
325	Chemical manufacturing .....	3	129	38	2 679	116 003	1 729	3 292	63 866	512 083	300 970	820 217	25 798
3251	Basic chemical manufacturing .....	—	13	3	259	13 158	138	301	5 821	48 152	44 414	94 029	2 796
3254	Pharmaceutical and medicine manufacturing .....	2	21	10	735	37 104	553	832	23 927	247 856	84 938	340 262	8 917
32541	Pharmaceutical and medicine manufacturing .....	2	21	10	735	37 104	553	832	23 927	247 856	84 938	340 262	8 917
325412	Pharmaceutical preparation manufacturing .....	2	11	6	554	29 427	429	578	19 639	226 936	67 003	301 214	D
3255	Paint, coating, and adhesive manufacturing .....	3	23	4	253	9 287	151	299	4 499	31 362	31 151	63 018	1 501
3256	Soap, cleaning compound, and toilet preparation manufacturing .....	3	20	6	335	10 201	222	456	5 185	46 674	31 484	77 942	D
32562	Toilet preparation manufacturing .....	3	9	4	e	D	D	D	D	D	D	D	D
325620	Toilet preparation manufacturing .....	3	9	4	e	D	D	D	D	D	D	D	D
3259	Other chemical product and preparation manufacturing .....	5	39	12	961	39 667	566	1 196	20 386	115 181	84 706	198 065	10 715
32599	All other chemical product and preparation manufacturing .....	6	32	10	658	26 899	421	892	15 215	79 161	67 068	146 396	D
325998	All other miscellaneous chemical product and preparation manufacturing .....	7	13	4	e	D	D	D	D	D	D	D	2 113
326	Plastics and rubber products manufacturing .....	1	159	70	6 362	201 316	4 787	9 609	123 242	582 857	481 685	1 049 796	56 299
3261	Plastics product manufacturing .....	1	142	63	6 018	189 838	4 545	9 139	116 614	560 581	460 061	1 006 283	55 036
32611	Plastics packaging materials and unlaminated film and sheet manufacturing .....	2	9	4	e	D	D	D	D	D	D	D	D
32612	Plastics pipe, pipe fitting, and unlaminated profile shape manufacturing .....	—	12	7	771	24 770	655	1 465	19 206	124 778	109 430	228 795	20 112
326121	Unlaminated plastics profile shape manufacturing .....	—	8	4	e	D	D	D	D	D	D	D	D
326122	Plastics pipe and pipe fitting manufacturing .....	—	4	3	f	D	D	D	D	D	D	D	D
32614	Polystyrene foam product manufacturing .....	—	8	5	465	11 288	418	922	9 186	55 057	49 121	104 956	1 183
326140	Polystyrene foam product manufacturing .....	—	8	5	465	11 288	418	922	9 186	55 057	49 121	104 956	1 183

See footnotes at end of table.

**Table 2. Industry Statistics for Metropolitan and Micropolitan Statistical Areas: 2002—Con.**

[Includes data for industry groups and industries with 250 employees or more. Data based on the 2002 Economic Census. For information on confidentiality protection, nonsampling error, explanation of terms, and geographical definitions, see note at end of table. For definitions of CSAs, MeSAs, MISAs, and MDs, see Appendix E. For information on geographic areas followed by \*, see Appendix D. For meaning of abbreviations and symbols, see introductory text.]

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			Total	With 20 employees or more	Number <sup>3</sup>	Payroll (\$1,000)	Number <sup>4</sup>	Hours (1,000)	Wages (\$1,000)				
	<b>PHOENIX-MESA-SCOTTSDALE, AZ METROPOLITAN STATISTICAL AREA—Con.</b>												
326	Plastics and rubber products manufacturing—Con.												
3261	Plastics product manufacturing—Con.												
32619	Other plastics product manufacturing .....	1	97	40	4 116	131 945	2 963	5 707	73 484	312 492	225 824	531 829	26 838
326191	Plastics plumbing fixture manufacturing .....	1	6	4	e	D	D	D	D	D	D	D	D
326199	All other plastics product manufacturing .....	1	90	35	3 743	119 139	2 720	5 258	67 180	280 612	198 157	473 991	25 644
3262	Rubber product manufacturing ...	2	17	7	344	11 478	242	470	6 628	22 276	21 624	43 513	1 263
327	Nonmetallic mineral product manufacturing .....	1	162	68	4 449	148 917	3 432	6 625	99 237	438 422	383 076	818 794	25 600
3271	Clay product and refractory manufacturing .....	1	18	4	e	D	D	D	D	D	D	D	D
3272	Glass and glass product manufacturing .....	1	27	6	445	15 749	300	631	10 098	33 019	25 001	57 986	2 655
32721	Glass and glass product manufacturing .....	1	27	6	445	15 749	300	631	10 098	33 019	25 001	57 986	2 655
327215	Glass product manufacturing made of purchased glass ..	1	22	6	e	D	D	D	D	D	D	D	D
3273	Cement and concrete product manufacturing .....	1	88	52	3 322	113 284	2 610	4 976	76 209	360 340	317 924	675 347	20 154
32732	Ready-mix concrete manufacturing .....	1	39	20	1 187	37 074	1 023	1 635	28 535	121 745	158 506	280 484	8 632
327320	Ready-mix concrete manufacturing .....	1	39	20	1 187	37 074	1 023	1 635	28 535	121 745	158 506	280 484	8 632
32733	Concrete pipe, brick, and block manufacturing .....	1	23	16	f	D	D	D	D	D	D	D	7 475
327331	Concrete block and brick manufacturing .....	1	18	11	516	17 639	386	756	10 058	71 268	63 023	132 444	D
327332	Concrete pipe manufacturing .....	1	5	5	e	D	D	D	D	D	D	D	D
32739	Other concrete product manufacturing .....	—	25	15	1 209	44 216	843	1 787	26 052	116 790	64 524	179 923	D
327390	Other concrete product manufacturing .....	—	25	15	1 209	44 216	843	1 787	26 052	116 790	64 524	179 923	D
3279	Other nonmetallic mineral product manufacturing .....	2	26	5	296	8 763	221	446	5 536	22 264	13 556	35 920	905
32799	All other nonmetallic mineral product manufacturing .....	1	25	5	e	D	D	D	D	D	D	D	D
331	Primary metal manufacturing .....	—	45	20	2 447	96 007	1 923	4 149	67 264	217 869	297 370	526 432	14 557
3312	Steel product manufacturing from purchased steel .....	—	7	2	e	D	D	D	D	D	D	D	D
3313	Alumina and aluminum production and processing .....	1	9	6	g	D	D	D	D	D	D	D	D
33131	Alumina and aluminum production and processing ...	1	9	6	g	D	D	D	D	D	D	D	D
331316	Aluminum extruded product manufacturing .....	—	4	3	f	D	D	D	D	D	D	D	D
3314	Nonferrous metal (except aluminum) production and processing .....	—	12	5	e	D	D	D	D	D	D	D	D
3315	Foundries .....	1	16	7	723	24 482	582	1 190	17 514	44 850	34 915	78 266	D
33151	Ferrous metal foundries .....	—	8	3	e	D	D	D	D	D	D	D	D
331512	Steel investment foundries ..	—	3	2	e	D	D	D	D	D	D	D	D
33152	Nonferrous metal foundries....	3	8	4	e	D	D	D	D	D	D	D	D
332	Fabricated metal product manufacturing .....	2	659	172	14 119	537 860	10 234	19 693	329 466	1 402 401	1 029 841	2 427 539	61 990
3321	Forging and stamping.....	2	25	12	752	31 614	590	1 251	20 126	73 737	81 507	157 964	3 514
33211	Forging and stamping.....	2	25	12	752	31 614	590	1 251	20 126	73 737	81 507	157 964	3 514
332116	Metal stamping .....	1	15	7	e	D	D	D	D	D	D	D	D

See footnotes at end of table.

**Table 2. Industry Statistics for Metropolitan and Micropolitan Statistical Areas: 2002—Con.**

[Includes data for industry groups and industries with 250 employees or more. Data based on the 2002 Economic Census. For information on confidentiality protection, nonsampling error, explanation of terms, and geographical definitions, see note at end of table. For definitions of CSAs, MeSAs, MISAs, and MDs, see Appendix E. For information on geographic areas followed by \*, see Appendix D. For meaning of abbreviations and symbols, see introductory text.]

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			Total	With 20 employees or more	Number <sup>3</sup>	Payroll (\$1,000)	Number <sup>4</sup>	Hours (1,000)	Wages (\$1,000)				
	<b>PHOENIX-MESA-SCOTTSDALE, AZ METROPOLITAN STATISTICAL AREA—Con.</b>												
332	Fabricated metal product manufacturing—Con.												
3323	Architectural and structural metals manufacturing .....	3	184	65	4 813	158 742	3 368	6 191	91 994	407 125	370 531	769 788	15 713
33231	Plate work and fabricated structural product manufacturing .....	4	48	22	1 811	62 726	1 283	2 376	37 158	200 601	189 054	389 398	4 267
332311	Prefabricated metal building and component manufacturing .....	9	6	2	f	D	D	D	D	D	D	D	D
332312	Fabricated structural metal manufacturing .....	4	40	19	1 169	44 428	848	1 648	26 875	164 696	144 851	309 366	2 868
33232	Ornamental and architectural metal products manufacturing .....	2	136	43	3 002	96 016	2 085	3 815	54 836	206 524	181 477	380 390	11 446
332321	Metal window and door manufacturing .....	2	23	12	g	D	D	D	D	D	D	D	D
332322	Sheet metal work manufacturing .....	2	65	22	1 196	37 195	837	1 563	22 265	91 387	76 588	167 837	5 836
332323	Ornamental and architectural metal work manufacturing ..	5	48	9	f	D	D	D	D	D	D	D	D
3324	Boiler, tank, and shipping container manufacturing .....	—	11	5	324	12 461	250	514	8 375	39 259	61 977	100 728	2 979
3325	Hardware manufacturing .....	—	14	5	e	D	D	D	D	D	D	D	D
33251	Hardware manufacturing .....	—	14	5	e	D	D	D	D	D	D	D	D
332510	Hardware manufacturing ....	—	14	5	e	D	D	D	D	D	D	D	D
3326	Spring and wire product manufacturing .....	1	19	5	378	12 617	288	586	8 055	40 859	31 601	70 595	2 765
33261	Spring and wire product manufacturing .....	1	19	5	378	12 617	288	586	8 055	40 859	31 601	70 595	2 765
3327	Machine shops: turned product; and screw, nut, and bolt manufacturing .....	2	251	46	3 548	132 256	2 737	5 444	93 827	242 551	109 205	352 595	21 431
33271	Machine shops .....	2	219	32	2 547	94 303	1 875	3 607	63 739	176 591	72 749	249 933	8 936
332710	Machine shops .....	2	219	32	2 547	94 303	1 875	3 607	63 739	176 591	72 749	249 933	8 936
33272	Turned product and screw, nut, and bolt manufacturing .....	1	32	14	1 001	37 953	862	1 837	30 088	65 960	36 456	102 662	12 495
332721	Precision turned product manufacturing .....	—	26	12	f	D	D	D	D	D	D	D	D
3328	Coating, engraving, heat treating, and allied activities .....	3	79	14	1 154	33 739	931	1 728	23 623	73 309	29 103	102 277	3 238
33281	Coating, engraving, heat treating, and allied activities ..	3	79	14	1 154	33 739	931	1 728	23 623	73 309	29 103	102 277	3 238
332812	Metal coating, engraving (except jewelry and silverware), and allied services to manufacturers ..	4	39	9	658	18 109	555	1 032	13 078	40 217	18 992	58 902	D
332813	Electroplating, plating, polishing, anodizing, and coloring .....	3	31	4	e	D	D	D	D	D	D	D	D
3329	Other fabricated metal product manufacturing .....	—	67	20	2 822	145 087	1 820	3 494	75 787	491 399	325 823	819 547	10 453
33291	Metal valve manufacturing ....	—	13	6	g	D	D	D	D	D	D	D	6 973
332912	Fluid power valve and hose fitting manufacturing .....	—	7	5	g	D	D	D	D	D	D	D	D
33299	All other fabricated metal product manufacturing .....	1	54	14	g	D	D	D	D	D	D	D	3 480
332995	Other ordnance and accessories manufacturing .	—	2	1	e	D	D	D	D	D	D	D	D
332999	All other miscellaneous fabricated metal product manufacturing .....	1	36	10	f	D	D	D	D	D	D	D	1 452
333	Machinery manufacturing .....	2	'229	'59	'7 016	'293 070	'4 221	'8 564	'134 596	'653 510	'650 707	'1 278 232	'36 200
3331	Agriculture, construction, and mining machinery manufacturing .....	1	16	8	1 017	34 807	741	1 488	21 030	100 014	160 196	251 174	3 794
33311	Agricultural implement manufacturing .....	—	6	4	f	D	D	D	D	D	D	D	D
333112	Lawn and garden tractor and home lawn and garden equipment manufacturing ..	—	3	3	f	D	D	D	D	D	D	D	D
33312	Construction machinery manufacturing .....	5	6	4	e	D	D	D	D	D	D	D	280
333120	Construction machinery manufacturing .....	5	6	4	e	D	D	D	D	D	D	D	280

See footnotes at end of table.

**Table 2. Industry Statistics for Metropolitan and Micropolitan Statistical Areas: 2002—Con.**

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<b>PHOENIX-MESA-SCOTTSDALE, AZ METROPOLITAN STATISTICAL AREA—Con.</b>													
333	Machinery manufacturing—Con.												
3332	Industrial machinery manufacturing .....	—	'52	'20	'2 463	'119 100	'1 284	'2 752	'46 288	'255 632	'250 509	'484 877	'19 402
33329	Other industrial machinery manufacturing .....	—	'44	'17	g	D	D	D	D	D	D	D	D
333293	Printing machinery and equipment manufacturing ..	—	'7	'3	'251	'8 208	'195	'361	'5 124	'18 658	'10 517	'29 217	'332
333295	Semiconductor machinery manufacturing .....	—	20	10	g	D	D	D	D	D	D	D	D
333298	All other industrial machinery manufacturing .....	1	'11	'4	e	D	D	D	D	D	D	D	D
3333	Commercial and service industry machinery manufacturing .....	5	38	4	416	17 814	210	402	6 244	38 018	30 149	68 101	D
33331	Commercial and service industry machinery manufacturing .....	5	38	4	416	17 814	210	402	6 244	38 018	30 149	68 101	D
333319	Other commercial and service industry machinery manufacturing .....	5	22	3	296	13 080	131	258	3 787	28 231	22 094	50 255	1 284
3334	Ventilation, heating, air-conditioning, and commercial refrigeration equipment manufacturing .....	—	22	10	g	D	D	D	D	D	D	D	2 439
33341	Ventilation, heating, air-conditioning, and commercial refrigeration equipment manufacturing .....	—	22	10	g	D	D	D	D	D	D	D	2 439
333415	Air-conditioning and warm air heating equipment and commercial and industrial refrigeration equipment manufacturing .....	—	16	9	g	D	D	D	D	D	D	D	D
3335	Metalworking machinery manufacturing .....	4	63	10	943	39 202	649	1 335	24 477	76 911	43 901	119 936	3 444
33351	Metalworking machinery manufacturing .....	4	63	10	943	39 202	649	1 335	24 477	76 911	43 901	119 936	3 444
333511	Industrial mold manufacturing .....	—	17	4	300	11 919	232	511	9 114	25 016	9 608	34 120	D
3339	Other general purpose machinery manufacturing .....	3	32	6	888	37 044	473	936	14 588	60 949	73 013	135 398	5 270
33392	Material handling equipment manufacturing .....	8	8	1	e	D	D	D	D	D	D	D	D
333922	Conveyor and conveying equipment manufacturing ..	9	3	1	e	D	D	D	D	D	D	D	D
33399	All other general purpose machinery manufacturing ....	—	18	4	520	20 854	285	542	8 852	37 878	41 634	79 682	4 557
333999	All other miscellaneous general purpose machinery manufacturing .....	—	15	4	504	19 746	278	526	8 436	36 059	39 206	75 100	4 462
334	Computer and electronic product manufacturing .....	—	247	106	27 608	1 504 461	13 287	26 538	512 086	10 312 527	2 008 913	12 417 237	183 025
3341	Computer and peripheral equipment manufacturing .....	4	26	6	f	D	D	D	D	D	D	D	3 469
33411	Computer and peripheral equipment manufacturing ....	4	26	6	f	D	D	D	D	D	D	D	3 469
334119	Other computer peripheral equipment manufacturing ..	3	18	5	499	27 202	343	666	17 031	38 982	52 436	90 100	D
3342	Communications equipment manufacturing .....	3	23	11	g	D	D	D	D	D	D	D	D
33422	Radio and television broadcasting and wireless communications equipment manufacturing .....	3	16	8	1 003	48 992	578	1 315	19 849	108 410	91 019	200 871	4 859
334220	Radio and television broadcasting and wireless communications equipment manufacturing .....	3	16	8	1 003	48 992	578	1 315	19 849	108 410	91 019	200 871	4 859
3344	Semiconductor and other electronic component manufacturing .....	—	108	59	18 288	970 156	10 095	20 262	390 318	9 016 376	1 145 939	10 268 573	123 047
33441	Semiconductor and other electronic component manufacturing .....	—	108	59	18 288	970 156	10 095	20 262	390 318	9 016 376	1 145 939	10 268 573	123 047
334411	Electron tube manufacturing ..	9	3	1	e	D	D	D	D	D	D	D	D
334412	Bare printed circuit board manufacturing .....	2	10	8	460	15 627	342	711	9 217	34 803	24 179	58 956	D
334413	Semiconductor and related device manufacturing .....	—	39	21	j	D	D	D	D	D	D	D	D
334417	Electronic connector manufacturing .....	—	3	2	g	D	D	D	D	D	D	D	D

See footnotes at end of table.



**Table 2. Industry Statistics for Metropolitan and Micropolitan Statistical Areas: 2002—Con.**

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	<b>PHOENIX-MESA-SCOTTSDALE, AZ METROPOLITAN STATISTICAL AREA—Con.</b>												
334	Computer and electronic product manufacturing—Con.												
3344	Semiconductor and other electronic component manufacturing—Con.												
33441	Semiconductor and other electronic component manufacturing—Con.												
334418	Printed circuit assembly (electronic assembly) manufacturing .....	—	20	14	h	D	D	D	D	D	D	D	D
334419	Other electronic component manufacturing .....	—	26	10		751	29 002	422	853	14 514	55 570	33 347	90 991
3345	Navigational, measuring, electromedical, and control instruments manufacturing .....	—	67	25		7 119	433 847	1 909	3 587	76 242	1 026 204	661 940	1 678 683
33451	Navigational, measuring, electromedical, and control instruments manufacturing ...	—	67	25		7 119	433 847	1 909	3 587	76 242	1 026 204	661 940	1 678 683
334510	Electromedical and electrotherapeutic apparatus manufacturing ...	2	5	3	f		D	D	D	D	D	D	D
334511	Search, detection, navigation, guidance, aeronautical, and nautical system and instrument manufacturing .....	—	17	9		4 382	276 434	945	1 813	43 489	842 954	423 342	1 258 913
334513	Instruments and related products manufacturing for measuring, displaying, and controlling industrial process variables .....	—	9	3		1 211	81 810	327	605	11 157	96 917	135 284	229 362
334515	Instrument manufacturing for measuring and testing electricity and electrical signals .....	—	20	5	f		D	D	D	D	D	D	2 440
335	Electrical equipment, appliance, and component manufacturing .....	1	65	18		2 704	95 404	1 771	3 190	41 147	275 724	244 309	520 900
3351	Electric lighting equipment manufacturing .....	—	13	4		619	25 526	379	781	9 976	77 250	44 946	122 085
33512	Lighting fixture manufacturing ..	—	13	4		619	25 526	379	781	9 976	77 250	44 946	122 085
335129	Other lighting equipment manufacturing .....	—	7	3	e		D	D	D	D	D	D	D
3353	Electrical equipment manufacturing .....	3	21	6	e		D	D	D	D	D	D	1 434
33531	Electrical equipment manufacturing .....	3	21	6	e		D	D	D	D	D	D	1 434
335312	Motor and generator manufacturing .....	3	7	3	e		D	D	D	D	D	D	827
3359	Other electrical equipment and component manufacturing .....	1	26	6		1 487	50 960	924	1 517	18 676	107 558	160 378	268 624
33592	Communication and energy wire and cable manufacturing ..	1	8	2	g		D	D	D	D	D	D	D
335929	Other communication and energy wire manufacturing ..	—	7	2	g		D	D	D	D	D	D	D
336	Transportation equipment manufacturing .....	—	172	67	j		D	D	D	D	D	D	D
3362	Motor vehicle body and trailer manufacturing .....	1	26	7	f		D	D	D	D	D	D	2 913
33621	Motor vehicle body and trailer manufacturing .....	1	26	7	f		D	D	D	D	D	D	2 913
336211	Motor vehicle body manufacturing .....	—	10	4	e		D	D	D	D	D	D	D
3363	Motor vehicle parts manufacturing .....	—	71	22	h		D	D	D	D	D	D	22 320
33631	Motor vehicle gasoline engine and engine parts manufacturing .....	4	20	3	e		D	D	D	D	D	D	D
33633	Motor vehicle steering and suspension component (except spring) manufacturing .....	—	2	1	e		D	D	D	D	D	D	D
336330	Motor vehicle steering and suspension component (except spring) manufacturing .....	—	2	1	e		D	D	D	D	D	D	D
33636	Motor vehicle seating and interior trim manufacturing .....	1	3	1	e		D	D	D	D	D	D	D
336360	Motor vehicle seating and interior trim manufacturing ..	1	3	1	e		D	D	D	D	D	D	D

See footnotes at end of table.

**Table 2. Industry Statistics for Metropolitan and Micropolitan Statistical Areas: 2002—Con.**

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			Total	With 20 employees or more	Number <sup>3</sup>	Payroll (\$1,000)	Number <sup>4</sup>	Hours (1,000)	Wages (\$1,000)				
	<b>PHOENIX-MESA-SCOTTSDALE, AZ METROPOLITAN STATISTICAL AREA—Con.</b>												
336	Transportation equipment manufacturing—Con.												
3363	Motor vehicle parts manufacturing—Con.												
33639	Other motor vehicle parts manufacturing .....	—	26	10	g	D	D	D	D	D	D	D	16 919
336399	All other motor vehicle parts manufacturing .....	—	25	9	g	D	D	D	D	D	D	D	D
3364	Aerospace product and parts manufacturing .....	—	62	35	j	D	D	D	D	D	D	D	D
33641	Aerospace product and parts manufacturing .....	—	62	35	j	D	D	D	D	D	D	D	D
336411	Aircraft manufacturing .....	—	6	5	h	D	D	D	D	D	D	D	D
336412	Aircraft engine and engine parts manufacturing .....	—	24	14	i	D	D	D	D	D	D	D	40 669
336413	Other aircraft parts and auxiliary equipment manufacturing .....	1	28	14	g	D	D	D	D	D	D	D	D
336414	Guided missile and space vehicle manufacturing .....	—	1	1	f	D	D	D	D	D	D	D	D
337	Furniture and related product manufacturing .....	3	'277	70	'7 542	'200 689	'6 016	'11 603	'134 097	'405 954	'336 072	'740 817	'17 176
3371	Household and institutional furniture and kitchen cabinet manufacturing .....	4	'205	44	'5 884	'145 990	'4 830	'9 278	'100 117	'267 979	'237 267	'506 037	'10 470
33711	Wood kitchen cabinet and countertop manufacturing ....	2	92	17	1 625	50 981	1 186	2 395	30 610	88 909	57 899	146 227	D
337110	Wood kitchen cabinet and countertop manufacturing ..	2	92	17	1 625	50 981	1 186	2 395	30 610	88 909	57 899	146 227	D
33712	Household and institutional furniture manufacturing .....	4	'113	27	'4 259	'95 009	'3 644	'6 883	'69 507	'179 070	'179 368	'359 810	D
337121	Upholstered household furniture manufacturing ....	2	23	6	331	7 574	288	530	6 020	18 359	19 746	38 114	563
337122	Nonupholstered wood household furniture manufacturing .....	5	'77	18	'3 586	'78 026	'3 073	'5 700	'56 913	'134 698	'147 356	'283 355	D
3372	Office furniture (including fixtures) manufacturing .....	4	52	18	1 029	33 665	730	1 421	21 503	61 107	39 776	100 552	4 505
33721	Office furniture (including fixtures) manufacturing .....	4	52	18	1 029	33 665	730	1 421	21 503	61 107	39 776	100 552	4 505
337212	Custom architectural woodwork and millwork manufacturing .....	4	22	7	493	17 185	338	682	10 262	32 387	19 139	50 958	3 765
337215	Showcase, partition, shelving, and locker manufacturing .....	4	21	7	e	D	D	D	D	D	D	D	D
3379	Other furniture related product manufacturing .....	—	20	8	629	21 034	456	904	12 477	76 868	59 029	134 228	2 201
33791	Mattress manufacturing .....	—	11	5	436	16 924	333	648	10 384	61 734	48 638	110 077	1 285
337910	Mattress manufacturing .....	—	11	5	436	16 924	333	648	10 384	61 734	48 638	110 077	1 285
339	Miscellaneous manufacturing .....	2	370	'57	'5 655	'219 497	'3 443	'6 441	'90 506	'514 489	'282 059	'804 371	'20 643
3391	Medical equipment and supplies manufacturing .....	2	'153	16	'1 560	'69 812	'865	'1 534	'24 238	'186 293	'39 127	'228 960	'3 783
33911	Medical equipment and supplies manufacturing .....	2	'153	16	'1 560	'69 812	'865	'1 534	'24 238	'186 293	'39 127	'228 960	'3 783
339112	Surgical and medical instrument manufacturing ..	—	8	4	525	34 936	162	272	4 465	116 188	9 133	129 485	993
339116	Dental laboratories .....	'3	'104	9	'588	'17 778	'456	'835	'13 166	'30 820	'7 846	'38 293	'727
3399	Other miscellaneous manufacturing .....	2	'217	'41	'4 095	'149 685	'2 578	'4 907	'66 268	'328 196	'242 932	'575 411	'16 860
33992	Sporting and athletic goods manufacturing .....	—	24	3	1 286	53 735	835	1 673	24 791	130 825	85 759	217 745	D
339920	Sporting and athletic goods manufacturing .....	—	24	3	1 286	53 735	835	1 673	24 791	130 825	85 759	217 745	D
33995	Sign manufacturing .....	5	83	15	1 150	47 177	541	1 009	15 400	88 158	63 409	154 423	3 036
339950	Sign manufacturing .....	5	83	15	1 150	47 177	541	1 009	15 400	88 158	63 409	154 423	3 036
33999	All other miscellaneous manufacturing .....	3	'63	'21	'1 389	'40 660	'1 036	'1 933	'22 652	'90 523	'73 398	'164 118	D
339999	All other miscellaneous manufacturing .....	3	'55	'20	'1 285	'37 660	'949	'1 734	'20 353	'82 868	'68 746	'151 718	D

See footnotes at end of table.

**Table 2. Industry Statistics for Metropolitan and Micropolitan Statistical Areas: 2002—Con.**

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			Total	With 20 employees or more	Number <sup>3</sup>	Payroll (\$1,000)	Number <sup>4</sup>	Hours (1,000)	Wages (\$1,000)				
<b>PRESCOTT, AZ METROPOLITAN STATISTICAL AREA</b>													
31-33	Manufacturing .....	2	'200	40	'3 622	'99 617	'2 748	'5 393	'67 074	'246 821	'174 862	'421 297	'13 765
326	Plastics and rubber products manufacturing .....	—	7	4	512	15 705	453	924	12 651	39 674	41 443	81 911	812
3261	Plastics product manufacturing ..	—	7	4	512	15 705	453	924	12 651	39 674	41 443	81 911	812
32619	Other plastics product manufacturing .....	—	4	2	e	D	D	D	D	D	D	D	338
326199	All other plastics product manufacturing .....	—	2	1	e	D	D	D	D	D	D	D	D
327	Nonmetallic mineral product manufacturing .....	2	17	7	379	10 904	290	579	7 768	27 177	28 017	55 484	2 603
331	Primary metal manufacturing .....	—	8	3	e	D	D	D	D	D	D	D	D
3315	Foundries .....	1	7	2	e	D	D	D	D	D	D	D	D
33152	Nonferrous metal foundries .....	1	7	2	e	D	D	D	D	D	D	D	D
332	Fabricated metal product manufacturing .....	1	34	7	545	15 528	430	930	11 627	44 797	16 388	61 461	2 440
333	Machinery manufacturing .....	9	5	2	e	D	D	D	D	D	D	D	D
3333	Commercial and service industry machinery manufacturing .....	9	2	1	e	D	D	D	D	D	D	D	D
33331	Commercial and service industry machinery manufacturing .....	9	2	1	e	D	D	D	D	D	D	D	D
333319	Other commercial and service industry machinery manufacturing .....	9	2	1	e	D	D	D	D	D	D	D	D
339	Miscellaneous manufacturing .....	5	41	4	354	10 242	242	448	5 663	29 171	16 422	45 495	2 290
<b>SIERRA VISTA-DOUGLAS, AZ MICROPOLITAN STATISTICAL AREA</b>													
31-33	Manufacturing .....	—	43	9	497	14 664	311	547	7 400	52 940	51 700	106 611	5 111
<b>TUCSON, AZ METROPOLITAN STATISTICAL AREA</b>													
31-33	Manufacturing .....	1	'748	169	'29 393	'1 463 831	'14 448	'27 783	'448 775	'3 937 005	'2 812 557	'6 832 629	'162 644
311	Food manufacturing .....	4	'36	2	e	D	D	D	D	D	D	D	'883
3118	Bakeries and tortilla manufacturing .....	2	'26	2	'264	'7 135	'148	'289	'3 480	'20 095	'7 873	'27 982	'542
312	Beverage and tobacco product manufacturing .....	5	7	3	473	14 820	93	189	2 670	57 281	76 603	133 874	5 446
3121	Beverage manufacturing .....	5	7	3	473	14 820	93	189	2 670	57 281	76 603	133 874	5 446
31211	Soft drink and ice manufacturing .....	5	4	3	e	D	D	D	D	D	D	D	5 414
312111	Soft drink manufacturing .....	6	3	2	e	D	D	D	D	D	D	D	D
321	Wood product manufacturing .....	3	21	8	674	17 341	522	1 012	10 736	34 802	38 880	74 127	3 367
3219	Other wood product manufacturing .....	2	19	7	f	D	D	D	D	D	D	D	D
32191	Millwork .....	2	13	7	575	14 257	455	877	9 055	28 020	31 658	60 087	3 131
321911	Wood window and door manufacturing .....	3	6	4	e	D	D	D	D	D	D	D	2 963
323	Printing and related support activities .....	2	85	13	918	25 296	589	1 092	15 585	51 968	27 437	79 303	5 147
3231	Printing and related support activities .....	2	85	13	918	25 296	589	1 092	15 585	51 968	27 437	79 303	5 147
32311	Printing .....	2	75	13	f	D	D	D	D	D	D	D	4 908
323110	Commercial lithographic printing .....	2	35	10	602	16 371	365	711	10 036	33 574	18 161	51 628	3 357
325	Chemical manufacturing .....	1	26	4	582	34 704	210	376	7 771	92 397	38 925	128 298	9 003
3254	Pharmaceutical and medicine manufacturing .....	—	6	2	491	31 135	152	274	5 982	72 630	24 625	94 279	D
32541	Pharmaceutical and medicine manufacturing .....	—	6	2	491	31 135	152	274	5 982	72 630	24 625	94 279	D
325412	Pharmaceutical preparation manufacturing .....	—	4	2	e	D	D	D	D	D	D	D	D
326	Plastics and rubber products manufacturing .....	2	32	14	1 017	28 093	766	1 425	17 373	74 904	50 954	123 746	3 489
3261	Plastics product manufacturing ..	2	27	12	935	25 612	705	1 289	15 837	69 155	47 526	114 610	D
32619	Other plastics product manufacturing .....	2	24	10	f	D	D	D	D	D	D	D	D
326199	All other plastics product manufacturing .....	2	18	8	696	18 010	533	930	11 092	50 923	31 891	81 417	2 818

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			Total	With 20 employees or more	Number <sup>3</sup>	Payroll (\$1,000)	Number <sup>4</sup>	Hours (1,000)	Wages (\$1,000)				
<b>TUCSON, AZ METROPOLITAN STATISTICAL AREA—Con.</b>													
327	Nonmetallic mineral product manufacturing .....	2	55	18	1 294	50 832	967	2 074	32 860	182 842	132 670	316 765	17 614
3271	Clay product and refractory manufacturing .....	5	19	6	423	14 804	309	625	8 492	32 580	17 535	49 880	967
32711	Pottery, ceramics, and plumbing fixture manufacturing .....	6	15	5	364	12 760	268	559	7 413	27 060	15 309	42 390	D
3273	Cement and concrete product manufacturing .....	1	22	10	700	29 985	534	1 192	21 045	130 550	101 729	233 524	16 008
32732	Ready-mix concrete manufacturing .....	3	8	4	287	12 026	235	511	9 342	24 299	44 913	69 154	D
327320	Ready-mix concrete manufacturing .....	3	8	4	287	12 026	235	511	9 342	24 299	44 913	69 154	D
332	Fabricated metal product manufacturing .....	4	151	29	3 164	111 621	2 213	4 302	65 837	428 471	231 292	665 009	15 217
3323	Architectural and structural metals manufacturing .....	1	42	10	1 427	39 556	1 051	2 054	27 207	100 995	61 736	162 012	5 184
33231	Plate work and fabricated structural product manufacturing .....	2	12	3	285	7 707	130	256	3 823	24 393	11 588	36 177	552
332312	Fabricated structural metal manufacturing .....	1	7	3	254	6 597	108	211	3 110	22 167	9 613	31 976	475
33232	Ornamental and architectural metal products manufacturing .....	—	30	7	1 142	31 849	921	1 798	23 384	76 602	50 148	125 835	4 632
332322	Sheet metal work manufacturing .....	—	14	5	493	15 338	338	566	9 851	36 104	19 207	53 785	1 408
332323	Ornamental and architectural metal work manufacturing ..	1	14	1	e	D	D	D	D	D	D	D	D
3327	Machine shops; turned product; and screw, nut, and bolt manufacturing .....	1	57	9	702	28 611	514	1 033	18 429	60 271	26 939	88 093	1 607
33271	Machine shops .....	3	52	7	458	17 614	322	626	11 228	30 038	17 219	47 806	1 205
332710	Machine shops .....	3	52	7	458	17 614	322	626	11 228	30 038	17 219	47 806	1 205
3329	Other fabricated metal product manufacturing .....	7	21	5	663	28 506	405	701	12 919	223 194	82 860	307 716	6 756
33291	Metal valve manufacturing ....	8	4	3	e	D	D	D	D	D	D	D	5 589
333	Machinery manufacturing .....	1	48	16	1 402	54 826	882	1 711	27 699	113 783	84 497	199 568	6 109
3331	Agriculture, construction, and mining machinery manufacturing .....	—	5	3	396	13 486	272	566	7 134	26 696	19 591	47 878	D
33311	Agricultural implement manufacturing .....	—	2	2	e	D	D	D	D	D	D	D	D
333111	Farm machinery and equipment manufacturing ..	—	2	2	e	D	D	D	D	D	D	D	D
3333	Commercial and service industry machinery manufacturing .....	—	13	3	e	D	D	D	D	D	D	D	D
33331	Commercial and service industry machinery manufacturing .....	—	13	3	e	D	D	D	D	D	D	D	D
3335	Metalworking machinery manufacturing .....	2	15	3	264	9 269	198	289	6 770	17 308	7 987	25 128	1 404
33351	Metalworking machinery manufacturing .....	2	15	3	264	9 269	198	289	6 770	17 308	7 987	25 128	1 404
3339	Other general purpose machinery manufacturing .....	4	9	4	278	12 219	190	418	7 098	24 019	26 287	49 837	D
33399	All other general purpose machinery manufacturing ....	4	7	4	e	D	D	D	D	D	D	D	1 176
333999	All other miscellaneous general purpose machinery manufacturing .....	4	5	4	e	D	D	D	D	D	D	D	D
334	Computer and electronic product manufacturing .....	—	54	21	4 278	194 840	1 914	3 418	63 196	650 340	372 520	1 061 778	34 664
3344	Semiconductor and other electronic component manufacturing .....	—	21	8	g	D	D	D	D	D	D	D	D
33441	Semiconductor and other electronic component manufacturing .....	—	21	8	g	D	D	D	D	D	D	D	D
334413	Semiconductor and related device manufacturing .....	—	6	4	g	D	D	D	D	D	D	D	D
334419	Other electronic component manufacturing .....	—	4	2	296	12 938	124	226	3 144	26 039	15 436	39 793	D

See footnotes at end of table.

**Table 2. Industry Statistics for Metropolitan and Micropolitan Statistical Areas: 2002—Con.**

[Includes data for industry groups and industries with 250 employees or more. Data based on the 2002 Economic Census. For information on confidentiality protection, nonsampling error, explanation of terms, and geographical definitions, see note at end of table. For definitions of CSAs, MeSAs, MISAs, and MDs, see Appendix E. For information on geographic areas followed by \*, see Appendix D. For meaning of abbreviations and symbols, see introductory text.]

NAICS code	Geographic area and industry	E <sup>1</sup>	All establishments <sup>2</sup>		All employees		Production workers			Value added (\$1,000)	Total cost of materials (\$1,000)	Total value of shipments (\$1,000)	Total capital expenditures (\$1,000)
			Total	With 20 employees or more	Number <sup>3</sup>	Payroll (\$1,000)	Number <sup>4</sup>	Hours (1,000)	Wages (\$1,000)				
<b>TUCSON, AZ METROPOLITAN STATISTICAL AREA—Con.</b>													
334	Computer and electronic product manufacturing—Con.												
3345	Navigational, measuring, electromedical, and control instruments manufacturing . . . . .	—	21	9	1 890	99 473	794	1 448	27 647	224 694	186 334	430 265	D
33451	Navigational, measuring, electromedical, and control instruments manufacturing . . .	—	21	9	1 890	99 473	794	1 448	27 647	224 694	186 334	430 265	D
334511	Search, detection, navigation, guidance, aeronautical, and nautical system and instrument manufacturing . . . . .	—	3	2	f	D	D	D	D	D	D	D	D
334519	Other measuring and controlling device manufacturing . . . . .	—	6	4	1 146	63 819	533	922	18 666	112 838	132 565	250 470	D
335	Electrical equipment, appliance, and component manufacturing . . . . .	—	11	5	406	16 358	203	452	4 008	32 510	23 110	52 322	375
336	Transportation equipment manufacturing . . . . .	—	15	7	j	D	D	D	D	D	D	D	D
3364	Aerospace product and parts manufacturing . . . . .	—	9	5	j	D	D	D	D	D	D	D	D
33641	Aerospace product and parts manufacturing . . . . .	—	9	5	j	D	D	D	D	D	D	D	D
336413	Other aircraft parts and auxiliary equipment manufacturing . . . . .	—	6	2	g	D	D	D	D	D	D	D	D
336414	Guided missile and space vehicle manufacturing . . . . .	—	2	2	i	D	D	D	D	D	D	D	D
337	Furniture and related product manufacturing . . . . .	5	64	8	e	D	D	D	D	D	D	D	D
3371	Household and institutional furniture and kitchen cabinet manufacturing . . . . .	4	55	6	e	D	D	D	D	D	D	D	D
339	Miscellaneous manufacturing . . . . .	1	90	13	1 520	48 214	899	1 700	18 913	169 368	200 061	372 229	5 242
3391	Medical equipment and supplies manufacturing . . . . .	1	42	5	628	22 336	364	628	8 035	103 987	135 512	241 406	3 265
33911	Medical equipment and supplies manufacturing . . . . .	1	42	5	628	22 336	364	628	8 035	103 987	135 512	241 406	3 265
339112	Surgical and medical instrument manufacturing . . . . .	3	6	4	e	D	D	D	D	D	D	D	D
3399	Other miscellaneous manufacturing . . . . .	1	48	8	892	25 878	535	1 072	10 878	65 381	64 549	130 823	1 977
33992	Sporting and athletic goods manufacturing . . . . .	—	5	3	507	14 853	316	663	6 069	43 662	29 175	73 725	1 218
339920	Sporting and athletic goods manufacturing . . . . .	—	5	3	507	14 853	316	663	6 069	43 662	29 175	73 725	1 218
<b>YUMA, AZ METROPOLITAN STATISTICAL AREA</b>													
31-33	Manufacturing . . . . .	1	80	14	2 850	78 882	2 499	4 580	60 793	206 649	389 395	602 610	16 369
311	Food manufacturing . . . . .	—	9	3	g	D	D	D	D	D	D	D	D
3119	Other food manufacturing . . . . .	—	2	2	g	D	D	D	D	D	D	D	D
31199	All other food manufacturing . . . . .	—	2	2	g	D	D	D	D	D	D	D	D
311991	Perishable prepared food manufacturing . . . . .	—	2	2	g	D	D	D	D	D	D	D	D
313	Textile mills . . . . .	—	2	1	f	D	D	D	D	D	D	D	D
3131	Fiber, yarn, and thread mills . . . . .	—	2	1	f	D	D	D	D	D	D	D	D
31311	Fiber, yarn, and thread mills . . . . .	—	2	1	f	D	D	D	D	D	D	D	D
313112	Yarn texturizing, throwing, and twisting mills . . . . .	—	2	1	f	D	D	D	D	D	D	D	D
333	Machinery manufacturing . . . . .	—	5	1	e	D	D	D	D	D	D	D	151

<sup>1</sup>Some payroll and sales data for 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 statistics 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 where estimated data based on administrative-record data account for 10 percent or more of the figures shown: 1–10 to 19 percent; 2–20 to 29 percent; 3–30 to 39 percent; 4–40 to 49 percent; 5–50 to 59 percent; 6–60 to 69 percent; 7–70 to 79 percent; 8–80 to 89 percent; 9–90 percent or more.

<sup>2</sup>Includes establishments with payroll at any time during the year.  
<sup>3</sup>Industries with 250 employees or more are shown. Some statistics are withheld to avoid disclosing data for individual companies. If employment is 250 or more, number of establishments is shown and employment-size range is indicated by one of the following symbols: 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.

<sup>4</sup>Number of employees figures represent average number of production workers for pay period that includes the 12th of March, May, August, and November plus other employees for payroll period that includes the 12th of March.

Note: The data in this table are based on the 2002 Economic Census. To maintain confidentiality, the Census Bureau suppresses data to protect the identity of any business or individual. The census results in this table contain nonsampling errors. Data users who create their own estimates using data from American FactFinder tables should cite the Census Bureau as the source of the original data only. For explanation of terms, see Appendix A. For full technical documentation, see Appendix C. For geographical definitions, see Appendix D.

**Table 3. Industry Statistics for Counties: 2002**

[Includes data for industry groups and industries with 500 employees or more. Data based on the 2002 Economic Census. For information on confidentiality protection, nonsampling error, explanation of terms, and geographical definitions, see note at end of table. For information on geographic areas followed by \*, see Appendix D. For meaning of abbreviations and symbols, see introductory text]

NAICS code	Geographic area and industry	E1	All establishments <sup>2</sup>		All employees		Production workers			Value added (\$1,000)	Total cost of materials (\$1,000)	Total value of shipments (\$1,000)	Total capital expenditures (\$1,000)
			Total	With 20 employees or more	Number <sup>3</sup>	Payroll (\$1,000)	Number <sup>4</sup>	Hours (1,000)	Wages (\$1,000)				
<b>COCONINO</b>													
31-33	Manufacturing .....	3	100	19	3 596	155 821	2 193	3 697	73 468	597 513	146 965	731 387	18 351
339	Miscellaneous manufacturing .....	4	23	7	h	D	D	D	D	D	D	D	D
3391	Medical equipment and supplies manufacturing .....	4	11	6	g	D	D	D	D	D	D	D	D
33911	Medical equipment and supplies manufacturing .....	4	11	6	g	D	D	D	D	D	D	D	D
339113	Surgical appliance and supplies manufacturing .....	3	6	5	g	D	D	D	D	D	D	D	D
<b>GILA</b>													
31-33	Manufacturing .....	-	21	2	g	D	D	D	D	D	D	D	D
331	Primary metal manufacturing .....	-	1	1	g	D	D	D	D	D	D	D	D
3314	Nonferrous metal (except aluminum) production and processing .....	-	1	1	g	D	D	D	D	D	D	D	D
33141	Nonferrous metal (except aluminum) smelting and refining .....	-	1	1	g	D	D	D	D	D	D	D	D
331411	Primary smelting and refining of copper .....	-	1	1	g	D	D	D	D	D	D	D	D
<b>MARICOPA</b>													
31-33	Manufacturing .....	1	'3 353	'959	'118 504	'4 946 150	'75 211	'149 170	'2 342 395	'19 303 904	'11 047 209	'30 480 779	'668 329
311	Food manufacturing .....	1	148	41	5 847	175 702	4 299	9 002	109 342	604 249	1 173 970	1 769 772	D
3115	Dairy product manufacturing .....	-	10	7	f	D	D	D	D	D	D	D	D
31151	Dairy product (except frozen) manufacturing .....	-	8	7	f	D	D	D	D	D	D	D	D
311511	Fluid milk manufacturing .....	1	6	5	686	29 318	377	839	14 344	101 761	210 371	313 821	5 688
3116	Animal slaughtering and processing .....	-	12	4	g	D	D	D	D	D	D	D	D
31161	Animal slaughtering and processing .....	-	12	4	g	D	D	D	D	D	D	D	D
311611	Animal (except poultry) slaughtering .....	-	5	2	g	D	D	D	D	D	D	D	D
3118	Bakeries and tortilla manufacturing .....	1	71	19	g	D	D	D	D	D	D	D	D
31181	Bread and bakery product manufacturing .....	-	61	15	g	D	D	D	D	D	D	D	D
311812	Commercial bakeries .....	-	26	12	g	D	D	D	D	D	D	D	6 565
3119	Other food manufacturing .....	7	26	4	f	D	D	D	D	D	D	D	D
312	Beverage and tobacco product manufacturing .....	-	13	6	f	D	D	D	D	D	D	D	D
3121	Beverage manufacturing .....	-	12	5	f	D	D	D	D	D	D	D	D
31211	Soft drink and ice manufacturing .....	-	10	5	f	D	D	D	D	D	D	D	D
312111	Soft drink manufacturing .....	-	4	3	f	D	D	D	D	D	D	D	D
314	Textile product mills .....	1	64	12	g	D	D	D	D	D	D	D	D
3149	Other textile product mills .....	1	39	12	f	D	D	D	D	D	D	D	D
31499	All other textile product mills ...	1	24	7	f	D	D	D	D	D	D	D	D
314999	All other miscellaneous textile product mills .....	1	22	6	f	D	D	D	D	D	D	D	D
315	Apparel manufacturing .....	6	51	8	f	D	D	D	D	D	D	D	D
321	Wood product manufacturing .....	2	129	59	6 868	191 375	5 019	10 373	114 434	357 597	435 367	789 596	10 099
3212	Veneer, plywood, and engineered wood product manufacturing .....	-	20	12	g	D	D	D	D	D	D	D	D
32121	Veneer, plywood, and engineered wood product manufacturing .....	-	20	12	g	D	D	D	D	D	D	D	D
321214	Truss manufacturing .....	-	18	12	g	D	D	D	D	D	D	D	D
3219	Other wood product manufacturing .....	2	106	47	i	D	D	D	D	D	D	D	D
32191	Millwork .....	2	56	24	g	D	D	D	D	D	D	D	D
321911	Wood window and door manufacturing .....	2	19	9	596	17 024	435	901	10 357	29 811	25 497	55 358	858
321912	Cut stock, resawing lumber, and planing .....	-	9	6	g	D	D	D	D	D	D	D	2 855
32199	All other wood product manufacturing .....	2	34	16	h	D	D	D	D	D	D	D	D
321991	Manufactured home (mobile home) manufacturing .....	-	11	9	g	D	D	D	D	D	D	D	D

See footnotes at end of table.

**Table 3. Industry Statistics for Counties: 2002—Con.**

[Includes data for industry groups and industries with 500 employees or more. Data based on the 2002 Economic Census. For information on confidentiality protection, nonsampling error, explanation of terms, and geographical definitions, see note at end of table. For information on geographic areas followed by \*, see Appendix D. For meaning of abbreviations and symbols, see introductory text]

NAICS code	Geographic area and industry	E <sup>1</sup>	All establishments <sup>2</sup>		All employees		Production workers			Value added (\$1,000)	Total cost of materials (\$1,000)	Total value of shipments (\$1,000)	Total capital expenditures (\$1,000)
			Total	With 20 employees or more	Number <sup>3</sup>	Payroll (\$1,000)	Number <sup>4</sup>	Hours (1,000)	Wages (\$1,000)				
<b>MARICOPA—Con.</b>													
322	Paper manufacturing .....	3	34	17	g	D	D	D	D	D	D	D	11 198
3222	Converted paper product manufacturing .....	3	34	17	g	D	D	D	D	D	D	D	11 198
32221	Paperboard container manufacturing .....	1	14	7	f	D	D	D	D	D	D	D	D
322211	Corrugated and solid fiber box manufacturing .....	—	10	5	f	D	D	D	D	D	D	D	D
323	Printing and related support activities .....	2	432	78	5 618	188 179	4 000	7 271	115 748	427 475	212 936	637 508	35 982
3231	Printing and related support activities .....	2	432	78	5 618	188 179	4 000	7 271	115 748	427 475	212 936	637 508	35 982
32311	Printing .....	2	389	68	4 701	154 121	3 224	5 789	90 255	359 767	198 517	554 777	33 327
323110	Commercial lithographic printing .....	2	159	41	h	D	D	D	D	D	D	D	D
323113	Commercial screen printing ..	3	53	9	f	D	D	D	D	D	D	D	D
323114	Quick printing .....	3	100	5	612	18 746	407	731	11 112	40 958	19 577	60 477	3 077
32312	Support activities for printing...	1	43	10	917	34 058	776	1 482	25 493	67 708	14 419	82 731	2 655
323122	Prepress services .....	—	23	4	584	25 334	487	959	19 000	52 845	10 361	63 820	D
325	Chemical manufacturing .....	3	120	37	2 614	114 133	1 679	3 188	62 649	504 735	291 563	803 509	25 508
3254	Pharmaceutical and medicine manufacturing .....	2	20	10	f	D	D	D	D	D	D	D	D
32541	Pharmaceutical and medicine manufacturing .....	2	20	10	f	D	D	D	D	D	D	D	D
325412	Pharmaceutical preparation manufacturing .....	2	11	6	554	29 427	429	578	19 639	226 936	67 003	301 214	D
3259	Other chemical product and preparation manufacturing .....	5	37	11	f	D	D	D	D	D	D	D	D
32599	All other chemical product and preparation manufacturing ...	6	30	9	f	D	D	D	D	D	D	D	D
326	Plastics and rubber products manufacturing .....	1	154	70	6 340	200 627	4 769	9 576	122 767	580 723	478 460	1 044 442	56 124
3261	Plastics product manufacturing ..	1	138	63	i	D	D	D	D	D	D	D	D
32612	Plastics pipe, pipe fitting, and unaminated profile shape manufacturing .....	—	12	7	771	24 770	655	1 465	19 206	124 778	109 430	228 795	20 112
326122	Plastics pipe and pipe fitting manufacturing .....	—	4	3	f	D	D	D	D	D	D	D	D
32619	Other plastics product manufacturing .....	1	96	40	h	D	D	D	D	D	D	D	D
326199	All other plastics product manufacturing .....	1	89	35	h	D	D	D	D	D	D	D	D
327	Nonmetallic mineral product manufacturing .....	1	151	64	4 154	141 478	3 169	6 135	93 096	408 772	351 315	757 489	24 269
3273	Cement and concrete product manufacturing .....	1	81	48	h	D	D	D	D	D	D	D	D
32732	Ready-mix concrete manufacturing .....	1	34	18	1 100	34 983	945	1 521	26 867	110 168	144 160	254 538	D
327320	Ready-mix concrete manufacturing .....	1	34	18	1 100	34 983	945	1 521	26 867	110 168	144 160	254 538	D
32733	Concrete pipe, brick, and block manufacturing .....	1	23	16	f	D	D	D	D	D	D	D	7 475
327331	Concrete block and brick manufacturing .....	1	18	11	516	17 639	386	756	10 058	71 268	63 023	132 444	D
32739	Other concrete product manufacturing .....	—	24	14	g	D	D	D	D	D	D	D	D
327390	Other concrete product manufacturing .....	—	24	14	g	D	D	D	D	D	D	D	D
331	Primary metal manufacturing .....	—	41	19	2 374	93 300	1 876	4 044	65 917	211 310	289 241	511 720	D
3313	Alumina and aluminum production and processing .....	1	9	6	g	D	D	D	D	D	D	D	D
33131	Alumina and aluminum production and processing ...	1	9	6	g	D	D	D	D	D	D	D	D
331316	Aluminum extruded product manufacturing .....	—	4	3	f	D	D	D	D	D	D	D	D
3315	Foundries .....	1	15	7	f	D	D	D	D	D	D	D	D
332	Fabricated metal product manufacturing .....	1	640	168	13 324	514 008	9 658	18 694	314 605	1 349 419	974 520	2 319 412	59 831
3321	Forging and stamping.....	2	25	12	752	31 614	590	1 251	20 126	73 737	81 507	157 964	3 514
33211	Forging and stamping.....	2	25	12	752	31 614	590	1 251	20 126	73 737	81 507	157 964	3 514

See footnotes at end of table.

**Table 3. Industry Statistics for Counties: 2002—Con.**

[Includes data for industry groups and industries with 500 employees or more. Data based on the 2002 Economic Census. For information on confidentiality protection, nonsampling error, explanation of terms, and geographical definitions, see note at end of table. For information on geographic areas followed by \*, see Appendix D. For meaning of abbreviations and symbols, see introductory text]

NAICS code	Geographic area and industry	All establishments <sup>2</sup>		All employees		Production workers			Value added (\$1,000)	Total cost of materials (\$1,000)	Total value of shipments (\$1,000)	Total capital expenditures (\$1,000)	
		E <sup>1</sup>	Total	With 20 employees or more	Number <sup>3</sup>	Payroll (\$1,000)	Number <sup>4</sup>	Hours (1,000)					Wages (\$1,000)
<b>MARICOPA—Con.</b>													
332	Fabricated metal product manufacturing—Con.												
3323	Architectural and structural metals manufacturing .....	3	175	62	4 120	138 070	2 880	5 347	79 525	367 699	322 730	682 793	14 035
33231	Plate work and fabricated structural product manufacturing .....	3	44	20	g	D	D	D	D	D	D	D	D
332312	Fabricated structural metal manufacturing .....	3	38	18	g	D	D	D	D	D	D	D	D
33232	Ornamental and architectural metal products manufacturing .....	2	131	42	h	D	D	D	D	D	D	D	D
332321	Metal window and door manufacturing .....	2	23	12	g	D	D	D	D	D	D	D	D
332322	Sheet metal work manufacturing .....	1	64	21	g	D	D	D	D	D	D	D	D
332323	Ornamental and architectural metal work manufacturing ..	5	44	9	f	D	D	D	D	D	D	D	D
3327	Machine shops; turned product; and screw, nut, and bolt manufacturing .....	2	246	46	h	D	D	D	D	D	D	D	D
33271	Machine shops .....	2	215	32	2 536	94 087	1 867	3 599	63 608	176 128	72 628	249 345	D
332710	Machine shops .....	2	215	32	2 536	94 087	1 867	3 599	63 608	176 128	72 628	249 345	D
33272	Turned product and screw, nut, and bolt manufacturing .....	1	31	14	f	D	D	D	D	D	D	D	D
332721	Precision turned product manufacturing .....	—	25	12	f	D	D	D	D	D	D	D	D
3328	Coating, engraving, heat treating, and allied activities .....	3	79	14	1 154	33 739	931	1 728	23 623	73 309	29 103	102 277	3 238
33281	Coating, engraving, heat treating, and allied activities ..	3	79	14	1 154	33 739	931	1 728	23 623	73 309	29 103	102 277	3 238
332812	Metal coating, engraving (except jewelry and silverware), and allied services to manufacturers ..	4	39	9	658	18 109	555	1 032	13 078	40 217	18 992	58 902	D
3329	Other fabricated metal product manufacturing .....	—	65	19	h	D	D	D	D	D	D	D	D
33291	Metal valve manufacturing ....	—	13	6	g	D	D	D	D	D	D	D	6 973
332912	Fluid power valve and hose fitting manufacturing .....	—	7	5	g	D	D	D	D	D	D	D	D
33299	All other fabricated metal product manufacturing .....	1	52	13	g	D	D	D	D	D	D	D	D
332999	All other miscellaneous fabricated metal product manufacturing .....	1	34	9	f	D	D	D	D	D	D	D	D
333	Machinery manufacturing .....	2	226	58	i	D	D	D	D	D	D	D	36 072
3331	Agriculture, construction, and mining machinery manufacturing .....	1	15	8	g	D	D	D	D	D	D	D	D
33311	Agricultural implement manufacturing .....	—	6	4	f	D	D	D	D	D	D	D	D
333112	Lawn and garden tractor and home lawn and garden equipment manufacturing ..	—	3	3	f	D	D	D	D	D	D	D	D
3332	Industrial machinery manufacturing .....	—	52	20	2 463	119 100	1 284	2 752	46 288	255 632	250 509	484 877	19 402
33329	Other industrial machinery manufacturing .....	—	44	17	g	D	D	D	D	D	D	D	D
333295	Semiconductor machinery manufacturing .....	—	20	10	g	D	D	D	D	D	D	D	D
3334	Ventilation, heating, air-conditioning, and commercial refrigeration equipment manufacturing .....	1	21	9	g	D	D	D	D	D	D	D	D
33341	Ventilation, heating, air-conditioning, and commercial refrigeration equipment manufacturing .....	1	21	9	g	D	D	D	D	D	D	D	D
333415	Air-conditioning and warm air heating equipment and commercial and industrial refrigeration equipment manufacturing .....	—	15	8	g	D	D	D	D	D	D	D	D
3335	Metalworking machinery manufacturing .....	4	63	10	943	39 202	649	1 335	24 477	76 911	43 901	119 936	3 444
33351	Metalworking machinery manufacturing .....	4	63	10	943	39 202	649	1 335	24 477	76 911	43 901	119 936	3 444
3339	Other general purpose machinery manufacturing .....	3	32	6	888	37 044	473	936	14 588	60 949	73 013	135 398	5 270
33399	All other general purpose machinery manufacturing ....	—	18	4	f	D	D	D	D	D	D	D	D
333999	All other miscellaneous general purpose machinery manufacturing .....	—	15	4	504	19 746	278	526	8 436	36 059	39 206	75 100	4 462

See footnotes at end of table.



**Table 3. Industry Statistics for Counties: 2002—Con.**

[Includes data for industry groups and industries with 500 employees or more. Data based on the 2002 Economic Census. For information on confidentiality protection, nonsampling error, explanation of terms, and geographical definitions, see note at end of table. For information on geographic areas followed by \*, see Appendix D. For meaning of abbreviations and symbols, see introductory text]

NAICS code	Geographic area and industry	E1	All establishments <sup>2</sup>		All employees		Production workers			Value added (\$1,000)	Total cost of materials (\$1,000)	Total value of shipments (\$1,000)	Total capital expenditures (\$1,000)
			Total	With 20 employees or more	Number <sup>3</sup>	Payroll (\$1,000)	Number <sup>4</sup>	Hours (1,000)	Wages (\$1,000)				
<b>MARICOPA—Con.</b>													
334	Computer and electronic product manufacturing .....	—	244	106	k	D	D	D	D	D	D	D	D
3341	Computer and peripheral equipment manufacturing .....	4	26	6	f	D	D	D	D	D	D	D	3 469
33411	Computer and peripheral equipment manufacturing .....	4	26	6	f	D	D	D	D	D	D	D	3 469
3342	Communications equipment manufacturing .....	3	22	11	g	D	D	D	D	D	D	D	D
33422	Radio and television broadcasting and wireless communications equipment manufacturing .....	3	16	8	1 003	48 992	578	1 315	19 849	108 410	91 019	200 871	4 859
334220	Radio and television broadcasting and wireless communications equipment manufacturing .....	3	16	8	1 003	48 992	578	1 315	19 849	108 410	91 019	200 871	4 859
3344	Semiconductor and other electronic component manufacturing .....	—	107	59	j	D	D	D	D	D	D	D	123 047
33441	Semiconductor and other electronic component manufacturing .....	—	107	59	j	D	D	D	D	D	D	D	123 047
334413	Semiconductor and related device manufacturing .....	—	39	21	j	D	D	D	D	D	D	D	D
334417	Electronic connector manufacturing .....	—	3	2	g	D	D	D	D	D	D	D	D
334418	Printed circuit assembly (electronic assembly) manufacturing .....	—	20	14	h	D	D	D	D	D	D	D	D
334419	Other electronic component manufacturing .....	—	26	10	751	29 002	422	853	14 514	55 570	33 347	90 991	D
3345	Navigational, measuring, electromedical, and control instruments manufacturing .....	—	66	25	i	D	D	D	D	D	D	D	D
33451	Navigational, measuring, electromedical, and control instruments manufacturing .....	—	66	25	i	D	D	D	D	D	D	D	D
334510	Electromedical and electrotherapeutic apparatus manufacturing .....	2	5	3	f	D	D	D	D	D	D	D	D
334511	Search, detection, navigation, guidance, aeronautical, and nautical system and instrument manufacturing .....	—	17	9	4 382	276 434	945	1 813	43 489	842 954	423 342	1 258 913	34 749
334513	Instruments and related products manufacturing for measuring, displaying, and controlling industrial process variables .....	—	8	3	g	D	D	D	D	D	D	D	D
334515	Instrument manufacturing for measuring and testing electricity and electrical signals .....	—	20	5	f	D	D	D	D	D	D	D	2 440
335	Electrical equipment, appliance, and component manufacturing .....	1	62	17	2 659	94 513	1 734	3 126	40 635	272 947	243 469	517 291	19 852
3351	Electric lighting equipment manufacturing .....	—	12	4	f	D	D	D	D	D	D	D	D
33512	Lighting fixture manufacturing .....	—	12	4	f	D	D	D	D	D	D	D	D
3359	Other electrical equipment and component manufacturing .....	1	26	6	1 487	50 960	924	1 517	18 676	107 558	160 378	268 624	D
33592	Communication and energy wire and cable manufacturing .....	1	8	2	g	D	D	D	D	D	D	D	D
335929	Other communication and energy wire manufacturing .....	—	7	2	g	D	D	D	D	D	D	D	D
336	Transportation equipment manufacturing .....	—	172	67	j	D	D	D	D	D	D	D	D
3362	Motor vehicle body and trailer manufacturing .....	1	26	7	f	D	D	D	D	D	D	D	2 913
33621	Motor vehicle body and trailer manufacturing .....	1	26	7	f	D	D	D	D	D	D	D	2 913
3363	Motor vehicle parts manufacturing .....	—	71	22	h	D	D	D	D	D	D	D	22 320
33639	Other motor vehicle parts manufacturing .....	—	26	10	g	D	D	D	D	D	D	D	16 919
336399	All other motor vehicle parts manufacturing .....	—	25	9	g	D	D	D	D	D	D	D	D

See footnotes at end of table.

**Table 3. Industry Statistics for Counties: 2002—Con.**

[Includes data for industry groups and industries with 500 employees or more. Data based on the 2002 Economic Census. For information on confidentiality protection, nonsampling error, explanation of terms, and geographical definitions, see note at end of table. For information on geographic areas followed by \*, see Appendix D. For meaning of abbreviations and symbols, see introductory text]

NAICS code	Geographic area and industry	E1	All establishments <sup>2</sup>		All employees		Production workers			Value added (\$1,000)	Total cost of materials (\$1,000)	Total value of shipments (\$1,000)	Total capital expenditures (\$1,000)
			Total	With 20 employees or more	Number <sup>3</sup>	Payroll (\$1,000)	Number <sup>4</sup>	Hours (1,000)	Wages (\$1,000)				
<b>MARICOPA—Con.</b>													
336	Transportation equipment manufacturing—Con.												
3364	Aerospace product and parts manufacturing .....	—	62	35	j	D	D	D	D	D	D	D	D
33641	Aerospace product and parts manufacturing .....	—	62	35	j	D	D	D	D	D	D	D	D
336411	Aircraft manufacturing .....	—	6	5	h	D	D	D	D	D	D	D	D
336412	Aircraft engine and engine parts manufacturing .....	—	24	14	i	D	D	D	D	D	D	D	40 669
336413	Other aircraft parts and auxiliary equipment manufacturing .....	1	28	14	g	D	D	D	D	D	D	D	D
336414	Guided missile and space vehicle manufacturing .....	—	1	1	f	D	D	D	D	D	D	D	D
337	Furniture and related product manufacturing .....	3	'271	69	'7 471	'198 842	'5 958	'11 488	'132 723	'402 258	'333 744	'734 781	D
3371	Household and institutional furniture and kitchen cabinet manufacturing .....	4	'201	44	i	D	D	D	D	D	D	D	D
33711	Wood kitchen cabinet and countertop manufacturing .....	2	89	17	g	D	D	D	D	D	D	D	D
337110	Wood kitchen cabinet and countertop manufacturing .....	2	89	17	g	D	D	D	D	D	D	D	D
33712	Household and institutional furniture manufacturing .....	4	'112	27	h	D	D	D	D	D	D	D	D
337122	Nonupholstered wood household furniture manufacturing .....	5	'76	18	h	D	D	D	D	D	D	D	D
3372	Office furniture (including fixtures) manufacturing .....	4	50	17	f	D	D	D	D	D	D	D	D
33721	Office furniture (including fixtures) manufacturing .....	4	50	17	f	D	D	D	D	D	D	D	D
3379	Other furniture related product manufacturing .....	—	20	8	629	21 034	456	904	12 477	76 868	59 029	134 228	2 201
339	Miscellaneous manufacturing .....	2	369	'57	i	D	D	D	D	D	D	D	D
3391	Medical equipment and supplies manufacturing .....	2	'152	16	g	D	D	D	D	D	D	D	D
33911	Medical equipment and supplies manufacturing .....	2	'152	16	g	D	D	D	D	D	D	D	D
339112	Surgical and medical instrument manufacturing .....	—	8	4	525	34 936	162	272	4 465	116 188	9 133	129 485	993
339116	Dental laboratories .....	3	'103	9	f	D	D	D	D	D	D	D	D
3399	Other miscellaneous manufacturing .....	2	'217	'41	'4 095	'149 685	'2 578	'4 907	'66 268	'328 196	'242 932	'575 411	'16 860
33992	Sporting and athletic goods manufacturing .....	—	24	3	1 286	53 735	835	1 673	24 791	130 825	85 759	217 745	D
339920	Sporting and athletic goods manufacturing .....	—	24	3	1 286	53 735	835	1 673	24 791	130 825	85 759	217 745	D
33995	Sign manufacturing .....	5	83	15	1 150	47 177	541	1 009	15 400	88 158	63 409	154 423	3 036
339950	Sign manufacturing .....	5	83	15	1 150	47 177	541	1 009	15 400	88 158	63 409	154 423	3 036
33999	All other miscellaneous manufacturing .....	3	'63	'21	'1 389	'40 660	'1 036	'1 933	'22 652	'90 523	'73 398	'164 118	D
339999	All other miscellaneous manufacturing .....	3	'55	'20	'1 285	'37 660	'949	'1 734	'20 353	'82 868	'68 746	'151 718	D
<b>MOHAVE</b>													
31-33	Manufacturing .....	1	'164	30	'3 385	'105 642	'2 672	'5 430	'73 142	'353 329	'384 119	'738 682	'31 671
326	Plastics and rubber products manufacturing .....	2	7	4	503	19 170	359	825	11 172	51 434	59 436	111 329	1 630
337	Furniture and related product manufacturing .....	—	18	2	f	D	D	D	D	D	D	D	D
<b>NAVAJO</b>													
31-33	Manufacturing .....	—	47	7	g	D	D	D	D	D	D	D	11 475
321	Wood product manufacturing .....	1	11	6	f	D	D	D	D	D	D	D	D
<b>PIMA</b>													
31-33	Manufacturing .....	1	'748	169	'29 393	'1 463 831	'14 448	'27 783	'448 775	'3 937 005	'2 812 557	'6 832 629	'162 644
321	Wood product manufacturing .....	3	21	8	674	17 341	522	1 012	10 736	34 802	38 880	74 127	D
3219	Other wood product manufacturing .....	2	19	7	f	D	D	D	D	D	D	D	D
32191	Millwork .....	2	13	7	575	14 257	455	877	9 055	28 020	31 658	60 087	3 131
323	Printing and related support activities .....	2	85	13	918	25 296	589	1 092	15 585	51 968	27 437	79 303	5 147
3231	Printing and related support activities .....	2	85	13	918	25 296	589	1 092	15 585	51 968	27 437	79 303	5 147
32311	Printing .....	2	75	13	f	D	D	D	D	D	D	D	4 908
323110	Commercial lithographic printing .....	2	35	10	602	16 371	365	711	10 036	33 574	18 161	51 628	3 357

See footnotes at end of table.

**Table 3. Industry Statistics for Counties: 2002—Con.**

[Includes data for industry groups and industries with 500 employees or more. Data based on the 2002 Economic Census. For information on confidentiality protection, nonsampling error, explanation of terms, and geographical definitions, see note at end of table. For information on geographic areas followed by \*, see Appendix D. For meaning of abbreviations and symbols, see introductory text]

NAICS code	Geographic area and industry	E1	All establishments <sup>2</sup>		All employees		Production workers			Value added (\$1,000)	Total cost of materials (\$1,000)	Total value of shipments (\$1,000)	Total capital expenditures (\$1,000)
			Total	With 20 employees or more	Number <sup>3</sup>	Payroll (\$1,000)	Number <sup>4</sup>	Hours (1,000)	Wages (\$1,000)				
<b>PIMA—Con.</b>													
325	Chemical manufacturing .....	1	26	4	f	D	D	D	D	D	D	D	9 003
326	Plastics and rubber products manufacturing .....	2	32	14	1 017	28 093	766	1 425	17 373	74 904	50 954	123 746	D
3261	Plastics product manufacturing ..	2	27	12	935	25 612	705	1 289	15 837	69 155	47 526	114 610	D
32619	Other plastics product manufacturing .....	2	24	10	f	D	D	D	D	D	D	D	D
326199	All other plastics product manufacturing .....	2	18	8	696	18 010	533	930	11 092	50 923	31 891	81 417	2 818
327	Nonmetallic mineral product manufacturing .....	2	55	18	g	D	D	D	D	D	D	D	17 614
3273	Cement and concrete product manufacturing .....	1	22	10	f	D	D	D	D	D	D	D	D
332	Fabricated metal product manufacturing .....	4	151	29	3 164	111 621	2 213	4 302	65 837	428 471	231 292	665 009	15 217
3323	Architectural and structural metals manufacturing .....	1	42	10	1 427	39 556	1 051	2 054	27 207	100 995	61 736	162 012	5 184
33232	Ornamental and architectural metal products manufacturing .....	—	30	7	1 142	31 849	921	1 798	23 384	76 602	50 148	125 835	4 632
3327	Machine shops; turned product; and screw, nut, and bolt manufacturing .....	1	57	9	702	28 611	514	1 033	18 429	60 271	26 939	88 093	1 607
3329	Other fabricated metal product manufacturing .....	7	21	5	f	D	D	D	D	D	D	D	D
333	Machinery manufacturing .....	1	48	16	1 402	54 826	882	1 711	27 699	113 783	84 497	199 568	6 109
334	Computer and electronic product manufacturing .....	—	54	21	4 278	194 840	1 914	3 418	63 196	650 340	372 520	1 061 778	34 664
3344	Semiconductor and other electronic component manufacturing .....	—	21	8	g	D	D	D	D	D	D	D	D
33441	Semiconductor and other electronic component manufacturing .....	—	21	8	g	D	D	D	D	D	D	D	D
334413	Semiconductor and related device manufacturing .....	—	6	4	g	D	D	D	D	D	D	D	D
3345	Navigational, measuring, electromedical, and control instruments manufacturing .....	—	21	9	1 890	99 473	794	1 448	27 647	224 694	186 334	430 265	D
33451	Navigational, measuring, electromedical, and control instruments manufacturing .....	—	21	9	1 890	99 473	794	1 448	27 647	224 694	186 334	430 265	D
334511	Search, detection, navigation, guidance, aeronautical, and nautical system and instrument manufacturing .....	—	3	2	f	D	D	D	D	D	D	D	D
334519	Other measuring and controlling device manufacturing .....	—	6	4	1 146	63 819	533	922	18 666	112 838	132 565	250 470	D
336	Transportation equipment manufacturing .....	—	15	7	j	D	D	D	D	D	D	D	D
3364	Aerospace product and parts manufacturing .....	—	9	5	j	D	D	D	D	D	D	D	D
33641	Aerospace product and parts manufacturing .....	—	9	5	j	D	D	D	D	D	D	D	D
336413	Other aircraft parts and auxiliary equipment manufacturing .....	—	6	2	g	D	D	D	D	D	D	D	D
336414	Guided missile and space vehicle manufacturing .....	—	2	2	i	D	D	D	D	D	D	D	D
339	Miscellaneous manufacturing .....	1	90	13	1 520	48 214	899	1 700	18 913	169 368	200 061	372 229	5 242
3391	Medical equipment and supplies manufacturing .....	1	42	5	628	22 336	364	628	8 035	103 987	135 512	241 406	3 265
33911	Medical equipment and supplies manufacturing .....	1	42	5	628	22 336	364	628	8 035	103 987	135 512	241 406	3 265
3399	Other miscellaneous manufacturing .....	1	48	8	892	25 878	535	1 072	10 878	65 381	64 549	130 823	1 977
33992	Sporting and athletic goods manufacturing .....	—	5	3	507	14 853	316	663	6 069	43 662	29 175	73 725	1 218
339920	Sporting and athletic goods manufacturing .....	—	5	3	507	14 853	316	663	6 069	43 662	29 175	73 725	1 218

See footnotes at end of table.

**Table 3. Industry Statistics for Counties: 2002—Con.**

[Includes data for industry groups and industries with 500 employees or more. Data based on the 2002 Economic Census. For information on confidentiality protection, nonsampling error, explanation of terms, and geographical definitions, see note at end of table. For information on geographic areas followed by \*, see Appendix D. For meaning of abbreviations and symbols, see introductory text]

NAICS code	Geographic area and industry	E <sup>1</sup>	All establishments <sup>2</sup>		All employees		Production workers			Value added (\$1,000)	Total cost of materials (\$1,000)	Total value of shipments (\$1,000)	Total capital expenditures (\$1,000)
			Total	With 20 employees or more	Number <sup>3</sup>	Payroll (\$1,000)	Number <sup>4</sup>	Hours (1,000)	Wages (\$1,000)				
<b>PINAL</b>													
31-33	Manufacturing .....	1	93	25	2 820	95 107	2 086	4 068	62 362	893 841	354 566	1 247 183	24 388
311	Food manufacturing .....	—	9	4	547	23 941	342	801	15 696	621 315	182 512	801 465	D
332	Fabricated metal product manufacturing .....	8	19	4	795	23 852	576	999	14 861	52 982	55 321	108 127	2 159
3323	Architectural and structural metals manufacturing .....	9	9	3	693	20 672	488	844	12 469	39 426	47 801	86 995	1 678
33231	Plate work and fabricated structural product manufacturing .....	9	4	2	f	D	D	D	D	D	D	D	D
332311	Prefabricated metal building and component manufacturing .....	9	2	1	f	D	D	D	D	D	D	D	D
<b>SANTA CRUZ</b>													
31-33	Manufacturing .....	2	41	8	f	D	D	D	D	D	D	D	D
<b>YAVAPAI</b>													
31-33	Manufacturing .....	2	'200	40	'3 622	'99 617	'2 748	'5 393	'67 074	'246 821	'174 862	'421 297	'13 765
326	Plastics and rubber products manufacturing .....	—	7	4	512	15 705	453	924	12 651	39 674	41 443	81 911	812
3261	Plastics product manufacturing ..	—	7	4	512	15 705	453	924	12 651	39 674	41 443	81 911	812
332	Fabricated metal product manufacturing .....	1	34	7	545	15 528	430	930	11 627	44 797	16 388	61 461	D
<b>YUMA</b>													
31-33	Manufacturing .....	1	80	14	2 850	78 882	2 499	4 580	60 793	206 649	389 395	602 610	16 369
311	Food manufacturing .....	—	9	3	g	D	D	D	D	D	D	D	D
3119	Other food manufacturing .....	—	2	2	g	D	D	D	D	D	D	D	D
31199	All other food manufacturing ...	—	2	2	g	D	D	D	D	D	D	D	D
311991	Perishable prepared food manufacturing .....	—	2	2	g	D	D	D	D	D	D	D	D
313	Textile mills .....	—	2	1	f	D	D	D	D	D	D	D	D
3131	Fiber, yarn, and thread mills .....	—	2	1	f	D	D	D	D	D	D	D	D
31311	Fiber, yarn, and thread mills ...	—	2	1	f	D	D	D	D	D	D	D	D
313112	Yarn texturizing, throwing, and twisting mills .....	—	2	1	f	D	D	D	D	D	D	D	D

<sup>1</sup>Some payroll and sales data for 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 statistics 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 where estimated data based on administrative-record data account for 10 percent or more of the figures shown: 1—10 to 19 percent; 2—20 to 29 percent; 3—30 to 39 percent; 4—40 to 49 percent; 5—50 to 59 percent; 6—60 to 69 percent; 7—70 to 79 percent; 8—80 to 89 percent; 9—90 percent or more.

<sup>2</sup>Includes establishments with payroll at any time during the year.

<sup>3</sup>Industries with 500 employees or more are shown. Some statistics are withheld to avoid disclosing data for individual companies. If employment is 500 or more, number of establishments is shown and employment-size range is indicated by one of the following symbols: 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.

<sup>4</sup>Number of employees figures represent average number of production workers for pay period that includes the 12th of March, May, August, and November plus other employees for payroll period that includes the 12th of March.

Note: The data in this table are based on the 2002 Economic Census. To maintain confidentiality, the Census Bureau suppresses data to protect the identity of any business or individual. The census results in this table contain nonsampling errors. Data users who create their own estimates using data from American FactFinder tables should cite the Census Bureau as the source of the original data only. For explanation of terms, see Appendix A. For full technical documentation, see Appendix C. For geographical definitions, see Appendix D.

**Table 4. Industry Statistics for Places: 2002**

[Includes data for industry groups and industries with 500 employees or more. Data based on the 2002 Economic Census. For information on confidentiality protection, nonsampling error, explanation of terms, and geographical definitions, see note at end of table. For information on geographic areas followed by \*, see Appendix D. For meaning of abbreviations and symbols, see introductory text]

NAICS code	Geographic area and industry	E <sup>1</sup>	All establishments <sup>2</sup>		All employees		Production workers			Value added (\$1,000)	Total cost of materials (\$1,000)	Total value of shipments (\$1,000)	Total capital expenditures (\$1,000)
			Total	With 20 employees or more	Number <sup>3</sup>	Payroll (\$1,000)	Number <sup>4</sup>	Hours (1,000)	Wages (\$1,000)				
<b>CASA GRANDE</b>													
31-33	Manufacturing .....	2	28	8	965	34 583	690	1 422	21 600	323 485	111 662	434 371	11 922
<b>CHANDLER</b>													
31-33	Manufacturing .....	-	164	53	11 070	573 528	6 321	12 326	258 869	8 362 934	952 023	9 320 275	75 851
326	Plastics and rubber products manufacturing .....	-	10	6	603	21 895	462	869	13 661	76 323	35 700	111 368	6 815
3261	Plastics product manufacturing ..	-	8	5	f	D	D	D	D	D	D	D	D
332	Fabricated metal product manufacturing .....	-	32	9	717	26 979	526	1 108	17 638	50 568	58 927	111 664	2 556
333	Machinery manufacturing .....	-	'21	'7	'1 868	'80 741	'895	'1 890	'23 830	'179 410	'185 580	'347 014	'10 417
3331	Agriculture, construction, and mining machinery manufacturing .....	-	1	1	f	D	D	D	D	D	D	D	D
33311	Agricultural implement manufacturing .....	-	1	1	f	D	D	D	D	D	D	D	D
333112	Lawn and garden tractor and home lawn and garden equipment manufacturing ..	-	1	1	f	D	D	D	D	D	D	D	D
3332	Industrial machinery manufacturing .....	-	'8	'4	'1 104	'57 004	'389	'847	'11 025	'100 175	'64 169	'155 353	'6 546
33329	Other industrial machinery manufacturing .....	-	'8	'4	'1 104	'57 004	'389	'847	'11 025	'100 175	'64 169	'155 353	'6 546
333295	Semiconductor machinery manufacturing .....	-	4	2	f	D	D	D	D	D	D	D	D
334	Computer and electronic product manufacturing .....	-	25	8	4 608	297 055	2 359	4 342	131 022	7 638 637	272 742	7 935 649	31 420
3344	Semiconductor and other electronic component manufacturing .....	-	17	8	4 558	294 309	2 342	4 306	130 445	7 632 732	265 419	7 922 427	31 124
33441	Semiconductor and other electronic component manufacturing .....	-	17	8	4 558	294 309	2 342	4 306	130 445	7 632 732	265 419	7 922 427	31 124
334413	Semiconductor and related device manufacturing .....	-	8	5	4 317	282 061	2 200	4 027	123 644	7 602 037	246 858	7 872 434	D
336	Transportation equipment manufacturing .....	-	5	4	g	D	D	D	D	D	D	D	D
3364	Aerospace product and parts manufacturing .....	-	3	3	f	D	D	D	D	D	D	D	D
33641	Aerospace product and parts manufacturing .....	-	3	3	f	D	D	D	D	D	D	D	D
336414	Guided missile and space vehicle manufacturing .....	-	1	1	f	D	D	D	D	D	D	D	D
337	Furniture and related product manufacturing .....	7	12	2	502	12 413	443	812	9 905	5 831	12 476	18 296	369
<b>FLAGSTAFF</b>													
31-33	Manufacturing .....	4	68	13	3 074	139 885	1 800	2 904	63 496	486 377	78 996	555 738	14 553
339	Miscellaneous manufacturing .....	4	21	6	g	D	D	D	D	D	D	D	D
3391	Medical equipment and supplies manufacturing .....	4	11	6	g	D	D	D	D	D	D	D	D
33911	Medical equipment and supplies manufacturing .....	4	11	6	g	D	D	D	D	D	D	D	D
339113	Surgical appliance and supplies manufacturing .....	3	6	5	g	D	D	D	D	D	D	D	D
<b>GILBERT</b>													
31-33	Manufacturing .....	3	92	24	2 248	91 486	1 277	2 563	37 021	156 386	132 936	288 579	10 572
332	Fabricated metal product manufacturing .....	7	24	10	523	18 334	376	687	11 053	52 338	39 873	90 909	2 573

See footnotes at end of table.

**Table 4. Industry Statistics for Places: 2002—Con.**

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			Total	With 20 employees or more	Number <sup>3</sup>	Payroll (\$1,000)	Number <sup>4</sup>	Hours (1,000)	Wages (\$1,000)				
<b>GLENDALE</b>													
31-33	Manufacturing .....	-	164	41	7 277	299 359	3 854	7 521	110 379	738 688	466 982	1 205 735	25 108
321	Wood product manufacturing .....	-	11	5	1 605	45 081	780	1 605	16 815	82 947	79 435	162 163	2 655
3219	Other wood product manufacturing .....	-	10	4	g	D	D	D	D	D	D	D	D
32191	Millwork .....	-	4	3	1 120	32 168	373	784	8 179	55 297	46 248	101 445	D
321912	Cut stock, resawing lumber, and planing .....	-	2	2	g	D	D	D	D	D	D	D	D
334	Computer and electronic product manufacturing .....	-	9	4	h	D	D	D	D	D	D	D	D
3344	Semiconductor and other electronic component manufacturing .....	-	4	2	g	D	D	D	D	D	D	D	D
33441	Semiconductor and other electronic component manufacturing .....	-	4	2	g	D	D	D	D	D	D	D	D
334417	Electronic connector manufacturing .....	-	1	1	g	D	D	D	D	D	D	D	D
3345	Navigational, measuring, electromedical, and control instruments manufacturing .....	-	2	2	g	D	D	D	D	D	D	D	D
33451	Navigational, measuring, electromedical, and control instruments manufacturing .....	-	2	2	g	D	D	D	D	D	D	D	D
334511	Search, detection, navigation, guidance, aeronautical, and nautical system and instrument manufacturing .....	-	2	2	g	D	D	D	D	D	D	D	D
<b>GOODYEAR</b>													
31-33	Manufacturing .....	2	14	7	935	29 064	749	1 645	19 908	161 946	80 263	238 172	8 569
<b>KINGMAN</b>													
31-33	Manufacturing .....	-	24	9	1 222	33 023	1 042	2 076	25 314	129 051	176 869	309 382	D
<b>LAKE HAVASU CITY</b>													
31-33	Manufacturing .....	2	93	11	g	D	D	D	D	D	D	D	D
<b>MARANA</b>													
31-33	Manufacturing .....	-	21	8	f	D	D	D	D	D	D	D	2 968
<b>MESA</b>													
31-33	Manufacturing .....	-	250	57	9 955	508 147	5 958	12 711	237 243	718 507	1 220 076	2 001 639	26 911
332	Fabricated metal product manufacturing .....	1	49	16	969	43 904	560	1 015	17 313	113 401	67 478	179 631	3 572
334	Computer and electronic product manufacturing .....	-	18	5	1 577	82 471	1 155	2 485	53 169	137 595	52 116	211 084	1 029
3344	Semiconductor and other electronic component manufacturing .....	-	7	2	1 283	71 580	966	2 069	48 086	105 201	38 355	165 525	174
33441	Semiconductor and other electronic component manufacturing .....	-	7	2	1 283	71 580	966	2 069	48 086	105 201	38 355	165 525	174
334413	Semiconductor and related device manufacturing .....	-	5	1	g	D	D	D	D	D	D	D	D
336	Transportation equipment manufacturing .....	-	11	6	4 750	301 063	2 497	5 885	124 743	289 303	938 583	1 269 788	15 938
3364	Aerospace product and parts manufacturing .....	-	6	4	h	D	D	D	D	D	D	D	D
33641	Aerospace product and parts manufacturing .....	-	6	4	h	D	D	D	D	D	D	D	D
336411	Aircraft manufacturing .....	-	3	2	h	D	D	D	D	D	D	D	D
<b>ORO VALLEY</b>													
31-33	Manufacturing .....	-	8	4	g	D	D	D	D	D	D	D	3 675
334	Computer and electronic product manufacturing .....	-	1	1	f	D	D	D	D	D	D	D	D
3345	Navigational, measuring, electromedical, and control instruments manufacturing .....	-	1	1	f	D	D	D	D	D	D	D	D
33451	Navigational, measuring, electromedical, and control instruments manufacturing .....	-	1	1	f	D	D	D	D	D	D	D	D
334519	Other measuring and controlling device manufacturing .....	-	1	1	f	D	D	D	D	D	D	D	D
<b>PEORIA</b>													
31-33	Manufacturing .....	2	58	13	1 154	34 053	839	1 680	19 761	84 029	73 321	159 335	3 118

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			Total	With 20 employees or more	Number <sup>3</sup>	Payroll (\$1,000)	Number <sup>4</sup>	Hours (1,000)	Wages (\$1,000)				
<b>PHOENIX</b>													
31-33	Manufacturing .....	1	'1 637	'502	'55 675	'2 186 716	'35 831	'69 752	'1 014 652	'6 007 542	'4 668 028	'10 736 889	'346 209
311	Food manufacturing .....	—	59	17	2 558	81 268	1 643	3 424	41 065	178 111	223 927	401 031	22 558
3118	Bakeries and tortilla manufacturing .....	—	32	8	1 479	43 856	978	2 096	22 918	68 873	66 314	134 356	4 613
31181	Bread and bakery product manufacturing .....	—	28	6	1 263	38 423	818	1 768	19 970	53 814	58 927	111 982	D
311812	Commercial bakeries .....	—	13	5	1 156	36 938	779	1 731	19 524	51 292	56 885	107 423	3 968
312	Beverage and tobacco product manufacturing .....	1	9	5	588	23 358	188	401	5 142	76 012	136 397	209 753	D
3121	Beverage manufacturing .....	—	8	4	f	D	D	D	D	D	D	D	D
31211	Soft drink and ice manufacturing .....	—	8	4	f	D	D	D	D	D	D	D	D
315	Apparel manufacturing .....	6	25	6	625	11 610	551	942	9 177	16 841	9 997	26 654	103
321	Wood product manufacturing .....	4	56	27	2 240	60 551	1 832	3 781	41 592	119 748	136 502	255 088	3 525
3219	Other wood product manufacturing .....	5	53	26	g	D	D	D	D	D	D	D	D
32191	Millwork .....	5	27	12	607	16 944	462	896	10 843	32 754	35 401	67 604	1 273
32199	All other wood product manufacturing .....	4	14	9	1 142	32 053	943	2 016	22 010	62 531	76 603	138 331	1 567
321991	Manufactured home (mobile home) manufacturing .....	1	4	3	f	D	D	D	D	D	D	D	D
322	Paper manufacturing .....	4	17	9	f	D	D	D	D	D	D	D	3 002
3222	Converted paper product manufacturing .....	4	17	9	f	D	D	D	D	D	D	D	3 002
323	Printing and related support activities .....	2	238	55	3 431	116 499	2 465	4 572	70 941	257 987	129 235	384 502	28 182
3231	Printing and related support activities .....	2	238	55	3 431	116 499	2 465	4 572	70 941	257 987	129 235	384 502	28 182
32311	Printing .....	2	214	47	2 765	94 106	1 894	3 484	54 087	211 698	120 598	329 126	26 003
323110	Commercial lithographic printing .....	2	94	27	1 482	53 145	1 027	1 944	31 733	111 167	67 669	175 857	14 888
32312	Support activities for printing .....	2	24	8	666	22 393	571	1 088	16 854	46 289	8 637	55 376	2 179
325	Chemical manufacturing .....	2	54	16	1 157	49 736	809	1 438	30 261	262 898	130 639	399 331	8 927
326	Plastics and rubber products manufacturing .....	1	79	40	3 043	88 685	2 360	4 901	58 065	231 048	221 810	452 810	16 479
3261	Plastics product manufacturing ..	1	71	35	2 834	81 682	2 210	4 613	53 677	217 671	205 877	423 792	15 458
32619	Other plastics product manufacturing .....	2	47	19	1 733	51 934	1 293	2 639	32 100	99 394	72 459	170 522	6 976
326199	All other plastics product manufacturing .....	2	43	17	g	D	D	D	D	D	D	D	D
327	Nonmetallic mineral product manufacturing .....	1	78	36	2 513	83 572	1 904	3 811	54 897	246 471	181 849	425 167	12 959
3273	Cement and concrete product manufacturing .....	1	35	26	1 683	56 910	1 292	2 555	37 242	188 484	132 457	317 805	9 335
32733	Concrete pipe, brick, and block manufacturing .....	1	17	14	744	26 548	596	1 232	17 514	102 066	67 493	167 948	6 258
32739	Other concrete product manufacturing .....	—	12	8	696	24 797	464	1 027	14 787	74 391	36 729	109 595	1 842
327390	Other concrete product manufacturing .....	—	12	8	696	24 797	464	1 027	14 787	74 391	36 729	109 595	1 842
331	Primary metal manufacturing .....	1	22	9	1 237	42 304	997	2 119	29 058	105 001	146 472	251 947	2 717
3313	Alumina and aluminum production and processing .....	2	5	4	f	D	D	D	D	D	D	D	1 297
33131	Alumina and aluminum production and processing ...	2	5	4	f	D	D	D	D	D	D	D	1 297
332	Fabricated metal product manufacturing .....	2	342	86	6 170	215 631	4 723	9 003	142 666	527 363	374 912	895 075	33 817
3323	Architectural and structural metals manufacturing .....	3	89	33	2 059	74 274	1 463	2 726	42 097	220 215	161 982	375 335	7 171
33231	Plate work and fabricated structural product manufacturing .....	2	24	12	606	25 927	419	822	15 039	110 739	88 762	199 328	1 531
332312	Fabricated structural metal manufacturing .....	2	20	10	f	D	D	D	D	D	D	D	D
33232	Ornamental and architectural metal products manufacturing .....	3	65	21	1 453	48 347	1 044	1 904	27 058	109 476	73 220	176 007	5 640
332321	Metal window and door manufacturing .....	5	9	6	599	22 739	363	704	10 266	44 967	36 649	74 516	1 327
332322	Sheet metal work manufacturing .....	2	32	10	542	16 802	425	792	10 828	44 090	24 698	69 127	3 852

See footnotes at end of table.

**Table 4. Industry Statistics for Places: 2002—Con.**

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		E <sup>1</sup>	Total	With 20 employees or more	Number <sup>3</sup>	Payroll (\$1,000)	Number <sup>4</sup>	Hours (1,000)					Wages (\$1,000)
<b>PHOENIX—Con.</b>													
332	Fabricated metal product manufacturing—Con.												
3327	Machine shops; turned product; and screw, nut, and bolt manufacturing .....	2	134	25	2 008	75 352	1 571	3 057	54 609	136 068	65 970	202 352	17 193
33271	Machine shops .....	2	113	14	1 413	52 202	1 058	2 002	36 153	96 388	39 845	136 509	5 534
332710	Machine shops .....	2	113	14	1 413	52 202	1 058	2 002	36 153	96 388	39 845	136 509	5 534
33272	Turned product and screw, nut, and bolt manufacturing .....	1	21	11	595	23 150	513	1 055	18 456	39 680	26 125	65 843	11 659
332721	Precision turned product manufacturing .....	—	17	9	519	20 079	449	918	16 218	34 059	20 546	54 506	11 350
3328	Coating, engraving, heat treating, and allied activities .....	3	56	11	942	26 661	756	1 410	18 539	56 605	20 370	76 710	2 802
33281	Coating, engraving, heat treating, and allied activities ..	3	56	11	942	26 661	756	1 410	18 539	56 605	20 370	76 710	2 802
332812	Metal coating, engraving (except jewelry and silverware), and allied services to manufacturers ..	4	27	7	529	13 813	450	835	10 008	28 292	12 959	40 946	1 064
333	Machinery manufacturing .....	1	'90	'27	'2 757	'110 167	'1 845	'3 644	'61 472	'265 902	'282 094	'537 697	'20 673
3332	Industrial machinery manufacturing .....	—	'19	'9	'802	'36 172	'656	'1 418	'28 302	'100 218	'154 584	'241 997	'12 117
33329	Other industrial machinery manufacturing .....	—	'15	'8	'750	'34 661	'621	'1 339	'27 589	'98 450	'151 508	'237 157	D
3334	Ventilation, heating, air-conditioning, and commercial refrigeration equipment manufacturing .....	1	12	7	885	29 957	579	1 048	13 986	79 465	51 972	133 701	1 942
33341	Ventilation, heating, air-conditioning, and commercial refrigeration equipment manufacturing .....	1	12	7	885	29 957	579	1 048	13 986	79 465	51 972	133 701	1 942
333415	Air-conditioning and warm air heating equipment and commercial and industrial refrigeration equipment manufacturing .....	1	9	6	f	D	D	D	D	D	D	D	1 897
334	Computer and electronic product manufacturing .....	—	84	39	10 276	558 614	4 342	8 768	138 653	1 378 707	860 856	2 285 931	85 462
3344	Semiconductor and other electronic component manufacturing .....	—	34	18	5 983	309 403	2 850	5 917	80 658	744 066	396 899	1 195 290	56 680
33441	Semiconductor and other electronic component manufacturing .....	—	34	18	5 983	309 403	2 850	5 917	80 658	744 066	396 899	1 195 290	56 680
334413	Semiconductor and related device manufacturing .....	—	10	7	3 961	244 359	1 460	2 954	42 515	612 091	278 052	938 971	D
334418	Printed circuit assembly (electronic assembly) manufacturing .....	—	8	5	1 682	55 928	1 145	2 448	32 524	112 024	103 593	220 232	D
3345	Navigational, measuring, electromedical, and control instruments manufacturing .....	—	19	9	h	D	D	D	D	D	D	D	D
33451	Navigational, measuring, electromedical, and control instruments manufacturing ...	—	19	9	h	D	D	D	D	D	D	D	D
334511	Search, detection, navigation, guidance, aeronautical, and nautical system and instrument manufacturing .....	—	4	3	g	D	D	D	D	D	D	D	D
334513	Instruments and related products manufacturing for measuring, displaying, and controlling industrial process variables .....	—	3	3	g	D	D	D	D	D	D	D	1 365
335	Electrical equipment, appliance, and component manufacturing .....	1	30	9	1 754	58 081	1 174	2 055	25 331	166 676	174 048	341 520	17 429
3359	Other electrical equipment and component manufacturing .....	1	12	2	1 153	38 564	718	1 173	13 100	74 163	137 284	211 953	D
33592	Communication and energy wire and cable manufacturing ..	1	5	1	g	D	D	D	D	D	D	D	D
335929	Other communication and energy wire manufacturing ..	—	4	1	g	D	D	D	D	D	D	D	D
336	Transportation equipment manufacturing .....	—	108	40	8 196	406 700	4 070	7 544	137 023	1 568 102	1 128 281	2 731 209	50 013
3362	Motor vehicle body and trailer manufacturing .....	—	17	6	f	D	D	D	D	D	D	D	2 691
33621	Motor vehicle body and trailer manufacturing .....	—	17	6	f	D	D	D	D	D	D	D	2 691
3363	Motor vehicle parts manufacturing .....	1	49	14	g	D	D	D	D	D	D	D	4 536

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<b>PHOENIX—Con.</b>													
336	Transportation equipment manufacturing—Con.												
3364	Aerospace product and parts manufacturing .....	-	34	17	6 086	339 049	2 576	4 516	98 757	1 415 039	992 547	2 441 948	41 921
33641	Aerospace product and parts manufacturing .....	-	34	17	6 086	339 049	2 576	4 516	98 757	1 415 039	992 547	2 441 948	41 921
336411	Aircraft manufacturing .....	-	2	2	f	D	D	D	D	D	D	D	D
336412	Aircraft engine and engine parts manufacturing .....	-	14	7	h	D	D	D	D	D	D	D	30 065
336413	Other aircraft parts and auxiliary equipment manufacturing .....	1	15	7	g	D	D	D	D	D	D	D	D
337	Furniture and related product manufacturing .....	4	'145	44	'4 864	'127 066	'4 008	'7 688	'86 311	'254 880	'222 763	'478 343	'11 720
3371	Household and institutional furniture and kitchen cabinet manufacturing .....	4	'104	29	'3 859	'92 358	'3 294	'6 212	'64 409	'175 746	'166 829	'343 855	'6 559
33711	Wood kitchen cabinet and countertop manufacturing ....	3	39	9	704	22 865	537	1 071	14 282	37 378	19 431	56 762	907
337110	Wood kitchen cabinet and countertop manufacturing ..	3	39	9	704	22 865	537	1 071	14 282	37 378	19 431	56 762	907
33712	Household and institutional furniture manufacturing .....	5	'65	20	'3 155	'69 493	'2 757	'5 141	'50 127	'138 368	'147 398	'287 093	'5 652
337122	Nonupholstered wood household furniture manufacturing .....	5	'47	14	'2 803	'60 000	'2 460	'4 571	'42 775	'117 782	'128 665	'247 685	'4 065
3372	Office furniture (including fixtures) manufacturing .....	4	34	12	743	25 641	512	1 055	16 098	47 102	27 695	74 159	D
33721	Office furniture (including fixtures) manufacturing .....	4	34	12	743	25 641	512	1 055	16 098	47 102	27 695	74 159	D
339	Miscellaneous manufacturing .....	1	159	28	2 877	105 758	1 867	3 552	52 292	234 264	142 134	376 842	14 239
3399	Other miscellaneous manufacturing .....	1	103	24	2 476	91 798	1 581	2 999	43 579	208 056	132 292	340 610	13 401
33992	Sporting and athletic goods manufacturing .....	-	11	2	g	D	D	D	D	D	D	D	D
339920	Sporting and athletic goods manufacturing .....	-	11	2	g	D	D	D	D	D	D	D	D
33995	Sign manufacturing .....	2	44	10	602	21 241	297	531	8 820	46 131	18 581	64 884	D
339950	Sign manufacturing .....	2	44	10	602	21 241	297	531	8 820	46 131	18 581	64 884	D
33999	All other miscellaneous manufacturing .....	2	29	12	591	17 188	452	812	9 929	34 340	26 585	60 209	D
339999	All other miscellaneous manufacturing .....	2	26	12	568	16 496	437	781	9 610	33 279	23 715	56 278	1 304
<b>PRESCOTT</b>													
31-33	Manufacturing .....	3	'63	17	'1 757	'45 054	'1 279	'2 479	'29 089	'121 449	'67 484	'188 894	'5 132
<b>PRESCOTT VALLEY</b>													
31-33	Manufacturing .....	-	36	11	847	26 294	683	1 425	19 168	67 958	62 767	130 331	4 371
<b>SCOTTSDALE</b>													
31-33	Manufacturing .....	3	262	48	4 079	156 825	2 740	5 200	82 962	347 198	292 279	639 220	21 741
323	Printing and related support activities .....	1	42	7	561	22 839	397	777	14 769	49 135	20 216	69 334	2 247
3231	Printing and related support activities .....	1	42	7	561	22 839	397	777	14 769	49 135	20 216	69 334	2 247
334	Computer and electronic product manufacturing .....	3	31	12	1 128	52 043	627	1 171	19 908	72 546	100 111	173 672	13 293
3345	Navigational, measuring, electromedical, and control instruments manufacturing .....	5	12	5	559	28 331	320	528	12 294	17 659	74 632	94 211	4 609
33451	Navigational, measuring, electromedical, and control instruments manufacturing ...	5	12	5	559	28 331	320	528	12 294	17 659	74 632	94 211	4 609

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[Includes data for industry groups and industries with 500 employees or more. Data based on the 2002 Economic Census. For information on confidentiality protection, nonsampling error, explanation of terms, and geographical definitions, see note at end of table. For information on geographic areas followed by \*, see Appendix D. For meaning of abbreviations and symbols, see introductory text]

NAICS code	Geographic area and industry	E <sup>1</sup>	All establishments <sup>2</sup>		All employees		Production workers			Value added (\$1,000)	Total cost of materials (\$1,000)	Total value of shipments (\$1,000)	Total capital expenditures (\$1,000)
			Total	With 20 employees or more	Number <sup>3</sup>	Payroll (\$1,000)	Number <sup>4</sup>	Hours (1,000)	Wages (\$1,000)				
<b>TEMPE</b>													
31-33	Manufacturing .....	2	'454	146	'17 568	'775 679	'11 014	'22 375	'373 537	'1 921 662	'1 721 792	'3 657 833	'90 454
311	Food manufacturing .....	1	30	12	982	30 444	756	1 372	21 020	157 469	238 408	396 220	8 965
3118	Bakeries and tortilla manufacturing .....	—	12	6	503	13 638	392	602	10 075	54 589	23 761	78 213	6 604
321	Wood product manufacturing .....	2	10	3	512	12 839	405	736	8 392	25 293	26 964	52 275	711
323	Printing and related support activities .....	4	61	8	694	21 364	506	770	12 786	43 995	25 302	69 099	3 262
3231	Printing and related support activities .....	4	61	8	694	21 364	506	770	12 786	43 995	25 302	69 099	3 262
32311	Printing .....	4	52	8	642	20 009	467	714	11 884	40 978	24 225	65 001	3 107
325	Chemical manufacturing .....	6	19	8	559	23 058	375	735	13 872	75 198	58 799	135 411	3 390
332	Fabricated metal product manufacturing .....	—	81	24	3 249	156 025	2 221	4 523	92 425	484 701	340 697	828 046	12 967
3323	Architectural and structural metals manufacturing .....	1	15	6	616	18 870	427	774	11 336	40 411	34 325	74 637	2 990
33232	Ornamental and architectural metal products manufacturing .....	—	12	6	605	18 483	420	759	11 110	39 588	33 317	72 806	2 957
3327	Machine shops; turned product; and screw, nut, and bolt manufacturing .....	1	39	9	f	D	D	D	D	D	D	D	D
33271	Machine shops .....	2	37	8	554	21 291	389	792	13 303	46 260	15 931	62 119	1 468
332710	Machine shops .....	2	37	8	554	21 291	389	792	13 303	46 260	15 931	62 119	1 468
3329	Other fabricated metal product manufacturing .....	—	10	4	1 499	93 610	908	1 848	50 813	356 870	259 336	618 927	7 014
33291	Metal valve manufacturing ....	—	4	3	g	D	D	D	D	D	D	D	D
332912	Fluid power valve and hose fitting manufacturing .....	—	3	3	g	D	D	D	D	D	D	D	D
333	Machinery manufacturing .....	5	42	12	1 236	52 229	771	1 674	26 468	107 006	88 749	197 124	3 868
3335	Metalworking machinery manufacturing .....	5	17	5	528	23 430	379	829	15 057	46 251	30 193	75 360	2 039
33351	Metalworking machinery manufacturing .....	5	17	5	528	23 430	379	829	15 057	46 251	30 193	75 360	2 039
334	Computer and electronic product manufacturing .....	2	62	35	6 327	320 709	3 368	7 215	120 097	630 282	495 588	1 129 688	39 260
3344	Semiconductor and other electronic component manufacturing .....	1	29	24	4 972	244 724	2 851	6 121	101 908	424 574	405 023	834 918	33 989
33441	Semiconductor and other electronic component manufacturing .....	1	29	24	4 972	244 724	2 851	6 121	101 908	424 574	405 023	834 918	33 989
334413	Semiconductor and related device manufacturing .....	1	9	6	1 885	107 419	938	2 089	36 026	125 942	134 012	252 140	17 230
334418	Printed circuit assembly (electronic assembly) manufacturing .....	—	8	8	2 161	101 864	1 275	2 704	45 325	237 652	218 010	459 693	D
3345	Navigational, measuring, electromedical, and control instruments manufacturing .....	2	21	7	770	43 633	216	443	6 754	77 782	38 724	115 813	D
33451	Navigational, measuring, electromedical, and control instruments manufacturing ...	2	21	7	770	43 633	216	443	6 754	77 782	38 724	115 813	D
336	Transportation equipment manufacturing .....	—	22	11	1 128	42 219	906	2 046	31 366	124 750	94 712	214 983	10 917
3364	Aerospace product and parts manufacturing .....	—	15	10	1 067	40 379	859	1 962	30 013	120 441	90 298	206 681	10 739
33641	Aerospace product and parts manufacturing .....	—	15	10	1 067	40 379	859	1 962	30 013	120 441	90 298	206 681	10 739
336412	Aircraft engine and engine parts manufacturing .....	—	8	5	f	D	D	D	D	D	D	D	D
339	Miscellaneous manufacturing .....	3	'48	12	'1 348	'69 374	'580	'1 068	'15 693	'177 280	'64 496	'248 064	'3 068
3391	Medical equipment and supplies manufacturing .....	1	'25	6	'792	'44 649	'297	'510	'8 420	'133 842	'19 919	'157 761	'1 868
33911	Medical equipment and supplies manufacturing .....	1	'25	6	'792	'44 649	'297	'510	'8 420	'133 842	'19 919	'157 761	'1 868
3399	Other miscellaneous manufacturing .....	7	23	6	556	24 725	283	558	7 273	43 438	44 577	90 303	1 200

See footnotes at end of table.

**Table 4. Industry Statistics for Places: 2002—Con.**

[Includes data for industry groups and industries with 500 employees or more. Data based on the 2002 Economic Census. For information on confidentiality protection, nonsampling error, explanation of terms, and geographical definitions, see note at end of table. For information on geographic areas followed by \*, see Appendix D. For meaning of abbreviations and symbols, see introductory text]

NAICS code	Geographic area and industry	E1	All establishments <sup>2</sup>		All employees		Production workers			Value added (\$1,000)	Total cost of materials (\$1,000)	Total value of shipments (\$1,000)	Total capital expenditures (\$1,000)
			Total	With 20 employees or more	Number <sup>3</sup>	Payroll (\$1,000)	Number <sup>4</sup>	Hours (1,000)	Wages (\$1,000)				
<b>TOLLESON</b>													
31-33	Manufacturing .....	-	22	17	2 560	75 637	2 198	4 731	57 545	279 293	767 787	1 032 148	23 772
311	Food manufacturing .....	-	6	5	1 621	45 374	1 430	3 312	36 455	173 664	648 070	813 850	5 215
3116	Animal slaughtering and processing .....	-	1	1	g	D	D	D	D	D	D	D	D
31161	Animal slaughtering and processing .....	-	1	1	g	D	D	D	D	D	D	D	D
311611	Animal (except poultry) slaughtering .....	-	1	1	g	D	D	D	D	D	D	D	D
<b>TUCSON</b>													
31-33	Manufacturing .....	2	'484	104	'11 469	'404 048	'6 858	'13 216	'186 957	'1 233 976	'830 951	'2 096 365	'68 865
321	Wood product manufacturing .....	4	14	6	f	D	D	D	D	D	D	D	D
3219	Other wood product manufacturing .....	3	12	5	f	D	D	D	D	D	D	D	D
323	Printing and related support activities .....	2	68	9	f	D	D	D	D	D	D	D	4 114
3231	Printing and related support activities .....	2	68	9	f	D	D	D	D	D	D	D	4 114
32311	Printing .....	2	60	9	f	D	D	D	D	D	D	D	D
323110	Commercial lithographic printing .....	2	29	7	f	D	D	D	D	D	D	D	D
326	Plastics and rubber products manufacturing .....	1	23	11	f	D	D	D	D	D	D	D	3 351
3261	Plastics product manufacturing ..	1	20	10	f	D	D	D	D	D	D	D	D
32619	Other plastics product manufacturing .....	2	17	8	f	D	D	D	D	D	D	D	D
326199	All other plastics product manufacturing .....	2	15	7	f	D	D	D	D	D	D	D	D
327	Nonmetallic mineral product manufacturing .....	6	27	7	f	D	D	D	D	D	D	D	D
332	Fabricated metal product manufacturing .....	1	98	18	g	D	D	D	D	D	D	D	7 803
3323	Architectural and structural metals manufacturing .....	-	29	8	1 225	34 289	960	1 869	24 483	80 382	53 868	133 400	4 728
33232	Ornamental and architectural metal products manufacturing .....	-	23	7	1 110	30 789	897	1 756	22 749	74 425	48 356	121 866	D
333	Machinery manufacturing .....	2	27	7	559	24 584	284	495	9 818	50 612	33 078	83 640	2 360
334	Computer and electronic product manufacturing .....	-	35	16	3 105	136 195	1 314	2 453	44 431	547 075	242 506	822 683	31 645
3344	Semiconductor and other electronic component manufacturing .....	-	11	5	g	D	D	D	D	D	D	D	D
33441	Semiconductor and other electronic component manufacturing .....	-	11	5	g	D	D	D	D	D	D	D	D
334413	Semiconductor and related device manufacturing .....	-	2	2	g	D	D	D	D	D	D	D	D
3345	Navigational, measuring, electromedical, and control instruments manufacturing .....	-	12	7	f	D	D	D	D	D	D	D	D
33451	Navigational, measuring, electromedical, and control instruments manufacturing ...	-	12	7	f	D	D	D	D	D	D	D	D
334511	Search, detection, navigation, guidance, aeronautical, and nautical system and instrument manufacturing .....	-	2	2	f	D	D	D	D	D	D	D	D
339	Miscellaneous manufacturing .....	2	62	7	f	D	D	D	D	D	D	D	D
3399	Other miscellaneous manufacturing .....	1	32	5	719	21 060	416	837	8 359	52 118	57 071	109 959	1 595
<b>YUMA</b>													
31-33	Manufacturing .....	1	46	9	1 436	42 623	1 246	2 509	33 861	134 926	246 377	382 251	12 111
313	Textile mills .....	-	1	1	f	D	D	D	D	D	D	D	D
3131	Fiber, yarn, and thread mills .....	-	1	1	f	D	D	D	D	D	D	D	D
31311	Fiber, yarn, and thread mills ...	-	1	1	f	D	D	D	D	D	D	D	D
313112	Yarn texturizing, throwing, and twisting mills .....	-	1	1	f	D	D	D	D	D	D	D	D

See footnotes at end of table.

**Table 4. Industry Statistics for Places: 2002—Con.**

[Includes data for industry groups and industries with 500 employees or more. Data based on the 2002 Economic Census. For information on confidentiality protection, nonsampling error, explanation of terms, and geographical definitions, see note at end of table. For information on geographic areas followed by \*, see Appendix D. For meaning of abbreviations and symbols, see introductory text]

NAICS code	Geographic area and industry	E1	All establishments <sup>2</sup>		All employees		Production workers			Value added (\$1,000)	Total cost of materials (\$1,000)	Total value of shipments (\$1,000)	Total capital expenditures (\$1,000)
			Total	With 20 employees or more	Number <sup>3</sup>	Payroll (\$1,000)	Number <sup>4</sup>	Hours (1,000)	Wages (\$1,000)				
<b>BALANCE OF GILA COUNTY</b>													
31-33	Manufacturing .....	-	5	1	g	D	D	D	D	D	D	D	D
331	Primary metal manufacturing .....	-	1	1	g	D	D	D	D	D	D	D	D
3314	Nonferrous metal (except aluminum) production and processing .....	-	1	1	g	D	D	D	D	D	D	D	D
33141	Nonferrous metal (except aluminum) smelting and refining .....	-	1	1	g	D	D	D	D	D	D	D	D
331411	Primary smelting and refining of copper .....	-	1	1	g	D	D	D	D	D	D	D	D
<b>BALANCE OF MARICOPA COUNTY</b>													
31-33	Manufacturing .....	1	'139	38	'4 677	'174 841	'3 448	'6 787	'105 788	'436 419	'570 928	'1 010 484	'32 332
321	Wood product manufacturing .....	-	13	6	772	23 443	662	1 502	16 228	35 165	45 011	80 290	836
327	Nonmetallic mineral product manufacturing .....	2	22	11	730	25 142	548	936	15 005	74 455	75 246	149 360	6 459
3273	Cement and concrete product manufacturing .....	2	19	11	f	D	D	D	D	D	D	D	D
336	Transportation equipment manufacturing .....	-	'9	4	g	D	D	D	D	D	D	D	D
3363	Motor vehicle parts manufacturing .....	-	4	3	g	D	D	D	D	D	D	D	D
33639	Other motor vehicle parts manufacturing .....	-	4	3	g	D	D	D	D	D	D	D	D
336399	All other motor vehicle parts manufacturing .....	-	4	3	g	D	D	D	D	D	D	D	D
<b>BALANCE OF MOHAVE COUNTY</b>													
31-33	Manufacturing .....	1	'38	10	'841	'28 309	'627	'1 237	'18 658	'115 826	'126 630	'240 596	'4 137
<b>BALANCE OF PIMA COUNTY</b>													
31-33	Manufacturing .....	-	224	51	15 947	963 955	6 482	12 628	223 610	2 523 017	1 781 489	4 350 331	86 988
327	Nonmetallic mineral product manufacturing .....	-	20	7	f	D	D	D	D	D	D	D	D
332	Fabricated metal product manufacturing .....	7	47	10	906	34 096	608	1 268	21 030	235 279	88 005	324 223	D
333	Machinery manufacturing .....	1	17	5	f	D	D	D	D	D	D	D	D
336	Transportation equipment manufacturing .....	-	7	4	j	D	D	D	D	D	D	D	D
3364	Aerospace product and parts manufacturing .....	-	5	4	j	D	D	D	D	D	D	D	D
33641	Aerospace product and parts manufacturing .....	-	5	4	j	D	D	D	D	D	D	D	D
336413	Other aircraft parts and auxiliary equipment manufacturing .....	-	3	2	g	D	D	D	D	D	D	D	D
336414	Guided missile and space vehicle manufacturing .....	-	2	2	i	D	D	D	D	D	D	D	D
339	Miscellaneous manufacturing .....	-	26	6	525	17 310	287	480	4 748	92 926	136 428	231 363	D
<b>BALANCE OF PINAL COUNTY</b>													
31-33	Manufacturing .....	1	39	11	1 491	49 318	1 104	2 088	33 069	537 084	205 910	742 200	11 712
332	Fabricated metal product manufacturing .....	9	7	1	f	D	D	D	D	D	D	D	1 325
3323	Architectural and structural metals manufacturing .....	9	4	1	f	D	D	D	D	D	D	D	D
33231	Plate work and fabricated structural product manufacturing .....	9	2	1	f	D	D	D	D	D	D	D	D
332311	Prefabricated metal building and component manufacturing .....	9	1	1	f	D	D	D	D	D	D	D	D
<b>BALANCE OF YUMA COUNTY</b>													
31-33	Manufacturing .....	-	28	5	g	D	D	D	D	D	D	D	D
311	Food manufacturing .....	-	3	1	f	D	D	D	D	D	D	D	D
3119	Other food manufacturing .....	-	1	1	f	D	D	D	D	D	D	D	D
31199	All other food manufacturing .....	-	1	1	f	D	D	D	D	D	D	D	D
311991	Perishable prepared food manufacturing .....	-	1	1	f	D	D	D	D	D	D	D	D

See footnotes at end of table.

## Table 4. Industry Statistics for Places: 2002—Con.

<sup>1</sup>Some payroll and sales data for 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 statistics 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 where estimated data based on administrative-record data account for 10 percent or more of the figures shown: 1–10 to 19 percent; 2–20 to 29 percent; 3–30 to 39 percent; 4–40 to 49 percent; 5–50 to 59 percent; 6–60 to 69 percent; 7–70 to 79 percent; 8–80 to 89 percent; 9–90 percent or more.

<sup>2</sup>Includes establishments with payroll at any time during the year.

<sup>3</sup>Industries with 500 employees or more are shown. Some statistics are withheld to avoid disclosing data for individual companies. If employment is 500 or more, number of establishments is shown and employment-size range is indicated by one of the following symbols: 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.

<sup>4</sup>Number of employees figures represent average number of production workers for pay period that includes the 12th of March, May, August, and November plus other employees for payroll period that includes the 12th of March.

Note: The data in this table are based on the 2002 Economic Census. To maintain confidentiality, the Census Bureau suppresses data to protect the identity of any business or individual. The census results in this table contain nonsampling errors. Data users who create their own estimates using data from American FactFinder tables should cite the Census Bureau as the source of the original data only. For explanation of terms, see Appendix A. For full technical documentation, see Appendix C. For geographical definitions, see Appendix D.

**Table 5. Detailed Statistics for the State: 2002**

[Data based on the 2002 Economic Census. For information on confidentiality protection, nonsampling error, explanation of terms, and geographical definitions, see note at end of table. For meaning of abbreviations and symbols, see introductory text]

Item	Value
<b>ARIZONA</b>	
Companies <sup>1</sup> .....	number.. N
All establishments <sup>2</sup> .....	number.. '4 935
Establishments with 1 to 19 employees .....	number.. '3 647
Establishments with 20 to 99 employees .....	number.. '987
Establishments with 100 employees or more .....	number.. '301
All employees <sup>3</sup> .....	number.. '168 155
Total compensation .....	\$1,000.. '8 939 718
Annual payroll .....	\$1,000.. '7 080 603
Total fringe benefits .....	\$1,000.. '1 859 115
Production workers, average for year .....	number.. '104 924
Production workers on March 12 .....	number.. '105 570
Production workers on May 12 .....	number.. '105 781
Production workers on August 12 .....	number.. '104 803
Production workers on November 12 .....	number.. '103 284
Production worker hours .....	..1,000.. '206 084
Production worker wages .....	\$1,000.. '3 221 229
Total cost of materials .....	\$1,000.. '15 724 230
Materials, parts, containers, packaging, etc., used .....	\$1,000.. '14 026 610
Resales .....	\$1,000.. '785 653
Purchased fuels .....	\$1,000.. '129 934
Purchased electricity .....	\$1,000.. '340 329
Contract work .....	\$1,000.. '441 704
Quantity of electricity purchased for heat and power .....	1,000 kWh.. '5 796 029
Quantity of electricity generated less sold for heat and power .....	1,000 kWh.. -40 568
Total value of shipments .....	\$1,000.. '41 910 739
Value of resales .....	\$1,000.. '1 024 144
Value added .....	\$1,000.. '25 976 992
Total inventories, beginning of year .....	\$1,000.. '4 981 372
Finished goods inventories .....	\$1,000.. '1 266 720
Work-in-process inventories .....	\$1,000.. '2 020 141
Materials and supplies inventories .....	\$1,000.. '1 694 511
Total inventories, end of year .....	\$1,000.. '4 496 821
Finished goods inventories .....	\$1,000.. '1 241 353
Work-in-process inventories .....	\$1,000.. '1 794 900
Materials and supplies inventories .....	\$1,000.. '1 460 568
Gross value of depreciable assets (acquisition costs) at beginning of year .....	\$1,000.. '17 803 231
Total capital expenditures (new and used) .....	\$1,000.. '977 257
Buildings and other structures (new and used) .....	\$1,000.. '167 858
Machinery and equipment (new and used) .....	\$1,000.. '809 399
Automobiles, trucks, etc., for highway use .....	\$1,000.. '32 908
Computers and peripheral data processing equipment .....	\$1,000.. '68 248
All other expenditures for machinery and equipment .....	\$1,000.. '708 243
Total retirements .....	\$1,000.. '1 129 339
Gross value of depreciable assets at end of year .....	\$1,000.. '17 651 149
Depreciation charges during year .....	\$1,000.. '1 336 901
Total rental payments .....	\$1,000.. '435 998
Buildings and other structures .....	\$1,000.. '248 739
Machinery and equipment .....	\$1,000.. '187 259

<sup>1</sup>For the census, a company is defined as a business organization consisting of one establishment or more under common ownership or control.

<sup>2</sup>Includes establishments with payroll at any time during the year.

<sup>3</sup>Number of employees figures represent average number of production workers for pay period that includes the 12th of March, May, August, and November plus other employees for payroll period that includes the 12th of March.

Note: The data in this table are based on the 2002 Economic Census. To maintain confidentiality, the Census Bureau suppresses data to protect the identity of any business or individual. The census results in this table contain nonsampling errors. Data users who create their own estimates using data from American FactFinder tables should cite the Census Bureau as the source of the original data only. For explanation of terms, see Appendix A. For full technical documentation, see Appendix C. For geographical definitions, see Appendix D.

# Appendix A.

## Explanation of Terms

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### **COMPANY**

A company or “enterprise” is comprised of all the establishments that operate under the ownership or control of a single organization. A company may be a business, service, or membership organization; consist of one or several establishments; and operate at one or several locations. It includes all subsidiary organizations, all establishments that are majority-owned by the company or any subsidiary, and all the establishments that can be directed or managed by the company or any subsidiary.

A company may have one or many establishments. Examples include product and service sales offices (retail and wholesale), industrial production plants, processing or assembly operations, mines or well sites, and support operations (such as an administrative office, warehouse, customer service center, or regional headquarters). Each establishment should receive, complete, and return a separate census form.

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.

### **Establishment**

An establishment is a single physical location where business is conducted or where services or industrial operations are performed. Data in this sector includes those establishments where manufacturing is performed. A separate report was required for each manufacturing establishment (plant) with one employee or more that was in operation at any time during the year.

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.

### **PAYROLL**

This item includes the gross earnings of all employees on the payrolls of operating manufacturing establishments paid in the calendar year. 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’ total supplemental labor costs (those required by federal and state laws and those incurred voluntarily or as part of collective bargaining agreements).

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## **TOTAL FRINGE BENEFITS**

This item is the employer's costs for social security tax, unemployment tax, workmen's compensation insurance, state disability insurance pension plans, stock purchase plans, union-negotiated benefits, life insurance premiums, and insurance premiums on hospital and medical plans for employees.

Fringe benefits 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 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.

## **NUMBER OF 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 that included the 12th of the months specified on the report form. Included are employees on paid sick leave, paid holidays, and paid vacations; not included are proprietors and partners of unincorporated businesses.

These individuals consist of all full-time and part-time employees who are on the payrolls of establishments who worked or received pay for any part of the pay period including the 12th of March, May, August, and November.

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**

The "production workers" number 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**

The "other employees" 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 truck drivers and their helpers), advertising, credit, collection, installation and servicing of own products, clerical and routine office functions, 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 utilized as a separate work force.

## **PRODUCTION-WORKER HOURS**

This item covers all hours worked or paid for at the manufacturing plant, including actual overtime hours (not straight-time equivalent hours). It excludes hours paid for vacations, holidays, or sick leave when the employee was not at the establishment.



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## **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.

Included in this item are:

1. Cost of parts, components, containers, etc. Includes 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. Cost of products bought and sold in the same condition.
3. Cost of fuels consumed for heat and power. 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.
4. Cost of purchased electricity. The cost of purchased electric energy represents the amount actually used during the year for heat and power. In addition, information was 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.
5. Cost of contract work. This term applies to work done by others on materials furnished by the manufacturing establishment. The actual cost of the material is to be reported on the cost of materials, parts, and containers line of this item. The term "Contract Work" refers to the fee a company pays to another company to perform a service.

### **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 that were important parts of the cost of production in a particular industry and for which cost information was available from manufacturers' records. If less than \$25,000 of a listed material was consumed by an establishment, the cost data could be reported in the "Cost of all other materials" Census material code 00970099.

Also, the cost of materials for small establishments for which administrative records or short forms were used was imputed into the "Materials not specified by kind" Census materials code 00971000.

### **QUANTITY OF ELECTRICITY PURCHASED FOR HEAT AND POWER**

Data on the cost of purchased electric energy were collected on all census forms. However, data on the quantity of purchased electric energy were collected only on the Annual Survey of Manufactures (ASM) form. 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.

### **TOTAL VALUE OF SHIPMENTS**

Includes the received or receivable net selling values, "Free on Board" (FOB) 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 sold without further processing. Included are all

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items made by or for the establishments from material 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.

In addition to the value for NAICS defined products, aggregates of the following categories of miscellaneous receipts are reported as part of a total establishment's value of product shipments:

1. reported contract work — receipts for work or services that a plant performed for others on their materials;
2. value of resales — sales of products bought and sold without further manufacture, processing, or assembly; and
3. other miscellaneous receipts — includes repair work, installation, sales of scrap, etc.

Industry primary product value of shipments represents one of three components of value of shipments. These components are:

1. primary product value of shipments;
2. secondary product value of shipments; and
3. total miscellaneous receipts.

Primary product shipments is used in the calculations of industry specialization ratio and industry coverage ratio.

### **Duplication in cost of materials and value of shipment**

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 the paper manufacturing 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 that 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.

### **Specialization and coverage ratio**

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.

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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 ratio have been developed to measure the relationship of primary product shipments to the data on shipments for a particular industry.

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.

### **VALUE ADDED**

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, 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.

### **TOTAL END-OF-YEAR INVENTORIES**

This item is comprised of:

- a. Finished products
- b. Work-in-process
- c. Materials, supplies, fuels, etc.

Beginning in 1982, respondents were asked to report their inventories at (the lower of) cost or market prior to adjustment to LIFO cost. This is a change from prior years in which respondents were permitted to value their inventories using any generally accepted accounting method. Therefore, 1982 through 2002 data for inventories are not strictly comparable to prior-year data.

In addition, total beginning-of-year inventories is the sum of several different types of inventory valuations.

Inventory valuations include:

1. Subject to Last-in, first-out (LIFO) costing (including LIFO reserve and value)
2. Not subject to LIFO costing
3. Valuation method not reported, and
4. Amount subject to LIFO reported without associated reserve and value.

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## **GROSS VALUE OF DEPRECIABLE/DEPLETABLE ASSETS AT BEGINNING OF YEAR**

Gross value of depreciable/depletable assets includes all fixed depreciable/depletable assets contained in accounting records of establishments. The values shown (gross book value) represent the actual cost of assets at the time they were acquired. Included are all costs incurred in making the assets usable (such as transportation and installation)

Gross value of depreciable/depletable assets includes:

1. Buildings and other structures (new and used).
2. Machinery and equipment (new and used), including automobiles, trucks, etc. for highway use and computers and peripheral data processing equipment.
3. Retirements.

Excluded are nondepreciable capital assets including inventories and intangible assets.

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.

In addition, respondents were requested to make certain that assets at the beginning of the year plus capital expenditures, less retirements, equaled assets at the end of the year.

## **CAPITAL EXPENDITURES FOR NEW AND USED PLANT AND EQUIPMENT**

Represents the total new and used capital expenditures reported by establishments in operation and any known plants under construction.

These data include expenditures for:

1. Permanent additions and major alterations to manufacturing and mining establishments.
2. New and used machinery and equipment used for replacement and additions to plant capacity, if they are of the type for which depreciation, depletion, or (for mining establishments) Office of Minerals Exploration accounts are ordinarily maintained. In addition, for mining establishments, these data include expenditures made during the year for development and exploration of mineral properties. For manufacturing establishments, these data are broken down into three types.
  - a. Automobiles, trucks, etc. for highway use. These include vehicles acquired under a lease-purchase agreement and excludes vehicles leased or normally designed to transport materials, property, or equipment on mining, construction, petroleum development, and similar projects. These vehicles are of such size or weight as to be normally restricted by state laws or regulations from operating on public highways. It also excludes purchases of vehicles that are purchased by a company for highway use.
  - b. Computers and peripheral data processing equipment. This item includes all purchases of computers and related equipment.
  - c. All other expenditures for machinery and equipment excluding automobiles and computer equipment.

Capital expenditures include work done by contract, as well as by the establishment's own workforce.

These data exclude expenditures for land and mineral rights and cost of maintenance and repairs charged as current operating expenses.

## **RETIREMENTS OF DEPRECIABLE ASSETS**

Included in this item is the gross value of assets sold, retired, scrapped, destroyed, etc., during the calendar year. 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.

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## **RENTAL PAYMENTS**

Total rental payments are 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.

## **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.

# Appendix B.

## NAICS Codes, Titles, and Descriptions

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### **SECTOR 31-33 MANUFACTURING**

The Manufacturing sector comprises establishments engaged in the mechanical, physical, or chemical transformation of materials, substances, or components into new products. The assembling of component parts of manufactured products is considered manufacturing, except in cases where the activity is appropriately classified in Sector 23, Construction.

Establishments in the Manufacturing sector are often described as plants, factories, or mills and characteristically use power-driven machines and materials-handling equipment. However, establishments that transform materials or substances into new products by hand or in the worker's home and those engaged in selling to the general public products made on the same premises from which they are sold, such as bakeries, candy stores, and custom tailors, may also be included in this sector. Manufacturing establishments may process materials or may contract with other establishments to process their materials for them. Both types of establishments are included in manufacturing.

The materials, substances, or components transformed by manufacturing establishments are raw materials that are products of agriculture, forestry, fishing, mining, or quarrying as well as products of other manufacturing establishments. The materials used may be purchased directly from producers, obtained through customary trade channels, or secured without recourse to the market by transferring the product from one establishment to another, under the same ownership. The new product of a manufacturing establishment may be finished in the sense that it is ready for utilization or consumption, or it may be semifinished to become an input for an establishment engaged in further manufacturing. For example, the product of the alumina refinery is the input used in the primary production of aluminum; primary aluminum is the input to an aluminum wire drawing plant; and aluminum wire is the input for a fabricated wire product manufacturing establishment.

The subsectors in the Manufacturing sector generally reflect distinct production processes related to material inputs, production equipment, and employee skills. In the machinery area, where assembling is a key activity, parts and accessories for manufactured products are classified in the industry of the finished manufactured item when they are made for separate sale. For example, a replacement refrigerator door would be classified with refrigerators and an attachment for a piece of metal working machinery would be classified with metal working machinery. However, components, input from other manufacturing establishments, are classified based on the production function of the component manufacturer. For example, electronic components are classified in Subsector 334, Computer and Electronic Product Manufacturing and stampings are classified in Subsector 332, Fabricated Metal Product Manufacturing.

Manufacturing establishments often perform one or more activities that are classified outside the Manufacturing sector of NAICS. For instance, almost all manufacturing has some captive research and development or administrative operations, such as accounting, payroll, or management. These captive services are treated the same as captive manufacturing activities. When the services are provided by separate establishments, they are classified to the NAICS sector where such services are primary, not in manufacturing.

The boundaries of manufacturing and the other sectors of the classification system can be somewhat blurry. The establishments in the manufacturing sector are engaged in the transformation of materials into new products. Their output is a new product. However, the definition of what constitutes a new product can be somewhat subjective. As clarification, the following activities are considered manufacturing in NAICS: Milk bottling and pasteurizing; Water bottling and processing;

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Fresh fish packaging (oyster shucking, fish filleting); Apparel jobbing (assigning of materials to contract factories or shops for fabrication or other contract operations) as well as contracting on materials owned by others; Printing and related activities; Ready-mixed concrete production; Leather converting; Grinding of lenses to prescription; Wood preserving; Electroplating, plating, metal heat treating, and polishing for the trade; Lapidary work for the trade; Fabricating signs and advertising displays; Rebuilding or remanufacturing machinery (i.e., automotive parts) Ship repair and renovation; Machine shops; and Tire retreading. Conversely, there are activities that are sometimes considered manufacturing, but which for NAICS are classified in another sector (i.e., not classified as manufacturing).

They include: (1) Logging, classified in Sector 11, Agriculture, Forestry, Fishing and Hunting is considered a harvesting operation; (2) The beneficiating of ores and other minerals, classified in Sector 21, Mining, is considered part of the activity of mining; (3) The construction of structures and fabricating operations performed at the site of construction by contractors, is classified in Sector 23, Construction; (4) Establishments engaged in breaking of bulk and redistribution in smaller lots, including packaging, repackaging, or bottling products, such as liquors or chemicals; the customized assembly of computers; sorting of scrap; mixing paints to customer order; and cutting metals to customer order, classified in Sector 42, Wholesale Trade or Sector 44-45, Retail Trade, produce a modified version of the same product, not a new product; and (5) Publishing and the combined activity of publishing and printing, classified in Sector 51, Information, perform the transformation of information into a product where as the value of the product to the consumer lies in the information content, not in the format in which it is distributed (i.e., the book or software diskette).

### **311 FOOD MANUFACTURING**

Industries in the Food Manufacturing subsector transform livestock and agricultural products into products for intermediate or final consumption. The industry groups are distinguished by the raw materials (generally of animal or vegetable origin) processed into food products.

The food products manufactured in these establishments are typically sold to wholesalers or retailers for distribution to consumers, but establishments primarily engaged in retailing bakery and candy products made on the premises not for immediate consumption are included.

Establishments primarily engaged in manufacturing beverages are classified in Subsector 312, Beverage and Tobacco Product Manufacturing.

#### **3111 ANIMAL FOOD MANUFACTURING**

This industry group comprises establishments primarily engaged in manufacturing food and feed for animals from ingredients, such as grains, oilseed mill products, and meat products.

##### **31111 ANIMAL FOOD MANUFACTURING**

This industry comprises establishments primarily engaged in manufacturing food and feed for animals from ingredients, such as grains, oilseed mill products, and meat products.

##### **311111 DOG AND CAT FOOD MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing dog and cat food from ingredients, such as grains, oilseed mill products, and meat products.

##### **311119 OTHER ANIMAL FOOD MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing animal food (except dog and cat) from ingredients, such as grains, oilseed mill products, and meat products.

#### **3112 GRAIN AND OILSEED MILLING**

This industry group comprises establishments primarily engaged in one or more of the following:

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1. Milling flour or meal from grains or vegetables;
  2. Preparing flour mixes or doughs from flour milled in the same establishment;
  3. Milling, cleaning, and polishing rice; and
  4. Manufacturing malt from barley, rye, or other grains.

### **31121 FLOUR MILLING AND MALT MANUFACTURING**

This industry comprises establishments primarily engaged in one or more of the following:

1. Milling flour or meal from grains or vegetables
2. Preparing flour mixes or doughs from flour milled in the same establishment
3. Milling, cleaning, and polishing rice; and
4. Manufacturing malt from barley, rye, or other grains.

#### **311211 FLOUR MILLING**

This U.S. industry comprises establishments primarily engaged in the following:

1. Milling flour or meal from grains (except rice) or vegetables and/or
2. Milling flour and preparing flour mixes or doughs.

#### **311212 RICE MILLING**

This U.S. industry comprises establishments primarily engaged in one of the following:

1. milling rice;
2. cleaning and polishing rice; or
3. milling, cleaning, and polishing rice.

The establishments in this industry may package the rice they mill with other ingredients.

#### **311213 MALT MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing malt from barley, rye, or other grains.

### **31122 STARCH AND VEGETABLE FATS AND OILS MANUFACTURING**

This industry comprises establishments primarily engaged in one or more of the following:

1. Wet milling corn and vegetables;
2. Crushing oilseeds and tree nuts;
3. Refining and/or blending vegetable oils;
4. Manufacturing shortening and margarine; and
5. Blending purchased animal fats with vegetable fats.

#### **311221 WET CORN MILLING**

This U.S. industry comprises establishments primarily engaged in wet milling corn and other vegetables (except to make ethyl alcohol). Examples of products made in these establishments are corn sweeteners, such as glucose, dextrose, and fructose; corn oil; and starches (except laundry).



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### **311222 SOYBEAN PROCESSING**

This U.S. industry comprises establishments engaged in crushing soybeans. Examples of products produced in these establishments are soybean oil, soybean cake and meal, and soybean protein isolates and concentrates.

### **311223 OTHER OILSEED PROCESSING**

This U.S. industry comprises establishments engaged in crushing oilseeds (except soybeans) and tree nuts, such as cottonseeds, linseeds, peanuts, and sunflower seeds.

### **311225 FATS AND OILS REFINING AND BLENDING**

This U.S. industry comprises establishments primarily engaged in one or more of the following:

1. Manufacturing shortening and margarine from purchased fats and oils;
2. Refining and/or blending vegetable, oilseed, and tree nut oils from purchased oils; and
3. Blending purchased animal fats with purchased vegetable fats.

### **31123 BREAKFAST CEREAL MANUFACTURING**

This industry comprises establishments primarily engaged in manufacturing breakfast cereal foods.

### **311230 BREAKFAST CEREAL MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing breakfast cereal foods.

### **3113 SUGAR AND CONFECTIONERY PRODUCT MANUFACTURING**

This industry group comprises establishments primarily engaged in one of the following:

1. Process agricultural inputs, such as sugarcane, beet, and cacao, to give rise to a new product (sugar or chocolate), and
2. Those that begin with sugar and chocolate and process these further.

### **31131 SUGAR MANUFACTURING**

This industry comprises establishments primarily engaged in manufacturing raw sugar, liquid sugar, and refined sugar from sugarcane, raw cane sugar and sugarbeets.

### **311311 SUGARCANE MILLS**

This U.S. industry comprises establishments primarily engaged in processing sugarcane.

### **311312 CANE SUGAR REFINING**

This U.S. industry comprises establishments primarily engaged in refining cane sugar from raw cane sugar.

### **311313 BEET SUGAR MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing refined beet sugar from sugarbeets.

### **31132 CHOCOLATE AND CONFECTIONERY MANUFACTURING FROM CACAO BEANS**

This industry comprises establishments primarily engaged in shelling, roasting, and grinding cacao beans and making chocolate cacao products and chocolate confectioneries.

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### **311320 CHOCOLATE AND CONFECTIONERY MANUFACTURING FROM CACAO BEANS**

This U.S. industry comprises establishments primarily engaged in shelling, roasting, and grinding cacao beans and making chocolate cacao products and chocolate confectioneries.

### **31133 CONFECTIONERY MANUFACTURING FROM PURCHASED CHOCOLATE**

This industry comprises establishments primarily engaged in manufacturing chocolate confectioneries from chocolate produced elsewhere. Included in this industry are establishments primarily engaged in retailing chocolate confectionery products not for immediate consumption made on the premises from chocolate made elsewhere.

### **311330 CONFECTIONERY MANUFACTURING FROM PURCHASED CHOCOLATE**

This U.S. industry comprises establishments primarily engaged in manufacturing chocolate confectioneries from chocolate produced elsewhere. Included in this industry are establishments primarily engaged in retailing chocolate confectionery products not for immediate consumption made on the premises from chocolate made elsewhere.

### **31134 NONCHOCOLATE CONFECTIONERY MANUFACTURING**

This industry comprises establishments primarily engaged in manufacturing nonchocolate confectioneries. Included in this industry are establishments primary engaged in retailing nonchocolate confectionery products not for immediate consumption made on the premises.

### **311340 NONCHOCOLATE CONFECTIONERY MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing nonchocolate confectioneries. Included in this industry are establishments primary engaged in retailing nonchocolate confectionery products not for immediate consumption made on the premises.

### **3114 FRUIT AND VEGETABLE PRESERVING AND SPECIALTY FOOD MANUFACTURING**

This industry group comprises establishments primarily engaged in the following:

1. Those that freeze food and
2. Those that use preservation processes, such as pickling, canning, and dehydrating.

Both types begin their production process with inputs of vegetable or animal origin.

### **31141 FROZEN FOOD MANUFACTURING**

This industry comprises establishments primarily engaged in manufacturing frozen fruit, frozen juices, frozen vegetables, and frozen specialty foods (except seafood), such as frozen dinners, entrees, and side dishes; frozen pizza; frozen whipped toppings; and frozen waffles, pancakes, and french toast.

### **311411 FROZEN FRUIT, JUICE, AND VEGETABLE MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing frozen fruits; frozen vegetables; and frozen fruit juices, ades, drinks, cocktail mixes and concentrates.

### **311412 FROZEN SPECIALTY FOOD MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing frozen specialty foods (except seafood), such as frozen dinners, entrees, and side dishes; frozen pizza; frozen whipped topping; and frozen waffles, pancakes, and french toast.

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## **31142 FRUIT AND VEGETABLE CANNING, PICKLING, AND DRYING**

This industry comprises establishments primarily engaged in manufacturing canned, pickled, and dried fruits, vegetables, and specialty foods. Establishments in this industry may package the dried or dehydrated ingredients they make with other purchased ingredients. Examples of products made by these establishments are canned juices; canned baby foods; canned soups (except seafood); canned dry beans; canned tomato-based sauces, such as catsup, salsa, chili, spaghetti, barbeque, and tomato paste, pickles, relishes, jams and jellies, dried soup mixes and bullions, and sauerkraut.

### **311421 FRUIT AND VEGETABLE CANNING**

This U.S. industry comprises establishments primarily engaged in manufacturing canned, pickled, and brined fruits and vegetables. Examples of products made in these establishments are canned juices; canned jams and jellies; canned tomato-based sauces, such as catsup, salsa, chili, spaghetti, barbeque, and tomato paste; pickles, relishes, and sauerkraut.

### **311422 SPECIALTY CANNING**

This U.S. industry comprises establishments primarily engaged in manufacturing canned specialty foods. Examples of products made in these establishments are canned baby food, canned baked beans, canned soups (except seafood), canned spaghetti, and other canned nationality foods.

### **311423 DRIED AND DEHYDRATED FOOD MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in one of the following:

1. Drying (including freeze-dried) and/or dehydrating fruits, vegetables, and soup mixes and bouillon and/or
2. Drying and/or dehydrating ingredients and packaging them with other purchased ingredients, such as rice and dry pasta.

## **3115 DAIRY PRODUCT MANUFACTURING**

This industry group comprises establishments that manufacture dairy products from raw milk, processed milk, and dairy substitutes.

### **31151 DAIRY PRODUCT (EXCEPT FROZEN) MANUFACTURING**

This industry comprises establishments primarily engaged in one or more of the following:

1. Manufacturing dairy products (except frozen) from raw milk and/or processed milk products;
2. Manufacturing dairy substitutes (except frozen) from soybeans and other nondairy substances; and
3. Manufacturing dry, condensed, concentrated, and evaporated dairy and dairy substitute products.

### **311511 FLUID MILK MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in:

1. Manufacturing processed milk products, such as pasteurized milk or cream and sour cream and/or
2. Manufacturing fluid milk dairy substitutes from soybeans and other nondairy substances.

### **311512 CREAMERY BUTTER MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing creamery butter from milk and/or processed milk products.

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### **311513 CHEESE MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in:

1. manufacturing cheese products (except cottage cheese) from raw milk and/or processed milk products and/or
2. manufacturing cheese substitutes from soybean and other nondairy substances.

### **311514 DRY, CONDENSED, AND EVAPORATED DAIRY PRODUCT MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing dry, condensed, and evaporated milk and dairy substitute products.

### **31152 ICE CREAM AND FROZEN DESSERT MANUFACTURING**

This industry comprises establishments primarily engaged in manufacturing ice cream, frozen yogurts, frozen ices, sherbets, frozen tofu, and other frozen desserts (except bakery products).

### **311520 ICE CREAM AND FROZEN DESSERT MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing ice cream, frozen yogurts, frozen ices, sherbets, frozen tofu, and other frozen desserts (except bakery products).

### **3116 ANIMAL SLAUGHTERING AND PROCESSING**

This industry group comprises establishments primarily engaged in one or more of the following:

1. Slaughtering animals;
2. Preparing processed meats and meat byproducts; and
3. Rendering and/or refining animal fat, bones, and meat scraps.

This industry includes establishments primarily engaged in assembly cutting and packing of meats (i.e., boxed meats) from purchased carcasses.

### **31161 ANIMAL SLAUGHTERING AND PROCESSING**

This industry comprises establishments primarily engaged in one or more of the following:

1. Slaughtering animals;
2. Preparing processed meats and meat byproducts; and
3. Rendering and/or refining animal fat, bones, and meat scraps.

This industry includes establishments primarily engaged in assembly cutting and packing of meats (i.e., boxed meats) from purchased carcasses.

### **311611 ANIMAL (EXCEPT POULTRY) SLAUGHTERING**

This U.S. industry comprises establishments primarily engaged in slaughtering animals (except poultry and small game). Establishments that slaughter and prepare meats are included in this industry.

### **311612 MEAT PROCESSED FROM CARCASSES**

This U.S. industry comprises establishments primarily engaged in processing or preserving meat and meat byproducts (except poultry and small game) from purchased meats. This industry includes establishments primarily engaged in assembly cutting and packing of meats (i.e., boxed meats) from purchased meats.

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### **311613 RENDERING AND MEAT BYPRODUCT PROCESSING**

This U.S. industry comprises establishments primarily engaged in rendering animal fat, bones, and meat scraps.

### **311615 POULTRY PROCESSING**

This U.S. industry comprises establishments primarily engaged in:

1. slaughtering poultry and small game and/or
2. preparing processed poultry and small game meat and meat byproducts.

### **3117 SEAFOOD PRODUCT PREPARATION AND PACKAGING**

This industry group comprises establishments primarily engaged in one or more of the following:

1. Canning seafood (including soup);
2. Smoking, salting, and drying seafood;
3. Eviscerating fresh fish by removing heads, fins, scales, bones, and entrails;
4. Shucking and packing fresh shellfish;
5. Processing marine fats and oils; and
6. Freezing seafood.

Establishments known as “floating factory ships” that are engaged in the gathering and processing of seafood into canned seafood products are also included in this industry group.

### **31171 SEAFOOD PRODUCT PREPARATION AND PACKAGING**

This industry comprises establishments primarily engaged in one or more of the following:

1. Canning seafood (including soup);
2. Smoking, salting, and drying seafood;
3. Eviscerating fresh fish by removing heads, fins, scales, bones, and entrails;
4. Shucking and packing fresh shellfish;
5. Processing marine fats and oils; and
6. Freezing seafood.

Establishments known as “floating factory ships” that are engaged in the gathering and processing of seafood into canned seafood products are also included in this industry.

### **311711 SEAFOOD CANNING**

This U.S. industry comprises establishments primarily engaged in one of the following:

1. Canning seafood (including soup) and marine fats and oils and/or
2. Smoking, salting, and drying seafood.

Establishments known as “floating factory ships” that are engaged in the gathering and processing of seafood into canned seafood products are also included in this industry.

### **311712 FRESH AND FROZEN SEAFOOD PROCESSING**

This U.S. industry comprises establishments primarily engaged in one or more of the following:

1. Eviscerating fresh fish by removing heads, fins, scales, bones, and entrails;
2. Shucking and packing fresh shellfish;

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3. Manufacturing frozen seafood; and
  4. Processing fresh and frozen marine fats and oils.

### **3118 BAKERIES AND TORTILLA MANUFACTURING**

This industry group comprises establishments primarily engaged in one or more of the following:

1. Bread and bakery product manufacturing;
2. Cookie, cracker, and pasta manufacturing; and
3. Tortilla manufacturing.

### **31181 BREAD AND BAKERY PRODUCT MANUFACTURING**

This industry comprises establishments primarily engaged in manufacturing fresh and frozen bread and other bakery products.

#### **311811 RETAIL BAKERIES**

This U.S. industry comprises establishments primarily engaged in retailing bread and other bakery products not for immediate consumption made on the premises from flour, not from prepared dough.

#### **311812 COMMERCIAL BAKERIES**

This U.S. industry comprises establishments primarily engaged in manufacturing fresh and frozen bread and bread-type rolls and other fresh bakery (except cookies and crackers) products.

#### **311813 FROZEN CAKES, PIES, AND OTHER PASTRIES MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing frozen bakery products (except bread), such as cakes, pies, and doughnuts.

#### **31182 COOKIE, CRACKER, AND PASTA MANUFACTURING**

This industry comprises establishments primarily engaged in one of the following:

1. Manufacturing cookies and crackers;
2. Preparing flour and dough mixes and dough from flour ground elsewhere; and
3. Manufacturing dry pasta.

The establishments in this industry may package the dry pasta they manufacture with other ingredients.

#### **311821 COOKIE AND CRACKER MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing cookies, crackers, and other products, such as ice cream cones.

#### **311822 FLOUR MIXES AND DOUGH MANUFACTURING FROM PURCHASED FLOUR**

This U.S. industry comprises establishments primarily engaged in manufacturing prepared flour mixes or dough mixes from flour ground elsewhere.

#### **311823 DRY PASTA MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing dry pasta. The establishments in this industry may package the dry pasta they manufacture with other ingredients.

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### **311821 COOKIE AND CRACKER MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing cookies, crackers, and other products, such as ice cream cones.

### **311822 FLOUR MIXES AND DOUGH MANUFACTURING FROM PURCHASED FLOUR**

This U.S. industry comprises establishments primarily engaged in manufacturing prepared flour mixes or dough mixes from flour ground elsewhere.

### **311823 DRY PASTA MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing dry pasta. The establishments in this industry may package the dry pasta they manufacture with other ingredients.

### **31183 TORTILLA MANUFACTURING**

This industry comprises establishments primarily engaged in manufacturing tortillas.

### **311830 TORTILLA MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing tortillas.

### **3119 OTHER FOOD MANUFACTURING**

This industry group comprises establishments primarily engaged in manufacturing food (except animal food; grain and oilseed milling; sugar and confectionery products; preserved fruit, vegetable, and specialty foods; dairy products; meat products; seafood products; and bakeries and tortillas). The industry group includes industries with different productive processes, such as snack food manufacturing; coffee and tea manufacturing; concentrate, syrup, condiment, and spice manufacturing; and, in general, an entire range of other miscellaneous food product manufacturing.

### **31191 SNACK FOOD MANUFACTURING**

This industry comprises establishments primarily engaged in one or more of the following:

1. Salting, roasting, drying, cooking, or canning nuts;
2. Processing grains or seeds into snacks;
3. Manufacturing peanut butter; and
4. Manufacturing potato chips, corn chips, popped popcorn, pretzels (except soft), pork rinds, and similar snacks.

### **311911 ROASTED NUTS AND PEANUT BUTTER MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in one or more of the following:

1. Salting, roasting, drying, cooking, or canning nuts;
2. Processing grains or seeds into snacks; and
3. Manufacturing peanut butter.

### **311919 OTHER SNACK FOOD MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing snack foods (except roasted nuts and peanut butter).

### **31192 COFFEE AND TEA MANUFACTURING**

This industry comprises establishments primarily engaged in one or more of the following:

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1. Roasting coffee;
  2. Manufacturing coffee and tea concentrates (including instant and freeze-dried);
  3. Blending tea;
  4. Manufacturing herbal tea; and
  5. Manufacturing coffee extracts, flavorings, and syrups.

### **311920 COFFEE AND TEA MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in one or more of the following:

1. Roasting coffee;
2. Manufacturing coffee and tea concentrates (including instant and freeze-dried);
3. Blending tea;
4. Manufacturing herbal tea; and
5. Manufacturing coffee extracts, flavorings, and syrups.

### **31193 FLAVORING SYRUP AND CONCENTRATE MANUFACTURING**

This industry comprises establishments primarily engaged in manufacturing flavoring syrup drink concentrates and related products for soda fountain use or for the manufacture of soft drinks.

### **311930 FLAVORING SYRUP AND CONCENTRATE MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing flavoring syrup drink concentrates and related products for soda fountain use or for the manufacture of soft drinks.

### **31194 SEASONING AND DRESSING MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in one or more of the following:

1. Manufacturing dressings and sauces, such as mayonnaise, salad dressing, vinegar, mustard, horseradish, soy sauce, tarter sauce, Worcestershire sauce, and other prepared sauces (except tomato-based and gravies);
2. Manufacturing spices, table salt, seasoning, and flavoring extracts (except coffee and meat), and natural food colorings; and
3. Manufacturing dry mix food preparations, such as salad dressing mixes, gravy and sauce mixes, frosting mixes, and other dry mix preparations.

### **311941 MAYONNAISE, DRESSING, AND OTHER PREPARED SAUCE MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing mayonnaise, salad dressing, vinegar, mustard, horseradish, soy sauce, tarter sauce, Worcestershire sauce, and other prepared sauces (except tomato-based and gravy).

### **311942 SPICE AND EXTRACT MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in one of the following:

1. Manufacturing spices, table salt, seasonings, flavoring extracts (except coffee and meat), and natural food colorings and/or
2. Manufacturing dry mix food preparations, such as salad dressing mixes, gravy and sauce mixes, frosting mixes, and other dry mix preparations.



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### **31199 ALL OTHER FOOD MANUFACTURING**

This industry comprises establishments primarily engaged in manufacturing food (except animal food; grain and oilseed milling; sugar and confectionery products; preserved fruits, vegetables, and specialties; dairy products; meat products; seafood products; bakeries and tortillas; snack foods; coffee and tea; flavoring syrups and concentrates; seasonings; and dressings). Included in this industry are establishments primarily engaged in mixing purchased dried and/or dehydrated ingredients including those mixing purchased dried and/or dehydrated ingredients for soup mixes and bouillon.

### **311991 PERISHABLE PREPARED FOOD MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing perishable prepared foods, such as salads, sandwiches, prepared meals, fresh pizza, fresh pasta, and peeled or cut vegetables.

### **311999 ALL OTHER MISCELLANEOUS FOOD MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing food (except animal food; grain and oilseed milling; sugar and confectionery products; preserved fruits, vegetables, and specialties; dairy products; meat products; seafood products; bakery and tortillas products; snack foods; coffee and tea; flavoring syrups and concentrates; seasonings and dressings; and perishable prepared food). Included in this industry are establishments primarily engaged in mixing purchased dried and/or dehydrated ingredients including those mixing purchased dried and/or dehydrated ingredients for soup mixes and bouillon.

### **312 BEVERAGE AND TOBACCO PRODUCT MANUFACTURING**

Industries in the Beverage and Tobacco Product Manufacturing subsector manufacture beverages and tobacco products. The industry group, Beverage Manufacturing, includes three types of establishments:

1. Those that manufacture nonalcoholic beverages;
2. Those that manufacture alcoholic beverages through the fermentation process; and
3. Those that produce distilled alcoholic beverages.

Ice manufacturing, while not a beverage, is included with nonalcoholic beverage manufacturing because it uses the same production process as water purification.

In the case of activities related to the manufacture of beverages, the structure follows the defined productive processes. Brandy, a distilled beverage, was not placed under distillery product manufacturing, but rather under the NAICS class for winery product manufacturing since the productive process used in the manufacturing of alcoholic grape-based beverages produces both wines (fermented beverage) and brandies (distilled beverage).

The industry group, Tobacco Manufacturing, includes two types of establishments:

1. Those engaged in redrying and stemming tobacco and,
2. Those that manufacture tobacco products, such as cigarettes and cigars.

### **3121 BEVERAGE MANUFACTURING**

This industry group comprises establishments primarily engaged in manufacturing soft drinks; ice; bottled water; breweries; wineries; and/or distilleries.

### **31211 SOFT DRINK AND ICE MANUFACTURING**

This industry comprises establishments primarily engaged in one or more of the following:

1. Manufacturing soft drinks;

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2. Manufacturing ice; and
  3. Purifying and bottling water.

### **312111 SOFT DRINK MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing soft drinks and artificially carbonated waters.

### **312112 BOTTLED WATER MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in purifying and bottling water (including naturally carbonated).

### **312113 ICE MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing ice.

### **31212 BREWERIES**

This industry comprises establishments primarily engaged in brewing beer, ale, malt liquors, and nonalcoholic beer.

### **312120 BREWERIES**

This U.S. industry comprises establishments primarily engaged in brewing beer, ale, malt liquors, and nonalcoholic beer.

### **31213 WINERIES**

This industry comprises establishments primarily engaged in one or more of the following:

1. Growing grapes and manufacturing wine and brandies;
2. Manufacturing wine and brandies from grapes and other fruits grown elsewhere; and
3. Blending wines and brandies.

### **312130 WINERIES**

This U.S. industry comprises establishments primarily engaged in one or more of the following:

1. Growing grapes and manufacturing wine and brandies;
2. Manufacturing wine and brandies from grapes and other fruits grown elsewhere; and
3. Blending wines and brandies.

### **31214 DISTILLERIES**

This industry comprises establishments primarily engaged in one or more of the following:

1. Distilling potable liquors (except brandies);
2. Distilling and blending liquors; and
3. Blending and mixing liquors and other ingredients.

### **312140 DISTILLERIES**

This U.S. industry comprises establishments primarily engaged in one or more of the following:

1. Distilling potable liquors (except brandies);
2. Distilling and blending liquors; and
3. Blending and mixing liquors and other ingredients.

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### **3122 TOBACCO MANUFACTURING**

This industry group comprises establishments primarily engaged in the stemming and redrying of tobacco, and in the manufacturing of tobacco products.

#### **31221 TOBACCO STEMMING AND REDRYING**

This industry comprises establishments primarily engaged in the stemming and redrying of tobacco.

#### **312210 TOBACCO STEMMING AND REDRYING**

This U.S. industry comprises establishments primarily engaged in the stemming and redrying of tobacco.

#### **31222 TOBACCO PRODUCT MANUFACTURING**

This industry comprises establishments primarily engaged in manufacturing cigarettes, cigars, smoking and chewing tobacco, and reconstituted tobacco.

#### **312221 CIGARETTE MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing cigarettes.

#### **312229 OTHER TOBACCO PRODUCT MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing tobacco products (except cigarettes).

### **313 TEXTILE MILLS**

Industries in the Textile Mills subsector group establishments that transform a basic fiber (natural or synthetic) into a product, such as yarn or fabric, that is further manufactured into usable items, such as apparel, sheets towels, and textile bags for individual or industrial consumption. The further manufacturing may be performed in the same establishment and classified in this subsector, or it may be performed at a separate establishment and be classified elsewhere in manufacturing.

The main processes in this subsector include preparation and spinning of fiber, knitting or weaving of fabric, and the finishing of the textile. The NAICS structure follows and captures this process flow. Major industries in this flow, such as preparation of fibers, weaving of fabric, knitting of fabric, and fiber and fabric finishing, are uniquely identified. Texturizing, throwing, twisting, and winding of yarn contains aspects of both fiber preparation and fiber finishing and is classified with preparation of fibers rather than with finishing of fiber.

NAICS separates the manufacturing of primary textiles and the manufacturing of textile products (except apparel) when the textile product is produced from purchased primary textiles, such as fabric. The manufacturing of textile products (except apparel) from purchased fabric is classified in Subsector 314, Textile Product Mills, and apparel from purchased fabric is classified in Subsector 315, Apparel Manufacturing.

Excluded from this subsector are establishments that weave or knit fabric and make garments. These establishments are included in Subsector 315, Apparel Manufacturing.

#### **3131 FIBER, YARN, AND THREAD MILLS**

This NAICS Industry Group include establishments classified in NAICS Industry 31311, Fiber, Yarn, and Thread Mills.

#### **31311 FIBER, YARN, AND THREAD MILLS**

This industry comprises establishments primarily engaged in one or more of the following:

1. spinning yarn

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2. manufacturing thread of any fiber
  3. texturizing, throwing, twisting, and winding purchased yarn or manmade fiber filaments
  4. producing hemp yarn and further processing into rope or bags.

### **313111 YARN SPINNING MILLS**

This U.S. industry comprises establishments primarily engaged in spinning yarn from any fiber and/or producing hemp yarn and further processing into rope or bags.

### **313112 YARN TEXTURIZING, THROWING, AND TWISTING MILLS**

This U.S. industry comprises establishments primarily engaged in texturizing, throwing, twisting, spooling, or winding purchased yarns or manmade fiber filaments.

### **313113 THREAD MILLS**

This U.S. industry comprises establishments primarily engaged in manufacturing thread (e.g., sewing, hand-knitting, crochet) of all fibers.

### **3132 FABRIC MILLS**

This industry group comprises establishments primarily engaged in one or more of the following:

1. Broadwoven fabric mills;
2. Narrow fabric mills and schiffli machine embroidery;
3. Nonwoven fabric mills; and
4. Knit fabric mills.

### **31321 BROADWOVEN FABRIC MILLS**

This industry comprises establishments primarily engaged in weaving broadwoven fabrics and felts (except tire fabrics and rugs). Establishments in this industry may weave only, weave and finish, or weave, finish, and further fabricate fabric products.

#### **313210 BROADWOVEN FABRIC MILLS**

This U.S. industry comprises establishments primarily engaged in weaving broadwoven fabrics and felts (except tire fabrics and rugs). Establishments in this industry may weave only, weave and finish, or weave, finish, and further fabricate fabric products.

#### **31322 NARROW FABRIC MILLS AND SCHIFFLI MACHINE EMBROIDERY**

This industry comprises establishments primarily engaged in one or more of the following:

1. weaving or braiding narrow fabrics
2. manufacturing Schiffli machine embroideries
3. making fabric-covered elastic yarn and thread.

#### **313221 NARROW FABRIC MILLS**

This U.S. industry comprises establishments primarily engaged in:

1. weaving or braiding narrow fabrics in their final form or initially made in wider widths that are specially constructed for narrower widths and/or
2. making fabric-covered elastic yarn and thread.

Establishments in this industry may weave only; weave and finish; or weave, finish, and further fabricate fabric products.

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### **313222 SCHIFFLI MACHINE EMBROIDERY**

This U.S. industry comprises establishments primarily engaged in manufacturing Schiffli machine embroideries.

### **31323 NONWOVEN FABRIC MILLS**

This industry comprises establishments primarily engaged in manufacturing nonwoven fabrics and felts. Processes used include bonding and/or interlocking fibers by mechanical, chemical, thermal, or solvent means, or by combinations thereof.

### **313230 NONWOVEN FABRIC MILLS**

This U.S. industry comprises establishments primarily engaged in manufacturing nonwoven fabrics and felts. Processes used include bonding and/or interlocking fibers by mechanical, chemical, thermal, or solvent means, or by combinations thereof.

### **31324 KNIT FABRIC MILLS**

This industry comprises establishments primarily engaged in one of the following:

1. knitting weft (i.e., circular) and warp (i.e., flat) fabric
2. knitting and finishing weft and warp fabric
3. manufacturing lace
4. manufacturing, dyeing, and finishing lace and lace goods. Establishments in this industry may knit only; knit and finish; or knit, finish, and further fabricate fabric products (except apparel).

### **313241 WEFT KNIT FABRIC MILLS**

This U.S. industry comprises establishments primarily engaged in knitting weft (i.e., circular) fabric or knitting and finishing weft fabric. Establishments in this industry may knit only; knit and finish; or knit, finish, and further fabricate fabric products (except apparel).

### **313249 OTHER KNIT FABRIC AND LACE MILLS**

This U.S. industry comprises establishments primarily engaged in one of the following:

1. knitting warp (i.e., flat) fabric;
2. knitting and finishing warp fabric;
3. manufacturing lace; or
4. manufacturing, dyeing, or finishing lace and lace goods.

Establishments in this industry may knit only; knit and finish; or knit, finish, and further fabricate fabric products (except apparel).

### **3133 TEXTILE AND FABRIC FINISHING AND FABRIC COATING MILLS**

This industry group comprises establishments primarily engaged in one or more of the following:

1. Textile and fabric finishing mills and
2. Fabric coating mills.

### **31331 TEXTILE AND FABRIC FINISHING MILLS**

This industry comprises:

1. establishments primarily engaged in finishing of textiles, fabrics, and apparel
2. establishments of converters who buy fabric goods in the grey, have them finished on contract, and sell at wholesale. Finishing operations include:

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- a. bleaching
  - b. dyeing
  - c. printing (e.g., roller, screen, flock, plisse)
  - d. stonewashing
  - e. other mechanical finishing (preshrinking, shrinking, sponging, calendering, mercerizing, and napping; as well as cleaning, scouring, and the preparation of natural fibers and raw stock).

### **313311 BROADWOVEN FABRIC FINISHING MILLS**

This U.S. industry comprises:

1. Establishments primarily engaged in finishing broadwoven fabrics
2. Establishments of converters who buy broadwoven fabrics in the grey, have them finished on contract, and sell at wholesale.

### **313312 TEXTILE AND FABRIC FINISHING (EXCEPT BROADWOVEN FABRIC) MILLS**

This U.S. industry comprises:

1. Establishments primarily engaged in dyeing, bleaching, printing, and other finishing of textiles, apparel, and fabrics (except broadwoven)
2. Establishments of converters who buy fabrics (except broadwoven) in the grey, have them finished on contract, and sell at wholesale. Finishing operations include bleaching, dyeing, printing (e.g., roller, screen, flock, plisse), stonewashing, and other mechanical finishing, such as preshrinking, shrinking, sponging, calendering, mercerizing and napping; as well as cleaning, scouring, and the preparation of natural fibers and raw stock.

### **31332 FABRIC COATING MILLS**

This industry comprises establishments primarily engaged in coating, laminating, varnishing, waxing, and rubberizing textiles and apparel.

### **313320 FABRIC COATING MILLS**

This U.S. industry comprises establishments primarily engaged in coating, laminating, varnishing, waxing, and rubberizing textiles and apparel.

### **314 TEXTILE PRODUCT MILLS**

Industries in the Textile Product Mills subsector group establishments that make textile products (except apparel). With a few exceptions, processes used in these industries are generally cut and sew (i.e., purchasing fabric and cutting and sewing to make nonapparel textile products, such as sheets and towels).

### **3141 TEXTILE FURNISHINGS MILLS**

This industry group comprises establishments primarily engaged in one or more of the following:

1. Carpet and rug mills and
2. Curtain and linen mills.

### **31411 CARPET AND RUG MILLS**

This industry comprises establishments primarily engaged in one or more of the following:

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1. Manufacturing woven, tufted, and other carpets and rugs, such as art squares, floor mattings, needlepunch carpeting, and door mats and mattings, from textile materials or from twisted paper, grasses, reeds, sisal, jute, or rags and/or
  2. Finishing carpets and rugs.

### **314110 CARPET AND RUG MILLS**

This U.S. industry comprises establishments primarily engaged in:

1. manufacturing woven, tufted, and other carpets and rugs, such as art squares, floor mattings, needlepunch carpeting, and door mats and mattings, from textile materials or from twisted paper, grasses, reeds, sisal, jute, or rags and/or
2. finishing carpets and rugs.

### **31412 CURTAIN AND LINEN MILLS**

This industry comprises establishments primarily engaged in manufacturing household textile products, such as curtains, draperies, linens, bedspreads, sheets, tablecloths, towels, and shower curtains, from purchased materials.

### **314121 CURTAIN AND DRAPERY MILLS**

This U.S. industry comprises establishments primarily engaged in manufacturing window curtains and draperies from purchased fabrics or sheet goods. The curtains and draperies may be made on a stock or custom basis for sale to individual retail customers.

### **314129 OTHER HOUSEHOLD TEXTILE PRODUCT MILLS**

This U.S. industry comprises establishments primarily engaged in manufacturing household textile products (except window curtains and draperies), such as bedspreads, sheets, tablecloths, towels, and shower curtains, from purchased materials.

### **3149 OTHER TEXTILE PRODUCT MILLS**

This industry group comprises establishments primarily engaged in making textile products, (except carpets and rugs, curtains and draperies, and other household textile products) from purchased materials.

### **31491 TEXTILE BAG AND CANVAS MILLS**

This industry comprises establishments primarily engaged in manufacturing textile bags, awnings, tents, and related products from purchased textile fabrics.

### **314911 TEXTILE BAG MILLS**

This U.S. industry comprises establishments primarily engaged in manufacturing bags from purchased textile fabrics or yarns.

### **314912 CANVAS AND RELATED PRODUCT MILLS**

This U.S. industry comprises establishments primarily engaged in manufacturing canvas and canvas-like products, such as awnings, sails, tarpaulins, and tents, from purchased fabrics.

### **31499 ALL OTHER TEXTILE PRODUCT MILLS**

This industry comprises establishments primarily engaged in manufacturing nonapparel textile products (except carpet, rugs, curtains, linens, bags, and canvas products) from purchased materials.

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### **314991 ROPE, CORDAGE, AND TWINE MILLS**

This U.S. industry comprises establishments primarily engaged in manufacturing rope, cable, cordage, twine, and related products from all materials (e.g., abaca, sisal, henequen, hemp, cotton, paper, jute, flax, manmade fibers including glass).

### **314992 TIRE CORD AND TIRE FABRIC MILLS**

This U.S. industry comprises establishments primarily engaged in manufacturing cord and fabric of polyester, rayon, cotton, glass, steel, or other materials for use in reinforcing rubber tires, industrial belting, and similar uses.

### **314999 ALL OTHER MISCELLANEOUS TEXTILE PRODUCT MILLS**

This U.S. industry comprises establishments primarily engaged in manufacturing textile products (except carpets and rugs; curtains and linens; textile bags and canvas products; rope, cordage, and twine; and tire cords and tire fabrics) from purchased materials.

## **315 APPAREL MANUFACTURING**

Industries in the Apparel Manufacturing subsector group establishments with two distinct manufacturing processes:

1. Cut and sew (i.e., purchasing fabric and cutting and sewing to make a garment), and
2. The manufacture of garments in establishments that first knit fabric and then cut and sew the fabric into a garment.

The Apparel Manufacturing subsector includes a diverse range of establishments manufacturing full lines of ready-to-wear apparel and custom apparel: apparel contractors, performing cutting or sewing operations on materials owned by others; jobbers performing entrepreneurial functions involved in apparel manufacture; and tailors, manufacturing custom garments for individual clients are all included. Knitting, when done alone, is classified in the Textile Mills subsector, but when knitting is combined with the production of complete garments, the activity is classified in Apparel Manufacturing.

### **3151 APPAREL KNITTING MILLS**

This industry group comprises establishments primarily engaged in knitting apparel or knitting fabric and then manufacturing apparel. This industry group includes jobbers performing entrepreneurial functions involved in knitting apparel and accessories. Knitting fabric, without manufacturing apparel, is classified in Subsector 313, Textile Mills.

### **31511 HOSIERY AND SOCK MILLS**

This industry comprises establishments primarily engaged in knitting or knitting and finishing hosiery and socks.

#### **315111 SHEER HOSIERY MILLS**

This U.S. industry comprises establishments primarily engaged in knitting or knitting and finishing women's, misses', and girls' full-length and knee-length sheer hosiery (except socks).

#### **315119 OTHER HOSIERY AND SOCK MILLS**

This U.S. industry comprises establishments primarily engaged in knitting or knitting and finishing hosiery (except women's, misses', and girls' sheer hosiery).

### **31519 OTHER APPAREL KNITTING MILLS**

This industry comprises establishments primarily engaged in one of the following:

1. knitting underwear, outerwear, and/or nightwear;



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2. knitting fabric and manufacturing underwear, outerwear, and/or nightwear; or
  3. knitting, manufacturing, and finishing knit underwear, outerwear, and/or nightwear.

### **315191 OUTERWEAR KNITTING MILLS**

This U.S. industry comprises establishments primarily engaged in one or more of the following:

1. knitting outerwear;
2. knitting fabric and manufacturing outerwear; and
3. knitting, manufacturing, and finishing knit outerwear.

Examples of products made in knit outerwear mills are shirts, shorts, sweat suits, sweaters, gloves, and pants.

### **315192 UNDERWEAR AND NIGHTWEAR KNITTING MILLS**

This U.S. industry comprises establishments primarily engaged in one of the following:

1. knitting underwear and nightwear;
2. knitting fabric and manufacturing underwear and nightwear; or
3. knitting, manufacturing, and finishing knit underwear and nightwear.

Examples of products produced in underwear and nightwear knitting mills are briefs, underwear T-shirts, pajamas, nightshirts, foundation garments, and panties.

### **3152 CUT AND SEW APPAREL MANUFACTURING**

This industry group comprises establishments primarily engaged in manufacturing cut and sew apparel from woven fabric or purchased knit fabric. Included in this industry group is a diverse range of establishments manufacturing full lines of ready-to-wear apparel and custom apparel: apparel contractors, performing cutting or sewing operations on materials owned by others; jobbers performing entrepreneurial functions involved in apparel manufacture; and tailors, manufacturing custom garments for individual clients. Establishments weaving or knitting fabric, without manufacturing apparel, are classified in Subsector 313, Textile Mills.

### **31521 CUT AND SEW APPAREL CONTRACTORS**

This industry comprises establishments commonly referred to as contractors primarily engaged in one of the following:

1. cutting materials owned by others for apparel and accessories and/or
2. sewing materials owned by others for apparel and accessories.

### **315211 MEN'S AND BOYS' CUT AND SEW APPAREL CONTRACTORS**

This U.S. industry comprises establishments (commonly referred to as contractors) primarily engaged in:

1. cutting materials owned by others for men's and boys' apparel and/or
2. sewing materials owned by others for men's and boys' apparel.

### **315212 WOMEN'S, GIRLS', AND INFANTS' CUT AND SEW APPAREL CONTRACTORS**

This U.S. industry comprises establishments commonly referred to as contractors primarily engaged in one of the following:

1. cutting materials owned by others for women's, girls', and infants' apparel and accessories and/or
2. sewing materials owned by others for women's, girls', and infants' apparel and accessories.

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### **31522 MEN'S AND BOYS' CUT AND SEW APPAREL MANUFACTURING**

This industry comprises establishments primarily engaged in manufacturing men's and boys' cut and sew apparel from purchased fabric. Men's and boys' clothing jobbers, who perform entrepreneurial functions involved in apparel manufacture, including buying raw materials, designing and preparing samples, arranging for apparel to be made from their materials, and marketing finished apparel, are included.

### **315221 MEN'S AND BOYS' CUT AND SEW UNDERWEAR AND NIGHTWEAR MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing men's and boys' underwear and nightwear from purchased fabric. Men's and boys' underwear and nightwear jobbers, who perform entrepreneurial functions involved in apparel manufacture, including buying raw materials, designing and preparing samples, arranging for apparel to be made from their materials, and marketing finished apparel, are included. Examples of products made by these establishments are briefs, bathrobes, underwear T-shirts and shorts, nightshirts, and pajamas.

### **315222 MEN'S AND BOYS' CUT AND SEW SUIT, COAT, AND OVERCOAT MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing men's and boys' suits, overcoats, sport coats, tuxedos, dress uniforms, and other tailored apparel (except fur and leather) from purchased fabric. Men's and boys' suit, coat, and overcoat jobbers, who perform entrepreneurial functions involved in apparel manufacture, including buying raw materials, designing and preparing samples, arranging for apparel to be made from their materials, and marketing finished apparel, are included.

### **315223 MEN'S AND BOYS' CUT AND SEW SHIRT (EXCEPT WORK SHIRT) MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing men's and boys' outerwear shirts from purchased fabric. Men's and boys' shirt (except work shirt) jobbers, who perform entrepreneurial functions involved in apparel manufacture, including buying raw materials, designing and preparing samples, arranging for apparel to be made from their materials, and marketing finished apparel, are included. Unisex outerwear shirts, such as T-shirts and sweatshirts that are sized without specific reference to gender (i.e., adult S, M, L, XL) are included in this industry.

### **315224 MEN'S AND BOYS' CUT AND SEW TROUSER, SLACK, AND JEAN MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing men's and boys' jeans, dungarees, and other separate trousers and slacks (except work pants) from purchased fabric. Men's and boys' trouser, slack, and jean jobbers, who perform entrepreneurial functions involved in apparel manufacture, including buying raw materials, designing and preparing samples, arranging for apparel to be made from their materials, and marketing finished apparel, are included.

### **315225 MEN'S AND BOYS' CUT AND SEW WORK CLOTHING MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing men's and boys' work shirts, work pants (excluding jeans and dungarees), other work clothing, and washable service apparel from purchased fabric. Men's and boys' work clothing jobbers, who perform entrepreneurial functions involved in apparel manufacture, including buying raw materials, designing and preparing samples, arranging for apparel to be made from their materials, and marketing finished apparel, are included. Examples of products made by these establishments are washable service apparel, laboratory coats, work shirts, work pants (except jeans and dungarees), and hospital apparel.

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### **315228 MEN'S AND BOYS' CUT AND SEW OTHER OUTERWEAR MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing men's and boys' cut and sew outerwear from purchased fabric (except underwear, nightwear, shirts, suits, overcoats and tailored coats, separate trousers and slacks, and work clothing). Men's and boys' other outerwear jobbers, who perform entrepreneurial functions involved in apparel manufacture, including buying raw materials, designing and preparing samples, arranging for apparel to be made from their materials, and marketing finished apparel, are included. Unisex sweatpants and similar garments that are sized without specific reference to gender (i.e., adult S, M, L, XL) are also included in this industry. Examples of products made by these establishments are athletic clothing (except athletic uniforms), bathing suits, down coats, outerwear shorts, windbreakers and jackets, and jogging suits.

### **31523 WOMEN'S AND GIRLS' CUT AND SEW APPAREL MANUFACTURING**

This industry comprises establishments primarily engaged in manufacturing women's and girls' apparel from purchased fabric. Women's and girls' clothing jobbers, who perform entrepreneurial functions involved in apparel manufacture, including buying raw materials, designing and preparing samples, arranging for apparel to be made from their materials, and marketing finished apparel, are included.

### **315231 WOMEN'S AND GIRLS' CUT AND SEW LINGERIE, LOUNGEWEAR, AND NIGHTWEAR MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing women's and girls' bras, girdles, and other underwear; lingerie; loungewear; and nightwear from purchased fabric. Women's and girls' lingerie, loungewear, and nightwear jobbers, who perform entrepreneurial functions involved in apparel manufacture, including buying raw materials, designing and preparing samples, arranging for apparel to be made from their materials, and marketing finished apparel, are included. Examples of products made by these establishments are bathrobes, foundation garments, nightgowns, pajamas, panties, and slips.

### **315232 WOMEN'S AND GIRLS' CUT AND SEW BLOUSE AND SHIRT MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing women's and girls' blouses and shirts from purchased fabric. Women's and girls' blouse and shirt jobbers, who perform entrepreneurial functions involved in apparel manufacture, including buying raw materials, designing and preparing samples, arranging for apparel to be made from their materials, and marketing finished apparel, are included.

### **315233 WOMEN'S AND GIRLS' CUT AND SEW DRESS MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing women's and girls' dresses from purchased fabric. Women's and girls' dress jobbers, who perform entrepreneurial functions involved in apparel manufacture, including buying raw materials, designing and preparing samples, arranging for apparel to be made from their materials, and marketing finished apparel, are included.

### **315234 WOMEN'S AND GIRLS' CUT AND SEW SUIT, COAT, TAILORED JACKET, AND SKIRT MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing women's and girls' suits, pantsuits, skirts, tailored jackets, vests, raincoats, and other tailored coats, (except fur and leather coats) from purchased fabric. Women's and girls' suit, coat, tailored jacket, and skirt jobbers, who perform entrepreneurial functions involved in apparel manufacture, including buying raw materials, designing and preparing samples, arranging for apparel to be made from their materials, and marketing finished apparel, are included.

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### **315239 WOMEN'S AND GIRLS' CUT AND SEW OTHER OUTERWEAR MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing women's and girls' cut and sew apparel from purchased fabric (except underwear, lingerie, nightwear, blouses, shirts, dresses, suits, tailored coats, tailored jackets, and skirts). Women's and girls' other outerwear clothing jobbers, who perform entrepreneurial functions involved in apparel manufacture, including buying raw materials, designing and preparing samples, arranging for apparel to be made from their materials, and marketing finished apparel, are included. Examples of products made by these establishments are bathing suits, down coats, sweaters, jogging suits, outerwear pants and shorts, and windbreakers.

### **31529 OTHER CUT AND SEW APPAREL MANUFACTURING**

This industry comprises establishments primarily engaged in manufacturing cut and sew apparel from purchased fabric (except men's, boys', women's, and girls' apparel). This industry includes establishments manufacturing apparel, such as fur apparel, leather apparel, infants' apparel, costumes, and clerical vestments.

### **315291 INFANTS' CUT AND SEW APPAREL MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing infants' dresses, blouses, shirts, and all other infants' wear from purchased fabric. Infants' clothing jobbers, who perform entrepreneurial functions involved in apparel manufacture, including buying raw materials, designing and preparing samples, arranging for apparel to be made from their materials, and marketing finished apparel, are included. For the purposes of classification, the term "infants' apparel" includes apparel for young children of an age not exceeding 24 months.

### **315292 FUR AND LEATHER APPAREL MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing cut and sew fur and leather apparel, and sheep-lined clothing. Fur and leather apparel jobbers, who perform entrepreneurial functions involved in apparel manufacture, including buying raw materials, designing and preparing samples, arranging for apparel to be made from their materials, and marketing finished apparel, are included.

### **315299 ALL OTHER CUT AND SEW APPAREL MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing cut and sew apparel from purchased fabric (except cut and sew apparel contractors; men's and boys' cut and sew underwear, nightwear, suits, coats, shirts, trousers, work clothing, and other outerwear; women's and girls' lingerie, blouses, shirts, dresses, suits, coats, and other outerwear; infants' apparel; and fur and leather apparel). Clothing jobbers for these products, who perform entrepreneurial functions involved in apparel manufacture, including buying raw materials, designing and preparing samples, arranging for apparel to be made from their materials, and marketing finished apparel, are included. Examples of products made by these establishments are team athletic uniforms, band uniforms, academic caps and gowns, clerical vestments, and costumes.

### **3159 APPAREL ACCESSORIES AND OTHER APPAREL MANUFACTURING**

This industry group comprises establishments primarily engaged in manufacturing apparel accessories and other apparel (except apparel knitting mills, apparel contractors, men's and boys' cut and sew apparel, women's and girls' cut and sew apparel, infants' cut and sew apparel, fur and leather apparel, and all other cut and sew apparel). This industry group includes jobbers performing entrepreneurial functions involved in manufacturing apparel accessories.

### **31599 APPAREL ACCESSORIES AND OTHER APPAREL MANUFACTURING**

This industry comprises establishments primarily engaged in manufacturing apparel and accessories (except apparel knitting mills, cut and sew apparel contractors, men's and boys' cut and sew apparel, women's and girls' cut and sew apparel, and other cut and sew apparel). Jobbers, who

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perform entrepreneurial functions involved in apparel accessories manufacture, including buying raw materials, designing and preparing samples, arranging for apparel accessories to be made from their materials, and marketing finished apparel accessories, are included. Examples of products made by these establishments are belts, caps, gloves (except medical, sporting, safety), hats, and neckties.

### **315991 HAT, CAP, AND MILLINERY MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing cut and sew hats, caps, millinery, and hat bodies from purchased fabric. Jobbers, who perform entrepreneurial functions involved in hat, cap, and millinery manufacture, including buying raw materials, designing and preparing samples, arranging for hats, caps, and millinery to be made from their materials, and marketing finished hats, caps, and millinery, are included.

### **315992 GLOVE AND MITTEN MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing cut and sew gloves (except rubber, metal, and athletic gloves) and mittens from purchased fabric, fur, leather, or from combinations of fabric, fur, or leather. Jobbers, who perform entrepreneurial functions involved in glove and mitten manufacture, including buying raw materials, designing and preparing samples, arranging for gloves and mittens to be made from their materials, and marketing finished gloves and mittens, are included.

### **315993 MEN'S AND BOYS' NECKWEAR MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing men's and boys' cut and sew neckties, scarves, and mufflers from purchased fabric, leather, or from combinations of leather and fabric. Men's and boys' neckwear jobbers, who perform entrepreneurial functions involved in neckwear manufacture, including buying raw materials, designing and preparing samples, arranging for neckwear to be made from their materials, and marketing finished neckwear, are included.

### **315999 OTHER APPAREL ACCESSORIES AND OTHER APPAREL MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing apparel and apparel accessories (except apparel knitting mills; cut and sew apparel contractors; cut and sew apparel; hats and caps; mittens and gloves; and men's and boys' neckwear). Jobbers for these products, who perform entrepreneurial functions involved in other apparel and accessory manufacture, including buying raw materials, designing and preparing samples, arranging for other apparel and accessories to be made from their materials, and marketing finished other apparel and accessories, are included. Examples of products made by these establishments are apparel trimmings and findings, belts, women's scarves, and suspenders.

### **316 LEATHER AND ALLIED PRODUCT MANUFACTURING**

Establishments in the Leather and Allied Product Manufacturing subsector transform hides into leather by tanning or curing and fabricating the leather into products for final consumption. It also includes the manufacture of similar products from other materials, including products (except apparel) made from "leather substitutes," such as rubber, plastics, or textiles. Rubber footwear, textile luggage, and plastics purses or wallets are examples of "leather substitute" products included in this group. The products made from leather substitutes are included in this subsector because they are made in similar ways leather products are made (e.g., luggage). They are made in the same establishments, so it is not practical to separate them.

The inclusion of leather making in this subsector is partly because leather tanning is a relatively small industry that has few close neighbors as a production process, partly because leather is an input to some of the other products classified in this subsector and partly for historical reasons.

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### **3161 LEATHER AND HIDE TANNING AND FINISHING**

This industry group comprises establishments primarily engaged in one or more of the following:

1. Tanning, currying, and finishing hides and skins;
2. Having others process hides and skins on a contract basis; and
3. Dyeing or dressing furs.

### **31611 LEATHER AND HIDE TANNING AND FINISHING**

This industry comprises establishments primarily engaged in one or more of the following:

1. tanning, currying, and finishing hides and skins;
2. having others process hides and skins on a contract basis; and
3. dyeing or dressing furs.

### **316110 LEATHER AND HIDE TANNING AND FINISHING**

This U.S. industry comprises establishments primarily engaged in one or more of the following:

1. tanning, currying, and finishing hides and skins;
2. having others process hides and skins on a contract basis; and
3. dyeing or dressing furs.

### **3162 FOOTWEAR MANUFACTURING**

This industry group comprises establishments primarily engaged in manufacturing rubber and plastics footwear with vulcanized rubber or plastics soles, molded or cemented to rubber, plastics, or fabric uppers, and rubber and plastics protective footwear.

### **31621 FOOTWEAR MANUFACTURING**

This industry comprises establishments primarily engaged in manufacturing footwear (except orthopedic extension footwear).

### **316211 RUBBER AND PLASTICS FOOTWEAR MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing rubber and plastics footwear with vulcanized rubber or plastics soles, molded or cemented to rubber, plastics, or fabric uppers, and rubber and plastics protective footwear.

### **316212 HOUSE SLIPPER MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing house slippers and slipper socks, regardless of material.

### **316213 MEN'S FOOTWEAR (EXCEPT ATHLETIC) MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing men's footwear designed primarily for dress, street, and work. This industry includes men's shoes with rubber or plastics soles and leather or vinyl uppers.

### **316214 WOMEN'S FOOTWEAR (EXCEPT ATHLETIC) MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing women's footwear designed for dress, street, and work. This industry includes women's shoes with rubber or plastics soles and leather or vinyl uppers.

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### **316219 OTHER FOOTWEAR MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing other footwear (except rubber and plastics footwear; house slippers; men's footwear (except athletic); and women's footwear (except athletic)).

### **3169 OTHER LEATHER AND ALLIED PRODUCT MANUFACTURING**

This industry group comprises establishments primarily engaged in manufacturing leather products (except footwear and apparel) from purchased leather or leather substitutes (e.g., fabric, plastics).

### **31699 OTHER LEATHER AND ALLIED PRODUCT MANUFACTURING**

This industry comprises establishments primarily engaged in manufacturing leather products (except footwear and apparel) from purchased leather or leather substitutes (e.g., fabric, plastics).

### **316991 LUGGAGE MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing luggage of any material.

### **316992 WOMEN'S HANDBAG AND PURSE MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing women's handbags and purses of any material (except precious metal).

### **316993 PERSONAL LEATHER GOOD (EXCEPT WOMEN'S HANDBAG AND PURSE) MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing personal leather goods (i.e., small articles of any material (except metal) normally carried on or about the person or in a handbag). Examples of personal leather goods made by these establishments are billfolds, coin purses, key cases, toilet kits, and watchbands (except metal).

### **316999 ALL OTHER LEATHER GOOD MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing leather goods (except footwear, luggage, handbags, purses, and personal leather goods).

### **321 WOOD PRODUCT MANUFACTURING**

Industries in the Wood Product Manufacturing subsector manufacture wood products, such as lumber, plywood, veneers, wood containers, wood flooring, wood trusses, manufactured homes (i.e., mobile home), and prefabricated wood buildings. The production processes of the Wood Product Manufacturing subsector include sawing, planing, shaping, laminating, and assembling of wood products starting from logs that are cut into bolts, or lumber that then may be further cut, or shaped by lathes or other shaping tools. The lumber or other transformed wood shapes may also be subsequently planed or smoothed, and assembled into finished products, such as wood containers. The Wood Product Manufacturing subsector includes establishments that make wood products from logs and bolts that are sawed and shaped, and establishments that purchase sawed lumber and make wood products. With the exception of sawmills and wood preservation establishments, the establishments are grouped into industries mainly based on the specific products manufactured.

### **3211 SAWMILLS AND WOOD PRESERVATION**

This industry group comprises establishments whose primary production process begins with logs or bolts that are transformed into boards, dimension lumber, beams, timbers, poles, ties, shingles, shakes, siding, and wood chips. Establishments that cut and treat round wood and/or treat wood products made in other establishments to prevent rotting by impregnation with creosote or other chemical compounds are also included in this industry group.

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### **32111 SAWMILLS AND WOOD PRESERVATION**

This industry comprises establishments primarily engaged in one or more of the following:

1. sawing dimension lumber, boards, beams, timber, poles, ties, shingles, shakes, siding, and wood chips from logs or bolts;
2. sawing round wood poles, pilings, and posts and treating them with preservatives; and
3. treating wood sawed, planed, or shaped in other establishments with creosote or other preservatives to prevent decay and to protect against fire and insects.

Sawmills may plane the rough lumber that they make with a planing machine to achieve smoothness and uniformity of size.

### **321113 SAWMILLS**

This U.S. industry comprises establishments primarily engaged in sawing dimension lumber, boards, beams, timbers, poles, ties, shingles, shakes, siding, and wood chips from logs or bolts. Sawmills may plane the rough lumber that they make with a planing machine to achieve smoothness and uniformity of size.

### **321114 WOOD PRESERVATION**

This U.S. industry comprises establishments primarily engaged in:

1. treating wood sawed, planed, or shaped in other establishments with creosote or other preservatives, such as chromated copper arsenate, to prevent decay and to protect against fire and insects and/or
2. sawing round wood poles, pilings, and posts and treating them with preservatives.

### **3212 VENEER, PLYWOOD, AND ENGINEERED WOOD PRODUCT MANUFACTURING**

This industry group comprises establishments primarily engaged in one or more of the following:

1. Manufacturing veneer and/or plywood;
2. Manufacturing engineered wood members; and
3. Manufacturing reconstituted wood products.

This industry includes manufacturing plywood from veneer made in the same establishment or from veneer made in other establishments, and manufacturing plywood faced with nonwood materials, such as plastics or metal.

### **32121 VENEER, PLYWOOD, AND ENGINEERED WOOD PRODUCT MANUFACTURING**

This industry comprises establishments primarily engaged in one or more of the following:

1. manufacturing veneer and/or plywood;
2. manufacturing engineered wood members; and
3. manufacturing reconstituted wood products.

This industry includes manufacturing plywood from veneer made in the same establishment or from veneer made in other establishments, and manufacturing plywood faced with nonwood materials, such as plastics or metal.

### **321211 HARDWOOD VENEER AND PLYWOOD MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing hardwood veneer and/or hardwood plywood.



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### **321212 SOFTWOOD VENEER AND PLYWOOD MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing softwood veneer and/or softwood plywood.

### **321213 ENGINEERED WOOD MEMBER (EXCEPT TRUSS) MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing fabricated or laminated wood arches and/or other fabricated or laminated wood structural members.

### **321214 TRUSS MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing laminated or fabricated wood roof and floor trusses.

### **321219 RECONSTITUTED WOOD PRODUCT MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing reconstituted wood sheets and boards.

### **3219 OTHER WOOD PRODUCT MANUFACTURING**

This industry group comprises establishments primarily engaged in manufacturing wood products (except establishments operating sawmills and wood preservation facilities; and establishments manufacturing veneer, plywood, or engineered wood products).

### **32191 MILLWORK**

This industry comprises establishments primarily engaged in manufacturing hardwood and softwood cut stock and dimension stock (i.e., shapes); wood windows and wood doors; and other millwork including wood flooring. Dimension stock or cut stock is defined as lumber and worked wood products cut or shaped to specialized sizes. These establishments generally use woodworking machinery, such as jointers, planers, lathes, and routers to shape wood.

### **321911 WOOD WINDOW AND DOOR MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing window and door units, sash, window and door frames, and doors from wood or wood clad with metal or plastics.

### **321912 CUT STOCK, RESAWING LUMBER, AND PLANING**

This U.S. industry comprises establishments primarily engaged in one or more of the following:

1. manufacturing dimension lumber from purchased lumber;
2. manufacturing dimension stock (i.e., shapes) or cut stock;
3. resawing the output of sawmills; and
4. planing purchased lumber.

These establishments generally use woodworking machinery, such as jointers, planers, lathes, and routers to shape wood.

### **321918 OTHER MILLWORK (INCLUDING FLOORING)**

This U.S. industry comprises establishments primarily engaged in manufacturing millwork (except wood windows, wood doors, and cut stock).

### **32192 WOOD CONTAINER AND PALLET MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing wood pallets, wood box shoo, wood boxes, other wood containers, and wood parts for pallets and containers.

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### **321920 WOOD CONTAINER AND PALLET MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing wood pallets, wood box shoo, wood boxes, other wood containers, and wood parts for pallets and containers.

### **32199 ALL OTHER WOOD PRODUCT MANUFACTURING**

This industry comprises establishments primarily engaged in manufacturing wood products (except establishments operating sawmills and wood preservation facilities; and establishments manufacturing veneer, plywood, engineered wood products, millwork, wood containers, or pallets).

### **321991 MANUFACTURED HOME (MOBILE HOME) MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in making manufactured homes (i.e., mobile homes) and nonresidential mobile buildings. Manufactured homes are designed to accept permanent water, sewer, and utility connections and although equipped with wheels, they are not intended for regular highway movement.

### **321992 PREFABRICATED WOOD BUILDING MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing prefabricated wood buildings and wood sections and panels for prefabricated wood buildings.

### **321999 ALL OTHER MISCELLANEOUS WOOD PRODUCT MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing wood products (except establishments operating sawmills and preservation facilities; establishments manufacturing veneer, engineered wood products, millwork, wood containers, pallets, and wood container parts; and establishments making manufactured homes (i.e., mobile homes) and prefabricated buildings and components).

## **322 PAPER MANUFACTURING**

Industries in the Paper Manufacturing subsector make pulp, paper, or converted paper products. The manufacturing of these products is grouped together because they constitute a series of vertically connected processes. More than one is often carried out in a single establishment. There are essentially three activities. The manufacturing of pulp involves separating the cellulose fibers from other impurities in wood or used paper. The manufacturing of paper involves matting these fibers into a sheet. Converted paper products are made from paper and other materials by various cutting and shaping techniques and includes coating and laminating activities.

The Paper Manufacturing subsector is subdivided into two industry groups, the first for the manufacturing of pulp and paper and the second for the manufacturing of converted paper products. Paper making is treated as the core activity of the subsector. Therefore, any establishment that makes paper (including paperboard), either alone or in combination with pulp manufacturing or paper converting, is classified as a paper or paperboard mill. Establishments that make pulp without making paper are classified as pulp mills. Pulp mills, paper mills and paperboard mills comprise the first industry group.

Establishments that make products from purchased paper and other materials make up the second industry group, Converted Paper Product Manufacturing. This general activity is then subdivided based, for the most part, on process distinctions. Paperboard container manufacturing uses corrugating, cutting, and shaping machinery to form paperboard into containers. Paper bag and coated and treated paper manufacturing establishments cut and coat paper and foil. Stationery product manufacturing establishments make a variety of paper products used for writing, filing, and similar applications. Other converted paper product manufacturing includes, in particular, the conversion of sanitary paper stock into such things as tissue paper and disposable diapers.

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An important process used in the Paper Bag and Coated and Treated Paper Manufacturing industry is lamination, often combined with coating. Lamination and coating makes a composite material with improved properties of strength, impermeability, and so on. The laminated materials may be paper, metal foil, or plastics film. While paper is often one of the components, it is not always. Lamination of plastics film to plastics film is classified in the NAICS Subsector 326, Plastics and Rubber Products Manufacturing, because establishments that do this often first make the film. The same situation holds with respect to bags. The manufacturing of bags from plastics only, whether or not laminated, is classified in Subsector 326, Plastics and Rubber Products Manufacturing, but all other bag manufacturing is classified in this subsector.

Excluded from this subsector are photosensitive papers. These papers are chemically treated and are classified in Industry 32599, All Other Chemical Product and Preparation Manufacturing.

### **3221 PULP, PAPER, AND PAPERBOARD MILLS**

This industry group comprises establishments primarily engaged in manufacturing pulp, paper, or paperboard.

#### **32211 PULP MILLS**

This industry comprises establishments primarily engaged in manufacturing pulp without manufacturing paper or paperboard. The pulp is made by separating the cellulose fibers from the other impurities in wood or other materials, such as used or recycled rags, linters, scrap paper, and straw.

##### **322110 PULP MILLS**

This U.S. industry comprises establishments primarily engaged in manufacturing pulp without manufacturing paper or paperboard. The pulp is made by separating the cellulose fibers from the other impurities in wood or other materials, such as used or recycled rags, linters, scrap paper, and straw.

##### **32212 PAPER MILLS**

This industry comprises establishments primarily engaged in manufacturing paper from pulp. These establishments may manufacture or purchase pulp. In addition, the establishments may convert the paper they make. The activity of making paper classifies an establishment into this industry regardless of the output.

##### **322121 PAPER (EXCEPT NEWSPRINT) MILLS**

This U.S. industry comprises establishments primarily engaged in manufacturing paper (except newsprint and uncoated groundwood paper) from pulp. These establishments may manufacture or purchase pulp. In addition, the establishments may also convert the paper they make.

##### **322122 NEWSPRINT MILLS**

This U.S. industry comprises establishments primarily engaged in manufacturing newsprint and uncoated groundwood paper from pulp. These establishments may manufacture or purchase pulp. In addition, the establishments may also convert the paper they make.

##### **32213 PAPERBOARD MILLS**

This industry comprises establishments primarily engaged in manufacturing paperboard from pulp. These establishments may manufacture or purchase pulp. In addition, the establishments may also convert the paperboard they make.

##### **322130 PAPERBOARD MILLS**

This U.S. industry comprises establishments primarily engaged in manufacturing paperboard from pulp. These establishments may manufacture or purchase pulp. In addition, the establishments may also convert the paperboard they make.

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### **3222 CONVERTED PAPER PRODUCT MANUFACTURING**

This industry group comprises establishments primarily engaged in converting paper or paperboard without manufacturing paper or paperboard.

#### **32221 PAPERBOARD CONTAINER MANUFACTURING**

This industry comprises establishments primarily engaged in converting paperboard into containers without manufacturing paperboard. These establishments use corrugating, cutting, and shaping machinery to form paperboard into containers. Products made by these establishments include boxes; corrugated sheets, pads, and pallets; paper dishes; and fiber drums and reels.

#### **322211 CORRUGATED AND SOLID FIBER BOX MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in laminating purchased paper or paperboard into corrugated or solid fiber boxes and related products, such as pads, partitions, pallets, and corrugated paper without manufacturing paperboard. These boxes are generally used for shipping.

#### **322212 FOLDING PAPERBOARD BOX MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in converting paperboard (except corrugated) into folding paperboard boxes without manufacturing paper and paperboard.

#### **322213 SETUP PAPERBOARD BOX MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in converting paperboard into setup paperboard boxes (i.e., rigid-sided boxes not shipped flat) without manufacturing paperboard.

#### **322214 FIBER CAN, TUBE, DRUM, AND SIMILAR PRODUCTS MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in converting paperboard into fiber cans, tubes, drums, and similar products without manufacturing paperboard.

#### **322215 NONFOLDING SANITARY FOOD CONTAINER MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in converting sanitary foodboard into food containers (except folding).

#### **32222 PAPER BAG AND COATED AND TREATED PAPER MANUFACTURING**

This industry comprises establishments primarily engaged in one or more of the following:

1. cutting and coating paper and paperboard;
2. cutting and laminating paper and paperboard and other flexible materials (except plastics film to plastics film);
3. manufacturing bags or multiwall bags or sacks of paper, metal foil, coated paper, or laminates or coated combinations of paper and foil with plastics film;
4. manufacturing laminated aluminum and other converted metal foils from purchased foils; and
5. surface coating paper or paperboard.

#### **322221 COATED AND LAMINATED PACKAGING PAPER AND PLASTICS FILM MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in:

1. cutting and coating paper and

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2. cutting and laminating paper with other flexible materials (except plastics to plastics or foil to paper laminates).

The products made in this industry are made from purchased sheet materials and may be printed in the same establishment.

### **322222 COATED AND LAMINATED PAPER MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in performing one or more of the following activities associated with making products designed for purposes other than packaging:

1. cutting and coating paper;
2. cutting and laminating paper and other flexible materials (except plastics film to plastics film); and
3. laminating aluminum and other metal foils for nonpackaging uses from purchased foils.

The products made in this industry are made from purchased sheet materials and may be printed in the same establishment.

### **322223 PLASTICS, FOIL, AND COATED PAPER BAG MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing bags of coated paper, of metal foil, or of laminated or coated combinations of plastics, foil, and paper, whether or not printed.

### **322224 UNCOATED PAPER AND MULTIWALL BAG MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing uncoated paper bags or multiwall bags and sacks.

### **322225 LAMINATED ALUMINUM FOIL MANUFACTURING FOR FLEXIBLE PACKAGING USES**

This U.S. industry comprises establishments primarily engaged in laminating aluminum and other metal foil into products with flexible packaging uses or gift wrap and other packaging wrap applications.

### **322226 SURFACE-COATED PAPERBOARD MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in laminating, lining, or surface coating purchased paperboard to make other paperboard products.

### **32223 STATIONERY PRODUCT MANUFACTURING**

This industry comprises establishments primarily engaged in converting paper or paperboard into products used for writing, filing, art work, and similar applications.

### **322231 DIE-CUT PAPER AND PAPERBOARD OFFICE SUPPLIES MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in converting paper rollstock or paperboard into die-cut paper or paperboard office supplies. For the purpose of this industry, office supplies are defined as office products, such as filing folders, index cards, rolls for adding machines, file separators and dividers, tabulating cards, and other paper and paperboard office supplies.

### **322232 ENVELOPE MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing envelopes for mailing or stationery of any material including combinations.

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### **322233 STATIONERY, TABLET, AND RELATED PRODUCT MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in converting paper and paperboard into products used for writing and similar applications (e.g., looseleaf fillers, notebooks, pads, stationery, and tablets).

### **32229 OTHER CONVERTED PAPER PRODUCT MANUFACTURING**

This industry comprises establishments primarily engaged in one of the following:

1. converting paper and paperboard into products (except containers, bags, coated and treated paper and paperboard, and stationery products), or
2. converting pulp into pulp products, such as disposable diapers, or molded pulp egg cartons, food trays, and dishes.

Processes used include laminating or lining purchased paper or paperboard.

### **322291 SANITARY PAPER PRODUCT MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in converting purchased sanitary paper stock or wadding into sanitary paper products, such as facial tissues and handkerchiefs, table napkins, toilet paper, towels, disposable diapers, sanitary napkins, and tampons.

### **322299 ALL OTHER CONVERTED PAPER PRODUCT MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in converting paper or paperboard into products (except containers, bags, coated and treated paper, stationery products, and sanitary paper products) or converting pulp into pulp products, such as egg cartons, food trays, and other food containers from molded pulp.

### **323 PRINTING AND RELATED SUPPORT ACTIVITIES**

Industries in the Printing and Related Support Activities subsector print products, such as newspapers, books, labels, business cards, stationery, business forms, and other materials, and perform support activities, such as data imaging, platemaking services, and bookbinding. The support activities included here are an integral part of the printing industry, and a product (a printing plate, a bound book, or a computer disk or file) that is an integral part of the printing industry is almost always provided by these operations.

Processes used in printing include a variety of methods used to transfer an image from a plate, screen, film, or computer file to some medium, such as paper, plastics, metal, textile articles, or wood. The most prominent of these methods is to transfer the image from a plate or screen to the medium (lithographic, gravure, screen, and flexographic printing). A rapidly growing new technology uses a computer file to directly “drive” the printing mechanism to create the image and new electrostatic and other types of equipment (digital or nonimpact printing).

In contrast to many other classification systems that locate publishing of printed materials in manufacturing, NAICS classifies the publishing of printed products in Subsector 511, Publishing Industries (except Internet). Though printing and publishing are often carried out by the same enterprise (a newspaper, for example), it is less and less the case that these distinct activities are carried out in the same establishment. When publishing and printing are done in the same establishment, the establishment is classified in Sector 51, Information, in the appropriate NAICS industry even if the receipts for printing exceed those for publishing.

This subsector includes printing on clothing because the production process for that activity is printing, not clothing manufacturing. For instance, the printing of T-shirts is included in this subsector. In contrast, printing on fabric (or grey goods) is not included. This activity is part of the process of finishing the fabric and is included in the NAICS Textile Mills subsector in Industry 31331, Textile and Fabric Finishing Mills.

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## **3231 PRINTING AND RELATED SUPPORT ACTIVITIES**

This industry group comprises establishments primarily engaged in one or more of the following:

1. Printing on apparel and textile products, paper, metal, glass, plastics, and other materials, except fabric (grey goods) and/or
2. Performing prepress (e.g., platemaking, typesetting) and postpress services (e.g., book binding) in support of printing activities.

### **32311 PRINTING**

This industry comprises establishments primarily engaged in printing on apparel and textile products, paper, metal, glass, plastics, and other materials, except fabric (grey goods). The printing processes employed include, but are not limited to, lithographic, gravure, screen, flexographic, digital, and letterpress. Establishments in this industry do not manufacture the stock that they print but may perform postprinting activities, such as folding, cutting, or laminating the materials they print, and mailing.

#### **323110 COMMERCIAL LITHOGRAPHIC PRINTING**

This U.S. industry comprises establishments primarily engaged in lithographic (i.e., offset) printing without publishing (except books, grey goods, and manifold business forms). This industry includes establishments engaged in lithographic printing on purchased stock materials, such as stationery, letterhead, invitations, labels, and similar items, on a job order basis.

#### **323111 COMMERCIAL GRAVURE PRINTING**

This U.S. industry comprises establishments primarily engaged in gravure printing without publishing (except books, grey goods, and manifold business forms). This industry includes establishments engaged in gravure printing on purchased stock materials, such as stationery, letterhead, invitations, labels, and similar items, on a job order basis.

#### **323112 COMMERCIAL FLEXOGRAPHIC PRINTING**

This U.S. industry comprises establishments primarily engaged in flexographic printing without publishing (except books, grey goods, and manifold business forms). This industry includes establishments engaged in flexographic printing on purchased stock materials, such as stationery, invitations, labels, and similar items, on a job order basis.

#### **323113 COMMERCIAL SCREEN PRINTING**

This U.S. industry comprises establishments primarily engaged in screen printing without publishing (except books, grey goods, and manifold business forms). This industry includes establishments engaged in screen printing on purchased stock materials, such as stationery, invitations, labels, and similar items, on a job order basis. Establishments primarily engaged in printing on apparel and textile products, such as T-shirts, caps, jackets, towels, and napkins, are included in this industry.

#### **323114 QUICK PRINTING**

This U.S. industry comprises establishments primarily engaged in traditional printing activities, such as short-run offset printing or prepress services, in combination with providing document photocopying service. Prepress services include receiving documents in electronic format and directly duplicating from the electronic file and formatting, colorizing, and otherwise modifying the original document to improve presentation. These establishments, known as quick printers, generally provide short-run printing and copying with fast turnaround times.

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### **323115 DIGITAL PRINTING**

This U.S. industry comprises establishments primarily engaged in printing graphical materials using digital printing equipment. Establishments known as digital printers typically provide sophisticated prepress services including using scanners to input images and computers to manipulate and format the graphic images prior to printing.

### **323116 MANIFOLD BUSINESS FORMS PRINTING**

This U.S. industry comprises establishments primarily engaged in printing special forms, including checkbooks, for use in the operation of a business. The forms may be in single and multiple sets, including carbonized, interleaved with carbon, or otherwise processed for multiple reproduction.

### **323117 BOOKS PRINTING**

This U.S. industry comprises establishments primarily engaged in printing or printing and binding books and pamphlets without publishing.

### **323118 BLANKBOOK, LOOSELEAF BINDERS, AND DEVICES MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing blankbooks, looseleaf devices, and binders. Establishments in this industry may print or print and bind.

### **323119 OTHER COMMERCIAL PRINTING**

This U.S. industry comprises establishments primarily engaged in commercial printing (except lithographic, gravure, screen, or flexographic printing) without publishing (except books, grey goods, and manifold business forms). Printing processes included in this industry are letterpress printing and engraving printing. This industry includes establishments engaged in commercial printing on purchased stock materials, such as stationery, invitations, labels, and similar items, on a job order basis.

### **32312 SUPPORT ACTIVITIES FOR PRINTING**

This industry comprises establishments primarily engaged in performing prepress (e.g., platemaking, typesetting) and postpress services (e.g., book binding) in support of printing activities.

### **323121 TRADEBINDING AND RELATED WORK**

This U.S. industry comprises establishments primarily engaged in one or more of the following:

1. tradebinding;
2. sample mounting; and
3. postpress services (e.g., book or paper bronzing, die-cutting, edging, embossing, folding, gilding, gluing, indexing).

### **323122 PREPRESS SERVICES**

This U.S. industry comprises establishments primarily engaged in one or more of the following:

1. prepress services, such as imagesetting or typesetting, for printers and
2. preparing film or plates for printing purposes.

### **324 PETROLEUM AND COAL PRODUCTS MANUFACTURING**

The Petroleum and Coal Products Manufacturing subsector is based on the transformation of crude petroleum and coal into usable products. The dominant process is petroleum refining that involves the separation of crude petroleum into component products through such techniques as cracking and distillation.



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In addition, this subsector includes establishments that primarily further process refined petroleum and coal products and produce products, such as asphalt coatings and petroleum lubricating oils. However, establishments that manufacture petrochemicals from refined petroleum are classified in Industry 32511, Petrochemical Manufacturing.

### **3241 PETROLEUM AND COAL PRODUCTS MANUFACTURING**

This industry group comprises establishments primarily engaged in one or more of the following:

1. Petroleum refineries manufacturing;
2. Asphalt paving, roofing, and saturated materials manufacturing; and/or
3. Other petroleum and coal products manufacturing.

#### **32411 PETROLEUM REFINERIES**

This industry comprises establishments primarily engaged in refining crude petroleum into refined petroleum. Petroleum refining involves one or more of the following activities:

1. fractionation;
2. straight distillation of crude oil; and
3. cracking.

##### **324110 PETROLEUM REFINERIES**

This U.S. industry comprises establishments primarily engaged in refining crude petroleum into refined petroleum. Petroleum refining involves one or more of the following activities:

1. fractionation;
2. straight distillation of crude oil; and
3. cracking.

#### **32412 ASPHALT PAVING, ROOFING, AND SATURATED MATERIALS MANUFACTURING**

This industry comprises establishments primarily engaged in one or more of the following:

1. manufacturing asphalt and tar paving mixtures and blocks and roofing cements and coatings from purchased asphaltic materials and/or
2. saturating purchased mats and felts with asphalt or tar from purchased asphaltic materials.

##### **324121 ASPHALT PAVING MIXTURE AND BLOCK MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing asphalt and tar paving mixtures and blocks from purchased asphaltic materials.

##### **324122 ASPHALT SHINGLE AND COATING MATERIALS MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in one or more of the following:

1. saturating purchased mats and felts with asphalt or tar from purchased asphaltic materials and
2. manufacturing asphalt and tar and roofing cements and coatings from purchased asphaltic materials.

#### **32419 OTHER PETROLEUM AND COAL PRODUCTS MANUFACTURING**

This industry comprises establishments primarily engaged in manufacturing petroleum products (except asphalt paving, roofing and saturated materials) from refined petroleum or coal products made in coke ovens not integrated with a steel mill.

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### **324191 PETROLEUM LUBRICATING OIL AND GREASE MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in blending or compounding refined petroleum to make lubricating oils and greases and/or re-refining used petroleum lubricating oils.

### **324199 ALL OTHER PETROLEUM AND COAL PRODUCTS MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing petroleum products (except asphalt paving, roofing, and saturated materials and lubricating oils and greases) from refined petroleum and coal products made in coke ovens not integrated with a steel mill.

### **325 CHEMICAL MANUFACTURING**

The Chemical Manufacturing subsector is based on the transformation of organic and inorganic raw materials by a chemical process and the formulation of products. This subsector distinguishes the production of basic chemicals that comprise the first industry group from the production of intermediate and end products produced by further processing of basic chemicals that make up the remaining industry groups.

This subsector does not include all industries transforming raw materials by a chemical process. It is common for some chemical processing to occur during mining operations. These beneficiating operations, such as copper concentrating, are classified in Sector 21, Mining. Furthermore, the refining of crude petroleum is included in Subsector 324, Petroleum and Coal Products Manufacturing. In addition, the manufacturing of aluminum oxide is included in Subsector 331, Primary Metal Manufacturing; and beverage distilleries are classified in Subsector 312, Beverage and Tobacco Product Manufacturing. As in the case of these two activities, the grouping of industries into subsectors may take into account the association of the activities performed with other activities in the subsector.

### **3251 BASIC CHEMICAL MANUFACTURING**

This industry group comprises establishments primarily engaged in manufacturing chemicals using basic processes, such as thermal cracking and distillation. Chemicals manufactured in this industry group are usually separate chemical elements or separate chemically-defined compounds.

### **32511 PETROCHEMICAL MANUFACTURING**

This industry comprises establishments primarily engaged in one of the following:

1. manufacturing acyclic (i.e., aliphatic) hydrocarbons such as ethylene, propylene, and butylene made from refined petroleum or liquid hydrocarbon and/or
2. manufacturing cyclic aromatic hydrocarbons such as benzene, toluene, styrene, xylene, ethyl benzene, and cumene made from refined petroleum or liquid hydrocarbons.

### **325110 PETROCHEMICAL MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in one of the following:

1. manufacturing acyclic (i.e., aliphatic) hydrocarbons such as ethylene, propylene, and butylene made from refined petroleum or liquid hydrocarbon and/or
2. manufacturing cyclic aromatic hydrocarbons such as benzene, toluene, styrene, xylene, ethyl benzene, and cumene made from refined petroleum or liquid hydrocarbons.

### **32512 INDUSTRIAL GAS MANUFACTURING**

This industry comprises establishments primarily engaged in manufacturing industrial organic and inorganic gases in compressed, liquid, and solid forms.

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### **325120 INDUSTRIAL GAS MANUFACTURING**

This industry comprises establishments primarily engaged in manufacturing industrial organic and inorganic gases in compressed, liquid, and solid forms.

### **32513 SYNTHETIC DYE AND PIGMENT MANUFACTURING**

This industry comprises establishments primarily engaged in manufacturing synthetic organic and inorganic dyes and pigments, such as lakes and toners (except electrostatic and photographic).

### **325131 INORGANIC DYE AND PIGMENT MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing inorganic dyes and pigments.

### **325132 SYNTHETIC ORGANIC DYE AND PIGMENT MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing synthetic organic dyes and pigments, such as lakes and toners (except electrostatic and photographic).

### **32518 OTHER BASIC INORGANIC CHEMICAL MANUFACTURING**

This industry comprises establishments primarily engaged in manufacturing basic inorganic chemicals (except industrial gases and synthetic dyes and pigments).

### **325181 ALKALIES AND CHLORINE MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing chlorine, sodium hydroxide (i.e., caustic soda), and other alkalies often using an electrolysis process.

### **325182 CARBON BLACK MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing carbon black, bone black, and lamp black.

### **325188 ALL OTHER BASIC INORGANIC CHEMICAL MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing basic inorganic chemicals (except industrial gases, inorganic dyes and pigments, alkalies and chlorine, and carbon black).

### **32519 OTHER BASIC ORGANIC CHEMICAL MANUFACTURING**

This industry comprises establishments primarily engaged in manufacturing basic organic chemicals (except petrochemicals, industrial gases, and synthetic dyes and pigments).

### **325191 GUM AND WOOD CHEMICAL MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in (1) distilling wood or gum into products, such as tall oil and wood distillates, and (2) manufacturing wood or gum chemicals, such as naval stores, natural tanning materials, charcoal briquettes, and charcoal (except activated).

### **325192 CYCLIC CRUDE AND INTERMEDIATE MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in (1) distilling coal tars and/or (2) manufacturing cyclic crudes or, cyclic intermediates (i.e., hydrocarbons, except aromatic petrochemicals) from refined petroleum or natural gas.

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### **325193 ETHYL ALCOHOL MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing nonpotable ethyl alcohol.

### **325199 ALL OTHER BASIC ORGANIC CHEMICAL MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing basic organic chemical products (except aromatic petrochemicals, industrial gases, synthetic organic dyes and pigments, gum and wood chemicals, cyclic crudes and intermediates, and ethyl alcohol).

### **3252 RESIN, SYNTHETIC RUBBER, AND ARTIFICIAL AND SYNTHETIC FIBERS AND FILAMENTS MANUFACTURING**

This industry group comprises establishments primarily engaged in one or more of the following:

1. Resin and synthetic rubber manufacturing and
2. Artificial and synthetic fibers and filaments manufacturing.

### **32521 RESIN AND SYNTHETIC RUBBER MANUFACTURING**

This industry comprises establishments primarily engaged in one or more of the following:

1. manufacturing synthetic resins, plastics materials, and nonvulcanizable elastomers and mixing and blending resins on a custom basis;
2. manufacturing noncustomized synthetic resins; and
3. manufacturing synthetic rubber.

### **325211 PLASTICS MATERIAL AND RESIN MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in

1. manufacturing resins, plastics materials, and nonvulcanizable thermoplastic elastomers and mixing and blending resins on a custom basis and/or
2. manufacturing noncustomized synthetic resins.

### **325212 SYNTHETIC RUBBER MANUFACTURING**

This U.S. industry consists of establishments primarily engaged in manufacturing synthetic rubber.

### **32522 ARTIFICIAL AND SYNTHETIC FIBERS AND FILAMENTS MANUFACTURING**

This industry comprises establishments primarily engaged in one of the following:

1. manufacturing cellulosic (i.e., rayon and acetate) and noncellulosic (i.e., nylon, polyolefin, and polyester) fibers and filaments in the form of monofilament, filament yarn, staple, or tow or
2. manufacturing and texturing cellulosic and noncellulosic fibers and filaments.

### **325221 CELLULOSIC ORGANIC FIBER MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in one of the following:

1. manufacturing cellulosic (i.e., rayon and acetate) fibers and filaments in the form of monofilament, filament yarn, staple, or tow or
2. manufacturing and texturizing cellulosic fibers and filaments.

### **325222 NONCELLULOSIC ORGANIC FIBER MANUFACTURING**

This U.S. industry consists of establishments primarily engaged in one of the following:

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1. manufacturing noncellulosic (i.e., nylon, polyolefin, and polyester) fibers and filaments in the form of monofilament, filament yarn, staple, or tow, or
  2. manufacturing and texturizing noncellulosic fibers and filaments.

### **3253 PESTICIDE, FERTILIZER, AND OTHER AGRICULTURAL CHEMICAL MANUFACTURING**

This industry group includes establishments classified in one of the following:

1. Fertilizer manufacturing and/or
2. Pesticide and other agricultural chemical manufacturing.

#### **32531 FERTILIZER MANUFACTURING**

This industry comprises establishments primarily engaged in one or more of the following:

1. manufacturing nitrogenous or phosphatic fertilizer materials;
2. manufacturing fertilizers from sewage or animal waste;
3. manufacturing nitrogenous or phosphatic materials and mixing with other ingredients into fertilizers; and
4. mixing ingredients made elsewhere into fertilizers.

#### **325311 NITROGENOUS FERTILIZER MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in one or more of the following:

1. manufacturing nitrogenous fertilizer materials and mixing ingredients into fertilizers;
2. manufacturing fertilizers from sewage or animal waste; and
3. manufacturing nitrogenous materials and mixing them into fertilizers.

#### **325312 PHOSPHATIC FERTILIZER MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in:

1. manufacturing phosphatic fertilizer materials or
2. manufacturing phosphatic materials and mixing them into fertilizers.

#### **325314 FERTILIZER (MIXING ONLY) MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in mixing ingredients made elsewhere into fertilizers.

#### **32532 PESTICIDE AND OTHER AGRICULTURAL CHEMICAL MANUFACTURING**

This industry comprises establishments primarily engaged in the formulation and preparation of agricultural and household pest control chemicals (except fertilizers).

#### **325320 PESTICIDE AND OTHER AGRICULTURAL CHEMICAL MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in the formulation and preparation of agricultural and household pest control chemicals (except fertilizers).

#### **3254 PHARMACEUTICAL AND MEDICINE MANUFACTURING**

This industry group comprises establishments primarily engaged in one or more of the following:

1. Manufacturing biological and medicinal products;
2. Processing (i.e., grading, grinding, and milling) botanical drugs and herbs;

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3. Isolating active medicinal principals from botanical drugs and herbs; and
  4. Manufacturing pharmaceutical products intended for internal and external consumption in such forms as ampoules, tablets, capsules, vials, ointments, powders, solutions, and suspensions.

### **32541 PHARMACEUTICAL AND MEDICINE MANUFACTURING**

This industry comprises establishments primarily engaged in one or more of the following:

1. manufacturing biological and medicinal products;
2. processing (i.e., grading, grinding, and milling) botanical drugs and herbs;
3. isolating active medicinal principals from botanical drugs and herbs; and
4. manufacturing pharmaceutical products intended for internal and external consumption in such forms as ampoules, tablets, capsules, vials, ointments, powders, solutions, and suspensions.

### **325411 MEDICINAL AND BOTANICAL MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in one of the following:

1. manufacturing uncompounded medicinal chemicals and their derivatives (i.e., generally for use by pharmaceutical preparation manufacturers) and/or
2. grading, grinding, and milling uncompounded botanicals.

### **325412 PHARMACEUTICAL PREPARATION MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing in-vivo diagnostic substances and pharmaceutical preparations (except biological) intended for internal and external consumption in dose forms, such as ampoules, tablets, capsules, vials, ointments, powders, solutions, and suspensions.

### **325413 IN-VITRO DIAGNOSTIC SUBSTANCE MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing in-vitro (i.e., not taken internally) diagnostic substances, such as chemical, biological, or radioactive substances. The substances are used for diagnostic tests that are performed in test tubes, petri dishes, machines, and other diagnostic test-type devices.

### **325414 BIOLOGICAL PRODUCT (EXCEPT DIAGNOSTIC) MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing vaccines, toxoids, blood fractions, and culture media of plant or animal origin (except diagnostic).

### **3255 PAINT, COATING, AND ADHESIVE MANUFACTURING**

This industry group comprises establishments primarily engaged in one or more of the following:

1. Paint and coating manufacturing and/or
2. Adhesive manufacturing.

### **32551 PAINT AND COATING MANUFACTURING**

This industry comprises establishments primarily engaged in one or more of the following:

1. mixing pigments, solvents, and binders into paints and other coatings, such as stains, varnishes, lacquers, enamels, shellacs, and water repellent coatings for concrete and masonry, and/or

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2. manufacturing allied paint products, such as putties, paint and varnish removers, paint brush cleaners, and frit.

### **325510 PAINT AND COATING MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in:

1. mixing pigments, solvents, and binders into paints and other coatings, such as stains, varnishes, lacquers, enamels, shellacs, and water repellent coatings for concrete and masonry and/or
2. manufacturing allied paint products, such as putties, paint and varnish removers, paint brush cleaners, and frit.

### **32552 ADHESIVE MANUFACTURING**

This industry comprises establishments primarily engaged in manufacturing adhesives, glues, and caulking compounds.

### **325520 ADHESIVE MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing adhesives, glues, and caulking compounds.

### **3256 SOAP, CLEANING COMPOUND, AND TOILET PREPARATION MANUFACTURING**

This industry group comprises establishments primarily engaged in one or more of the following:

1. Soap and cleaning compound manufacturing and/or
2. Toilet preparation manufacturing.

### **32561 SOAP AND CLEANING COMPOUND MANUFACTURING**

This industry comprises establishments primarily engaged in manufacturing and packaging soap and other cleaning compounds, surface active agents, and textile and leather finishing agents used to reduce tension or speed the drying process.

### **325611 SOAP AND OTHER DETERGENT MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing and packaging soaps and other detergents, such as laundry detergents; dishwashing detergents; toothpaste gels and tooth powders; and natural glycerin.

### **325612 POLISH AND OTHER SANITATION GOOD MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing and packaging polishes and specialty cleaning preparations.

### **325613 SURFACE ACTIVE AGENT MANUFACTURING**

This U.S. industry group comprises establishments primarily engaged in one or more of the following:

1. manufacturing bulk surface active agents for use as wetting agents, emulsifiers, and penetrants, and/or
2. manufacturing textiles and leather finishing agents used to reduce tension or speed the drying process.

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### **32562 TOILET PREPARATION MANUFACTURING**

This industry comprises establishments primarily engaged in preparing, blending, compounding, and packaging toilet preparations, such as perfumes, shaving preparations, hair preparations, face creams, lotions (including sunscreens), and other cosmetic preparations.

### **325620 TOILET PREPARATION MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in preparing, blending, compounding, and packaging toilet preparations, such as perfumes, shaving preparations, hair preparations, face creams, lotions (including sunscreens), and other cosmetic preparations.

### **3259 OTHER CHEMICAL PRODUCT AND PREPARATION MANUFACTURING**

This industry group comprises establishments primarily engaged in manufacturing chemical products (except basic chemicals; resins, synthetic rubber, cellulosic and noncellulosic fibers and filaments; pesticides, fertilizers, and other agricultural chemicals; pharmaceuticals and medicines; paints, coatings, and adhesives; soaps and cleaning compounds; and toilet preparations).

### **32591 PRINTING INK MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing printing and inkjet inks and inkjet cartridges.

### **325910 PRINTING INK MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing printing and inkjet inks and inkjet cartridges.

### **32592 EXPLOSIVES MANUFACTURING**

This industry comprises establishments primarily engaged in manufacturing explosives.

### **325920 EXPLOSIVES MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing explosives.

### **32599 ALL OTHER CHEMICAL PRODUCT AND PREPARATION MANUFACTURING**

This industry comprises establishments primarily engaged in manufacturing chemical products (except basic chemicals, resins, and synthetic rubber; cellulosic and noncellulosic fibers and filaments; pesticides, fertilizers, and other agricultural chemicals; pharmaceuticals and medicines; paints, coatings, and adhesives; and soaps, cleaning compounds, and toilet preparations; printing inks; and explosives).

### **325991 CUSTOM COMPOUNDING OF PURCHASED RESINS**

This U.S. industry group comprises establishments primarily engaged in one or more of the following:

1. custom mixing and blending plastics resins made elsewhere or
2. reformulating plastics resins from recycled plastics products.

### **325992 PHOTOGRAPHIC FILM, PAPER, PLATE, AND CHEMICAL MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing sensitized film, sensitized paper, sensitized cloth, sensitized plates, toners (i.e., for photocopiers, laser printers, and similar electrostatic printing devices), toner cartridges, and photographic chemicals.



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## **325998 ALL OTHER MISCELLANEOUS CHEMICAL PRODUCT AND PREPARATION MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing chemical products (except basic chemicals, resins, synthetic rubber; cellulosic and noncellulosic fiber and filaments; pesticides, fertilizers, and other agricultural chemicals; pharmaceuticals and medicines; paints, coatings and adhesives; soap, cleaning compounds, and toilet preparations; printing inks; explosives; custom compounding of purchased resins; and photographic films, papers, plates, and chemicals).

## **326 PLASTICS AND RUBBER PRODUCTS MANUFACTURING**

Industries in the Plastics and Rubber Products Manufacturing subsector make goods by processing plastics materials and raw rubber. The core technology employed by establishments in this subsector is that of plastics or rubber product production. Plastics and rubber are combined in the same subsector because plastics are increasingly being used as a substitute for rubber; however the subsector is generally restricted to the production of products made of just one material, either solely plastics or rubber.

Many manufacturing activities use plastics or rubber, for example the manufacture of footwear, or furniture. Typically, the production process of these products involves more than one material. In these cases, technologies that allow disparate materials to be formed and combined are of central importance in describing the manufacturing activity. In NAICS, such activities (the footwear and furniture manufacturing) are not classified in the Plastics and Rubber Products Manufacturing subsector because the core technologies for these activities are diverse and involve multiple materials.

Within the Plastics and Rubber Products Manufacturing subsector, a distinction is made between plastics and rubber products at the industry group level, although it is not a rigid distinction, as can be seen from the definition of Industry 32622, Rubber and Plastics Hoses and Belting Manufacturing. As materials technology progresses, plastics are increasingly being used as a substitute for rubber; and eventually, the distinction may disappear as a basis for establishment classification.

In keeping with the core technology focus of plastics, lamination of plastics film to plastics film as well as the production of bags from plastics only is classified in this subsector. Lamination and bag production involving plastics and materials other than plastics are classified in the NAICS Subsector 322, Paper Manufacturing.

## **3261 PLASTICS PRODUCT MANUFACTURING**

This industry group comprises establishments primarily engaged in processing new or spent (i.e., recycled) plastics resins into intermediate or final products, using such processes as compression molding; extrusion molding; injection molding; blow molding; and casting. Within most of these industries, the production process is such that a wide variety of products can be made.

### **32611 PLASTICS PACKAGING MATERIALS AND UNLAMINATED FILM AND SHEET MANUFACTURING**

This industry group comprises establishments primarily engaged in one or more of the following:

1. converting plastics resins into unsupported plastics film and sheet and/or
2. forming, coating or laminating plastics film and sheet into plastics bags.

### **326111 PLASTICS BAG MANUFACTURING**

This U.S. industry group comprises establishments primarily engaged in one of the following:

1. converting plastics resins into plastics bags or

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2. forming, coating, or laminating plastics film and sheet into single wall or multiwall plastics bags.

Establishments in this industry may print on the bags they manufacture.

### **326112 PLASTICS PACKAGING FILM AND SHEET (INCLUDING LAMINATED) MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in converting plastics resins into plastics packaging (flexible) film and packaging sheet.

### **326113 UNLAMINATED PLASTICS FILM AND SHEET (EXCEPT PACKAGING) MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in converting plastics resins into plastics film and un laminated sheet (except packaging).

### **32612 PLASTICS PIPE, PIPE FITTING, AND UNLAMINATED PROFILE SHAPE MANUFACTURING**

This industry comprises establishments primarily engaged in manufacturing plastics pipes and pipe fittings, and plastics profile shapes such as rod, tube, and sausage casings.

### **326121 UNLAMINATED PLASTICS PROFILE SHAPE MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in converting plastics resins into nonrigid plastics profile shapes (except film, sheet, and bags), such as rod, tube, and sausage casings.

### **326122 PLASTICS PIPE AND PIPE FITTING MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in converting plastics resins into rigid plastics pipes and pipe fittings.

### **32613 LAMINATED PLASTICS PLATE, SHEET (EXCEPT PACKAGING), AND SHAPE MANUFACTURING**

This industry comprises establishments primarily engaged in laminating plastics profile shapes such as plate, sheet (except packaging), and rod. The lamination process generally involves bonding or impregnating profiles with plastics resins and compressing them under heat.

### **326130 LAMINATED PLASTICS PLATE, SHEET (EXCEPT PACKAGING), AND SHAPE MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in laminating plastics profile shapes such as plate, sheet (except packaging), and rod. The lamination process generally involves bonding or impregnating profiles with plastics resins and compressing them under heat.

### **32614 POLYSTYRENE FOAM PRODUCT MANUFACTURING**

This industry comprises establishments primarily engaged in manufacturing polystyrene foam products.

### **326140 POLYSTYRENE FOAM PRODUCT MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing polystyrene foam products.

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### **32615 URETHANE AND OTHER FOAM PRODUCT (EXCEPT POLYSTYRENE) MANUFACTURING**

This industry comprises establishments primarily engaged in manufacturing plastics foam products (except polystyrene).

### **326150 URETHANE AND OTHER FOAM PRODUCT (EXCEPT POLYSTYRENE) MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing plastics foam products (except polystyrene).

### **32616 PLASTICS BOTTLE MANUFACTURING**

This industry comprises establishments primarily engaged in manufacturing plastics bottles.

### **326160 PLASTICS BOTTLE MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing plastics bottles.

### **32619 OTHER PLASTICS PRODUCT MANUFACTURING**

This industry comprises establishments primarily engaged in manufacturing resilient floor covering and other plastics products (except film, sheet, bags, profile shapes, pipes, pipe fittings, laminates, foam products, and bottles).

### **326191 PLASTICS PLUMBING FIXTURE MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing plastics or fiberglass plumbing fixtures. Examples of products made by these establishments are plastics or fiberglass bathtubs, hot tubs, portable toilets, and shower stalls.

### **326192 RESILIENT FLOOR COVERING MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing resilient floor coverings for permanent installation.

### **326199 ALL OTHER PLASTICS PRODUCT MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing plastics products (except film, sheet, bags, profile shapes, pipes, pipe fittings, laminates, foam products, bottles, plumbing fixtures, and resilient floor coverings).

### **3262 RUBBER PRODUCT MANUFACTURING**

This industry group comprises establishments primarily engaged in processing natural, and synthetic or reclaimed rubber materials into intermediate or final products using processes such as vulcanizing, cementing, molding, extruding, and lathe-cutting.

### **32621 TIRE MANUFACTURING**

This industry comprises establishments primarily engaged in manufacturing tires and inner tubes from natural and synthetic rubber and retreading or rebuilding tires.

### **326211 TIRE MANUFACTURING (EXCEPT RETREADING)**

This U.S. industry comprises establishments primarily engaged in manufacturing tires and inner tubes from natural and synthetic rubber.

### **326212 TIRE RETREADING**

This U.S. industry comprises establishments primarily engaged in retreading or rebuilding tires.

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### **32622 RUBBER AND PLASTICS HOSES AND BELTING MANUFACTURING**

This industry comprises establishments primarily engaged in manufacturing rubber hose and/or plastics (reinforced) hose and belting from natural and synthetic rubber and/or plastics resins. Establishments manufacturing garden hoses from purchased hose are included in this industry.

### **326220 RUBBER AND PLASTICS HOSES AND BELTING MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing rubber hose and/or plastics (reinforced) hose and belting from natural and synthetic rubber and/or plastics resins. Establishments manufacturing garden hoses from purchased hose are included in this industry.

### **32629 OTHER RUBBER PRODUCT MANUFACTURING**

This industry comprises establishments primarily engaged in manufacturing rubber products (except tires, hoses, and belting) from natural and synthetic rubber.

### **326291 RUBBER PRODUCT MANUFACTURING FOR MECHANICAL USE**

This U.S. industry comprises establishments primarily engaged in molding, extruding, or lathe-cutting rubber to manufacture rubber goods (except tubing) for mechanical applications. Products of this industry are generally parts for motor vehicles, machinery, and equipment.

### **326299 ALL OTHER RUBBER PRODUCT MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing rubber products (except tires; hoses and belting; and molded, extruded, and lathe-cut rubber goods for mechanical applications) from natural and synthetic rubber.

### **327 NONMETALLIC MINERAL PRODUCT MANUFACTURING**

The Nonmetallic Mineral Product Manufacturing subsector transforms mined or quarried nonmetallic minerals, such as sand, gravel, stone, clay, and refractory materials, into products for intermediate or final consumption. Processes used include grinding, mixing, cutting, shaping, and honing. Heat often is used in the process and chemicals are frequently mixed to change the composition, purity, and chemical properties for the intended product. For example, glass is produced by heating silica sand to the melting point (sometimes combined with cullet or recycled glass) and then drawn, floated, or blow molded to the desired shape or thickness. Refractory materials are heated and then formed into bricks or other shapes for use in industrial applications. The Nonmetallic Mineral Product Manufacturing subsector includes establishments that manufacture products, such as bricks, refractories, ceramic products, and glass and glass products, such as plate glass and containers. Also included are cement and concrete products, lime, gypsum and other nonmetallic mineral products including abrasive products, ceramic plumbing fixtures, statuary, cut stone products, and mineral wool. The products are used in a wide range of activities from construction and heavy and light manufacturing to articles for personal use.

Mining, beneficiating, and manufacturing activities often occur in a single location. Separate receipts will be collected for these activities whenever possible. When receipts cannot be broken out between mining and manufacturing, establishments that mine or quarry nonmetallic minerals, beneficiate the nonmetallic minerals and further process the nonmetallic minerals into a more finished manufactured product are classified based on the primary activity of the establishment. A mine that manufactures a small amount of finished products will be classified in Sector 21, Mining. An establishment that mines whose primary output is a more-finished manufactured product will be classified in the Manufacturing Sector.

Excluded from the Nonmetallic Mineral Product Manufacturing subsector are establishments that primarily beneficiate mined nonmetallic minerals. Beneficiation is the process whereby the extracted material is reduced to particles that can be separated into mineral and waste, the former suitable for further processing or direct use. Beneficiation establishments are included in Sector 21, Mining.

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## **3271 CLAY PRODUCT AND REFRACTORY MANUFACTURING**

This industry group comprises establishments primarily engaged in shaping, molding, glazing, and firing pottery, ceramics, and plumbing fixtures made entirely or partly of clay or other ceramic materials and/or shaping, molding, baking, burning, or hardening clay refractories, non-clay refractories, ceramic tile, structural clay tile, brick, and other structural clay building materials.

### **32711 POTTERY, CERAMICS, AND PLUMBING FIXTURE MANUFACTURING**

This industry comprises establishments primarily engaged in shaping, molding, glazing, and firing pottery, ceramics, and plumbing fixtures made entirely or partly of clay or other ceramic materials.

#### **327111 VITREOUS CHINA PLUMBING FIXTURE AND CHINA AND EARTHENWARE BATHROOM ACCESSORIES MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing vitreous china plumbing fixtures and china and earthenware bathroom accessories, such as faucet handles, towel bars, and soap dishes.

#### **327112 VITREOUS CHINA, FINE EARTHENWARE, AND OTHER POTTERY PRODUCT MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing table and kitchen articles, art and ornamental items, and similar vitreous china, fine earthenware, stoneware, coarse earthenware, and pottery products.

#### **327113 PORCELAIN ELECTRICAL SUPPLY MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing porcelain electrical insulators, molded porcelain parts for electrical devices, ferrite or ceramic magnets, and electronic and electrical supplies from nonmetallic minerals, such as clay and ceramic materials.

### **32712 CLAY BUILDING MATERIAL AND REFRACTORIES MANUFACTURING**

This industry comprises establishments primarily engaged in shaping, molding, baking, burning, or hardening clay refractories, nonclay refractories, ceramic tile, structural clay tile, brick, and other structural clay building materials.

#### **327121 BRICK AND STRUCTURAL CLAY TILE MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing brick and structural clay tiles.

#### **327122 CERAMIC WALL AND FLOOR TILE MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing ceramic wall and floor tiles.

#### **327123 OTHER STRUCTURAL CLAY PRODUCT MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing clay sewer pipe, drain tile, flue lining tile, architectural terra-cotta, and other structural clay products.

#### **327124 CLAY REFRACTORY MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing clay refractory, mortar, brick, block, tile, and fabricated clay refractories, such as melting pots. A refractory is a material that will retain its shape and chemical identity when subjected to high temperatures and is used in applications that require extreme resistance to heat, such as furnace linings.

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### **327125 NONCLAY REFRACTORY MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing nonclay refractory, mortar, brick, block, tile, and fabricated nonclay refractories such as graphite, magnesite, silica, or alumina crucibles. A refractory is a material that will retain its shape and chemical identity when subjected to high temperatures and is used in applications that require extreme resistance to heat, such as furnace linings.

### **3272 GLASS AND GLASS PRODUCT MANUFACTURING**

This industry group comprises establishments primarily engaged in manufacturing glass and/or glass products. Establishments in this industry may manufacture glass and/or glass products by melting silica sand or cullet, or purchasing glass.

### **32721 GLASS AND GLASS PRODUCT MANUFACTURING**

This industry comprises establishments primarily engaged in manufacturing glass and/or glass products. Establishments in this industry may manufacture glass and/or glass products by melting silica sand or cullet, or purchasing glass.

### **327211 FLAT GLASS MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in:

1. manufacturing flat glass by melting silica sand or cullet; or
2. manufacturing both flat glass and laminated glass by melting silica sand or cullet.

### **327212 OTHER PRESSED AND BLOWN GLASS AND GLASSWARE MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing glass by melting silica sand or cullet and making pressed, blown, or shaped glass or glassware (except glass packaging containers).

### **327213 GLASS CONTAINER MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing glass packaging containers.

### **327215 GLASS PRODUCT MANUFACTURING MADE OF PURCHASED GLASS**

This U.S. industry comprises establishments primarily engaged in coating, laminating, tempering, or shaping purchased glass.

### **3273 CEMENT AND CONCRETE PRODUCT MANUFACTURING**

This industry group comprises establishments primarily engaged in one or more of the following:

1. Cement manufacturing;
2. Ready-mix concrete manufacturing;
3. Concrete pipe, brick, and block manufacturing; and/or
4. Other concrete product manufacturing.

### **32731 CEMENT MANUFACTURING**

This industry comprises establishments primarily engaged in manufacturing portland, natural, masonry, pozzalanic, and other hydraulic cements. Cement manufacturing establishments may calcine earths or mine, quarry, manufacture, or purchase lime.

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### **327310 CEMENT MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing portland, natural, masonry, pozzalanic, and other hydraulic cements. Cement manufacturing establishments may calcine earths or mine, quarry, manufacture, or purchase lime.

### **32732 READY-MIX CONCRETE MANUFACTURING**

This industry comprises establishments, such as batch plants or mix plants, primarily engaged in manufacturing concrete delivered to a purchaser in a plastic and unhardened state. Ready-mix concrete manufacturing establishments may mine, quarry, or purchase sand and gravel.

### **327320 READY-MIX CONCRETE MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing concrete delivered to a purchaser, such as batch plants or mix plants, in a plastic and unhardened state. Ready-mix concrete manufacturing establishments may mine, quarry, or purchase sand and gravel.

### **32733 CONCRETE PIPE, BRICK, AND BLOCK MANUFACTURING**

This industry comprises establishments primarily engaged in manufacturing concrete pipe, brick, and block.

### **327331 CONCRETE BLOCK AND BRICK MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing concrete block and brick.

### **327332 CONCRETE PIPE MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing concrete pipe.

### **32739 OTHER CONCRETE PRODUCT MANUFACTURING**

This industry comprises establishments primarily engaged in manufacturing concrete products (except block, brick, and pipe).

### **327390 OTHER CONCRETE PRODUCT MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing concrete products (except block, brick, and pipe).

### **3274 LIME AND GYPSUM PRODUCT MANUFACTURING**

This industry group comprises establishments primarily engaged in manufacturing lime from calcitic limestone, dolomitic limestone, or other calcareous materials, such as coral, chalk, and shells and/or gypsum products such as wallboard, plaster, plasterboard, molding, ornamental moldings, statuary, and architectural plaster work.

### **32741 LIME MANUFACTURING**

This industry comprises establishments primarily engaged in manufacturing lime from calcitic limestone, dolomitic limestone, or other calcareous materials, such as coral, chalk, and shells. Lime manufacturing establishments may mine, quarry, collect, or purchase the sources of calcium carbonate.

### **327410 LIME MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing lime from calcitic limestone, dolomitic limestone, or other calcareous materials, such as coral, chalk, and shells. Lime manufacturing establishments may mine, quarry, collect, or purchase the sources of calcium carbonate.

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### **32742 GYPSUM PRODUCT MANUFACTURING**

This industry comprises establishments primarily engaged in manufacturing gypsum products such as wallboard, plaster, plasterboard, molding, ornamental moldings, statuary, and architectural plaster work. Gypsum product manufacturing establishments may mine, quarry, or purchase gypsum.

### **327420 GYPSUM PRODUCT MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing gypsum products such as wallboard, plaster, plasterboard, molding, ornamental moldings, statuary, and architectural plaster work. Gypsum product manufacturing establishments may mine, quarry, or purchase gypsum.

### **3279 OTHER NONMETALLIC MINERAL PRODUCT MANUFACTURING**

This industry group comprises establishments primarily engaged in manufacturing nonmetallic mineral products (except clay products, refractory products, glass products, cement and concrete products, lime, and gypsum products).

### **32791 ABRASIVE PRODUCT MANUFACTURING**

This industry comprises establishments primarily engaged in manufacturing abrasive grinding wheels of natural or synthetic materials, abrasive-coated products, and other abrasive products.

### **327910 ABRASIVE PRODUCT MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing abrasive grinding wheels of natural or synthetic materials, abrasive-coated products, and other abrasive products.

### **32799 ALL OTHER NONMETALLIC MINERAL PRODUCT MANUFACTURING**

This industry comprises establishments primarily engaged in manufacturing nonmetallic mineral products (except pottery, ceramics, and plumbing fixtures; clay building materials and refractories; glass and glass products; cement; ready-mix concrete; concrete products; lime; gypsum products; and abrasive products).

### **327991 CUT STONE AND STONE PRODUCT MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in cutting, shaping, and finishing granite, marble, limestone, slate, and other stone for building and miscellaneous uses. Stone product manufacturing establishments may mine, quarry, or purchase stone.

### **327992 GROUND OR TREATED MINERAL AND EARTH MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in calcining, dead burning, or otherwise processing beyond beneficiation, clays, ceramic and refractory minerals, barite, and miscellaneous nonmetallic minerals.

### **327993 MINERAL WOOL MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing mineral wool and mineral wool (i.e., fiberglass) insulation products made of such siliceous materials as rock, slag, and glass or combinations thereof.

### **327999 ALL OTHER MISCELLANEOUS NONMETALLIC MINERAL PRODUCT MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing nonmetallic mineral products (except pottery, ceramics, and plumbing fixtures; clay building materials and refractories; glass and glass products; cement; ready-mix concrete; concrete products; lime; gypsum products; abrasive products; cut stone and stone products; ground and treated minerals and earth; and mineral wool).



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### **331 PRIMARY METAL MANUFACTURING**

Industries in the Primary Metal Manufacturing subsector smelt and/or refine ferrous and nonferrous metals from ore, pig or scrap, using electrometallurgical and other process metallurgical techniques. Establishments in this subsector also manufacture metal alloys and superalloys by introducing other chemical elements to pure metals. The output of smelting and refining, usually in ingot form, is used in rolling, drawing, and extruding operations to make sheet, strip, bar, rod, or wire, and in molten form to make castings and other basic metal products.

Primary manufacturing of ferrous and nonferrous metals begins with ore or concentrate as the primary input. Establishments manufacturing primary metals from ore and/or concentrate remain classified in the primary smelting, primary refining, or iron and steel mill industries regardless of the form of their output. Establishments primarily engaged in secondary smelting and/or secondary refining recover ferrous and nonferrous metals from scrap and/or dross. The output of the secondary smelting and/or secondary refining industries is limited to shapes, such as ingot or billet, that will be further processed. Recovery of metals from scrap often occurs in establishments that are primarily engaged in activities, such as rolling, drawing, extruding, or similar processes.

Excluded from the Primary Metal Manufacturing subsector are establishments primarily engaged in manufacturing ferrous and nonferrous forgings (except ferrous forgings made in steel mills) and stampings. Although forging, stamping, and casting are all methods used to make metal shapes, forging and stamping do not use molten metals and are included in Subsector 332, Fabricated Metal Product Manufacturing. Establishments primarily engaged in operating coke ovens are classified in Industry 32419, Other Petroleum and Coal Products Manufacturing.

#### **3311 IRON AND STEEL MILLS AND FERROALLOY MANUFACTURING**

This industry group comprises establishments primarily engaged in one or more of the following:

1. Direct reduction of iron ore;
2. Manufacturing pig iron in molten or solid form;
3. Converting pig iron into steel;
4. Manufacturing ferroalloys;
5. Making steel;
6. Making steel and manufacturing shapes (e.g., bar, plate, rod, sheet, strip, and wire); and
7. Making steel and forming pipe and tube.

#### **33111 IRON AND STEEL MILLS AND FERROALLOY MANUFACTURING**

This industry comprises establishments primarily engaged in one or more of the following:

1. direct reduction of iron ore;
2. manufacturing pig iron in molten or solid form;
3. converting pig iron into steel;
4. manufacturing ferroalloys;
5. making steel;
6. making steel and manufacturing shapes (e.g., bar, plate, rod, sheet, strip, and wire); and
7. making steel and forming pipe and tube.

#### **331111 IRON AND STEEL MILLS**

This U.S. industry comprises establishments primarily engaged in one or more of the following:

1. direct reduction of iron ore;

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2. manufacturing pig iron in molten or solid form;
  3. converting pig iron into steel;
  4. making steel;
  5. making steel and manufacturing shapes (e.g., bar, plate, rod, sheet, strip, wire); and
  6. making steel and forming tube and pipe.

### **331112 ELECTROMETALLURGICAL FERROALLOY PRODUCT MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing electrometallurgical ferroalloys. Ferroalloys add critical elements, such as silicon and manganese for carbon steel and chromium, vanadium, tungsten, titanium, and molybdenum for low- and high-alloy metals. Ferroalloys include iron-rich alloys and more pure forms of elements added during the steel manufacturing process that alter or improve the characteristics of the metal being made.

### **3312 STEEL PRODUCT MANUFACTURING FROM PURCHASED STEEL**

This industry group comprises establishments primarily engaged in manufacturing iron and steel tube and pipe; drawing steel wire; and rolling or drawing shapes from purchased iron or steel.

#### **33121 IRON AND STEEL PIPE AND TUBE MANUFACTURING FROM PURCHASED STEEL**

This industry comprises establishments primarily engaged in manufacturing welded, riveted, or seamless pipe and tube from purchased iron or steel.

#### **331210 IRON AND STEEL PIPE AND TUBE MANUFACTURING FROM PURCHASED STEEL**

This U.S. industry comprises establishments primarily engaged in manufacturing welded, riveted, or seamless pipe and tube from purchased iron or steel.

#### **33122 ROLLING AND DRAWING OF PURCHASED STEEL**

This industry comprises establishments primarily engaged in rolling and/or drawing steel shapes, such as plate, sheet, strip, rod, and bar, from purchased steel.

##### **331221 ROLLED STEEL SHAPE MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in rolling or drawing shapes (except wire), such as plate, sheet, strip, rod, and bar, from purchased steel.

##### **331222 STEEL WIRE DRAWING**

This U.S. industry comprises establishments primarily engaged in drawing wire from purchased steel.

### **3313 ALUMINA AND ALUMINUM PRODUCTION AND PROCESSING**

This industry group comprises establishments primarily engaged in one or more of the following:

1. Refining alumina;
2. Making (i.e., the primary production) aluminum from alumina;
3. Recovering aluminum from scrap or dross;
4. Alloying purchased aluminum; and
5. Manufacturing aluminum primary forms (e.g., bar, foil, pipe, plate, rod, sheet, tube, and wire).

#### **33131 ALUMINA AND ALUMINUM PRODUCTION AND PROCESSING**

This industry comprises establishments primarily engaged in one or more of the following:

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1. refining alumina;
  2. making (i.e., the primary production) aluminum from alumina;
  3. recovering aluminum from scrap or dross;
  4. alloying purchased aluminum; and
  5. manufacturing aluminum primary forms (e.g., bar, foil, pipe, plate, rod, sheet, tube, and wire).

### **331311 ALUMINA REFINING**

This U.S. industry comprises establishments primarily engaged in refining alumina (i.e., aluminum oxide) generally from bauxite.

### **331312 PRIMARY ALUMINUM PRODUCTION**

This U.S. industry comprises establishments primarily engaged in:

1. making aluminum from alumina and/or
2. making aluminum from alumina and rolling, drawing, extruding, or casting the aluminum they make into primary forms (e.g., bar, billet, ingot, plate, rod, sheet, and strip).

Establishments in this industry may make primary aluminum or aluminum-based alloys from alumina.

### **331314 SECONDARY SMELTING AND ALLOYING OF ALUMINUM**

This U.S. industry comprises establishments primarily engaged in:

1. recovering aluminum and aluminum alloys from scrap and/or dross (i.e., secondary smelting) and making billet or ingot (except by rolling) and/or
2. manufacturing alloys, powder, paste, or flake from purchased aluminum.

### **331315 ALUMINUM SHEET, PLATE, AND FOIL MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in:

1. flat rolling or continuous casting sheet, plate, foil, and welded tube from purchased aluminum and/or
2. recovering aluminum from scrap and flat rolling or continuous casting sheet, plate, foil, and welded tube in integrated mills.

### **331316 ALUMINUM EXTRUDED PRODUCT MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in:

1. extruding aluminum bar, pipe, and tube blooms or extruding or drawing tube from purchased aluminum and/or
2. recovering aluminum from scrap and extruding bar, pipe, and tube blooms or drawing tube in integrated mills.

### **331319 OTHER ALUMINUM ROLLING AND DRAWING**

This U.S. industry comprises establishments primarily engaged in:

1. rolling, drawing, or extruding shapes (except flat rolled sheet, plate, foil, and welded tube; extruded rod, bar, pipe, and tube blooms; and drawn or extruded tube) from purchased aluminum and/or
2. recovering aluminum from scrap and rolling, drawing or extruding shapes (except flat rolled sheet, plate, foil, and welded tube; extruded rod, bar, pipe, and tube blooms; and drawn or extruded tube) in integrated mills.

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### **3314 NONFERROUS METAL (EXCEPT ALUMINUM) PRODUCTION AND PROCESSING**

This industry group comprises establishments primarily engaged in one of the following:

1. Nonferrous metal (except aluminum) smelting and refining;
2. Copper rolling, drawing, extruding, and alloying; and/or
3. Nonferrous metal (except copper and aluminum) rolling, drawing, extruding, and alloying.

#### **33141 NONFERROUS METAL (EXCEPT ALUMINUM) SMELTING AND REFINING**

This industry comprises establishments primarily engaged in:

1. smelting ores into nonferrous metals and/or
2. the primary refining of nonferrous metals (except aluminum) using electrolytic or other processes.

##### **331411 PRIMARY SMELTING AND REFINING OF COPPER**

This U.S. industry comprises establishments primarily engaged in one of the following:

1. smelting copper ore and/or
2. the primary refining of copper by electrolytic methods or other processes.

Establishments in this industry make primary copper and copper-based alloys, such as brass and bronze, from ore or concentrates.

##### **331419 PRIMARY SMELTING AND REFINING OF NONFERROUS METAL (EXCEPT COPPER AND ALUMINUM)**

This U.S. industry comprises establishments primarily engaged in:

1. making (primary production) nonferrous metals by smelting ore and/or
2. the primary refining of nonferrous metals by electrolytic methods or other processes.

#### **33142 COPPER ROLLING, DRAWING, EXTRUDING, AND ALLOYING**

This industry comprises establishments primarily engaged in one or more of the following:

1. recovering copper or copper alloys from scraps;
2. alloying purchased copper;
3. rolling, drawing, or extruding shapes, (e.g., bar, plate, sheet, strip, tube, wire) from purchased copper; and
4. recovering copper or copper alloys from scrap and rolling drawing, or extruding shapes (e.g., bar, plate, sheet, strip, tube, wire).

##### **331421 COPPER ROLLING, DRAWING, AND EXTRUDING**

This U.S. industry comprises establishments primarily engaged in:

1. rolling, drawing, and/or extruding shapes (e.g., bar, plate, sheet, strip, and tube (except bare or insulated copper communication or energy wire)) from purchased copper and/or
2. recovering copper from scrap and rolling, drawing, and/or extruding shapes (e.g., bar, plate, sheet, strip, and tube (except bare or insulated copper communication or energy wire) in integrated mills.

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### **331422 COPPER WIRE (EXCEPT MECHANICAL) DRAWING**

This U.S. industry comprises establishments primarily engaged in drawing or drawing and insulating communication and energy wire and cable from purchased copper or in integrated secondary smelting and wire drawing plants.

### **331423 SECONDARY SMELTING, REFINING, AND ALLOYING OF COPPER**

This U.S. industry comprises establishments primarily engaged in:

1. recovering copper and copper alloys from scrap and/or
2. alloying purchased copper.

Establishments in this industry make primary forms, such as ingot, wire bar, cake, and slab from copper or copper alloys, such as brass and bronze.

### **33149 NONFERROUS METAL (EXCEPT COPPER AND ALUMINUM) ROLLING, DRAWING, EXTRUDING, AND ALLOYING**

This industry comprises establishments primarily engaged in one or more of the following:

1. recovering nonferrous metals (except copper and aluminum) and nonferrous metal alloys from scrap;
2. alloying purchased nonferrous metals (except copper and aluminum);
3. rolling, drawing, and extruding shapes from purchased nonferrous metals (except copper and aluminum); and
4. recovering nonferrous metals from scrap (except copper and aluminum) and rolling, drawing, or extruding shapes in integrated facilities.

### **331491 NONFERROUS METAL (EXCEPT COPPER AND ALUMINUM) ROLLING, DRAWING, AND EXTRUDING**

This U.S. industry comprises establishments primarily engaged in:

1. rolling, drawing, and/or extruding shapes (e.g., bar, plate, sheet, strip, and tube) from purchased nonferrous metals and/or
2. recovering nonferrous metals from scrap and rolling, drawing, and/or extruding shapes (e.g., bar, plate, sheet, strip, and tube) in integrated mills.

### **331492 SECONDARY SMELTING, REFINING, AND ALLOYING OF NONFERROUS METAL (EXCEPT COPPER AND ALUMINUM)**

This U.S. industry comprises establishments primarily engaged in:

1. alloying purchased nonferrous metals and/or
2. recovering nonferrous metals from scrap.

Establishments in this industry make primary forms (e.g., bar, billet, bloom, cake, ingot, slab, slug, and wire) using smelting or refining processes.

### **3315 FOUNDRIES**

This industry group comprises establishments primarily engaged in pouring molten metal into molds or dies to form castings. Establishments making castings and further manufacturing, such as machining or assembling, a specific manufactured product are classified in the industry of the finished product. Foundries may perform operations, such as cleaning and deburring, on the castings they manufacture. More involved processes, such as tapping, threading, milling, or machining to tight tolerances, that transform castings into more finished products are classified elsewhere in the manufacturing sector based on the product being made.

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Establishments in this industry group make castings from purchased metals or in integrated secondary smelting and casting facilities. When the production of primary metals is combined with making castings, the establishment is classified in 331 with the primary metal being made.

### **33151 FERROUS METAL FOUNDRIES**

This industry comprises establishments primarily engaged in pouring molten iron and steel into molds of a desired shape to make castings. Establishments in this industry purchase iron and steel made in other establishments.

#### **331511 IRON FOUNDRIES**

This U.S. industry comprises establishments primarily engaged in pouring molten pig iron or iron alloys into molds to manufacture castings (e.g., cast iron manhole covers, cast iron pipe, cast iron skillets). Establishments in this industry purchase iron made in other establishments.

#### **331512 STEEL INVESTMENT FOUNDRIES**

This U.S. industry comprises establishments primarily engaged in manufacturing steel investment castings. Investment molds are formed by covering a wax shape with a refractory slurry. After the refractory slurry hardens, the wax is melted, leaving a seamless mold. Investment molds provide highly detailed, consistent castings. Establishments in this industry purchase steel made in other establishments.

#### **331513 STEEL FOUNDRIES (EXCEPT INVESTMENT)**

This U.S. industry comprises establishments primarily engaged in manufacturing steel castings (except steel investment castings). Establishments in this industry purchase steel made in other establishments.

#### **33152 NONFERROUS METAL FOUNDRIES**

This industry comprises establishments primarily engaged in pouring and/or introducing molten nonferrous metal, under high pressure, into metal molds or dies to manufacture castings. Establishments in this industry purchase nonferrous metals made in other establishments.

#### **331521 ALUMINUM DIE-CASTING FOUNDRIES**

This U.S. industry comprises establishments primarily engaged in introducing molten aluminum, under high pressure, into molds or dies to make aluminum die-castings. Establishments in this industry purchase aluminum made in other establishments.

#### **331522 NONFERROUS (EXCEPT ALUMINUM) DIE-CASTING FOUNDRIES**

This U.S. industry comprises establishments primarily engaged in introducing molten nonferrous metal (except aluminum), under high pressure, into molds to make nonferrous metal die-castings. Establishments in this industry purchase nonferrous metals made in other establishments.

#### **331524 ALUMINUM FOUNDRIES (EXCEPT DIE-CASTING)**

This U.S. industry comprises establishments primarily engaged in pouring molten aluminum into molds to manufacture aluminum castings. Establishments in this industry purchase aluminum made in other establishments.

#### **331525 COPPER FOUNDRIES (EXCEPT DIE-CASTING)**

This U.S. industry comprises establishments primarily engaged in pouring molten copper into molds to manufacture copper castings. Establishments in this industry purchase copper made in other establishments.

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### **331528 OTHER NONFERROUS FOUNDRIES (EXCEPT DIE-CASTING)**

This U.S. industry comprises establishments primarily engaged in pouring molten nonferrous metals (except aluminum and copper) into molds to manufacture nonferrous castings (except aluminum die-castings, nonferrous (except aluminum) die-castings, aluminum castings, and copper castings). Establishments in this industry purchase nonferrous metals, such as nickel, lead, and zinc, made in other establishments.

### **332 FABRICATED METAL PRODUCT MANUFACTURING**

Industries in the Fabricated Metal Product Manufacturing subsector transform metal into intermediate or end products, other than machinery, computers and electronics, and metal furniture or treating metals and metal formed products fabricated elsewhere. Important fabricated metal processes are forging, stamping, bending, forming, and machining, used to shape individual pieces of metal; and other processes, such as welding and assembling, used to join separate parts together. Establishments in this subsector may use one of these processes or a combination of these processes.

The NAICS structure for this subsector distinguishes the forging and stamping processes in a single industry. The remaining industries, in the subsector, group establishments based on similar combinations of processes used to make products.

The manufacturing performed in the Fabricated Metal Product Manufacturing subsector begins with manufactured metal shapes. The establishments in this sector further fabricate the purchased metal shapes into a product. For instance, the Spring and Wire Product Manufacturing industry starts with wire and fabricates such items.

Within manufacturing there are other establishments that make the same products made by this subsector; only these establishments begin production further back in the production process. These establishments have a more integrated operation. For instance, one establishment may manufacture steel, draw it into wire, and make wire products in the same establishment. Such operations are classified in the Primary Metal Manufacturing subsector.

### **3321 FORGING AND STAMPING**

This industry group comprises establishments primarily engaged in one or more of the following:

1. Manufacturing forgings from purchased metals;
2. Manufacturing metal custom roll forming products;
3. Manufacturing metal stamped and spun products (except automotive, cans, and coins); and
4. Manufacturing powder metallurgy products.

Establishments making metal forgings, metal stampings, and metal spun products and further manufacturing (e.g., machining and assembling) a specific manufactured product are classified in the industry of the finished product. Metal forging, metal stamping, and metal spun products establishments may perform surface finishing operations, such as cleaning and deburring, on the products they manufacture.

### **33211 FORGING AND STAMPING**

This industry comprises establishments primarily engaged in one or more of the following:

1. manufacturing forgings from purchased metals;
2. manufacturing metal custom roll forming products;
3. manufacturing metal stamped and spun products (except automotive, cans, and coins); and
4. manufacturing powder metallurgy products.

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Establishments making metal forgings, metal stampings, and metal spun products and further manufacturing (e.g., machining and assembling) a specific manufactured product are classified in the industry of the finished product. Metal forging, metal stamping, and metal spun products establishments may perform surface finishing operations, such as cleaning and deburring, on the products they manufacture.

### **332111 IRON AND STEEL FORGING**

This U.S. industry comprises establishments primarily engaged in manufacturing iron and steel forgings from purchased iron and steel by hammering mill shapes. Establishments making iron and steel forgings and further manufacturing (e.g., machining, assembling) a specific manufactured product are classified in the industry of the finished product. Iron and steel forging establishments may perform surface finishing operations, such as cleaning and deburring, on the forgings they manufacture.

### **332112 NONFERROUS FORGING**

This U.S. industry comprises establishments primarily engaged in manufacturing nonferrous forgings from purchased nonferrous metals by hammering mill shapes. Establishments making nonferrous forgings and further manufacturing (e.g., machining, assembling) a specific manufactured product are classified in the industry of the finished product. Nonferrous forging establishments may perform surface finishing operations, such as cleaning and deburring, on the forgings they manufacture.

### **332114 CUSTOM ROLL FORMING**

This U.S. industry comprises establishments primarily engaged in custom roll forming metal products by use of rotary motion of rolls with various contours to bend or shape the products.

### **332115 CROWN AND CLOSURE MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in stamping metal crowns and closures, such as bottle caps and home canning lids and rings.

### **332116 METAL STAMPING**

This U.S. industry comprises establishments primarily engaged in manufacturing unfinished metal stampings and spinning unfinished metal products (except crowns, cans, closures, automotive, and coins). Establishments making metal stampings and metal spun products and further manufacturing (e.g., machining, assembling) a specific product are classified in the industry of the finished product. Metal stamping and metal spun products establishments may perform surface finishing operations, such as cleaning and deburring, on the products they manufacture.

### **332117 POWDER METALLURGY PART MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing powder metallurgy products by compacting them in a shaped die and sintering. Establishments in this industry generally make a wide range of parts on a job or order basis.

### **3322 CUTLERY AND HANDTOOL MANUFACTURING**

This industry group comprises establishments primarily engaged in one or more of the following:

1. Manufacturing nonprecious and precious plated metal cutlery and flatware;
2. Manufacturing nonpowered hand and edge tools;
3. Manufacturing nonpowered handsaws;
4. Manufacturing saw blades, all types (including those for sawing machines); and



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5. Manufacturing metal kitchen utensils (except cutting-type) and pots and pans (except those manufactured by casting (e.g., cast iron skillets) or stamped without further fabrication).

### **33221 CUTLERY AND HANDTOOL MANUFACTURING**

This industry comprises establishments primarily engaged in one or more of the following:

1. manufacturing nonprecious and precious plated metal cutlery and flatware;
2. manufacturing nonpowered hand and edge tools;
3. manufacturing nonpowered handsaws;
4. manufacturing saw blades, all types (including those for sawing machines); and
5. manufacturing metal kitchen utensils (except cutting-type) and pots and pans (except those manufactured by casting (e.g., cast iron skillets) or stamped without further fabrication).

### **332211 CUTLERY AND FLATWARE (EXCEPT PRECIOUS) MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing nonprecious and precious plated metal cutlery and flatware.

### **332212 HAND AND EDGE TOOL MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing nonpowered hand and edge tools (except saws).

### **332213 SAW BLADE AND HANDSAW MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in:

1. manufacturing nonpowered handsaws and/or
2. manufacturing saw blades, all types (including those for power sawing machines).

### **332214 KITCHEN UTENSIL, POT, AND PAN MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing metal kitchen utensils (except cutting-type), pots, and pans (except those manufactured by casting (e.g., cast iron skillets) or stamped without further fabrication).

### **3323 ARCHITECTURAL AND STRUCTURAL METALS MANUFACTURING**

This industry group comprises establishments primarily engaged in manufacturing one or more of the following:

1. Plate work and fabricated structural product manufacturing and
2. Ornamental and architectural metal products manufacturing.

### **33231 PLATE WORK AND FABRICATED STRUCTURAL PRODUCT MANUFACTURING**

This industry comprises establishments primarily engaged in manufacturing one or more of the following:

1. prefabricated metal buildings, panels and sections;
2. structural metal products; and
3. metal plate work products.

### **332311 PREFABRICATED METAL BUILDING AND COMPONENT MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing prefabricated metal buildings, panels, and sections.

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### **332312 FABRICATED STRUCTURAL METAL MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in fabricating structural metal products, such as concrete reinforcing bars and fabricated bar joists.

### **332313 PLATE WORK MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing fabricated metal plate work by cutting, punching, bending, shaping, and welding purchased metal plate.

### **33232 ORNAMENTAL AND ARCHITECTURAL METAL PRODUCTS MANUFACTURING**

This industry comprises establishments primarily engaged in manufacturing one or more of the following:

1. metal framed windows (i.e., typically using purchased glass) and metal doors;
2. sheet metal work; and
3. ornamental and architectural metal products.

### **332321 METAL WINDOW AND DOOR MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing metal framed windows (typically using purchased glass) and metal doors. Examples of products made by these establishments are: metal door frames; metal framed window and door screens; and metal molding and trim (except automotive).

### **332322 SHEET METAL WORK MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing sheet metal work (except stampings).

### **332323 ORNAMENTAL AND ARCHITECTURAL METAL WORK MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing ornamental and architectural metal work, such as staircases, metal open steel flooring, fire escapes, railings, and scaffolding.

### **3324 BOILER, TANK, AND SHIPPING CONTAINER MANUFACTURING**

This industry group comprises establishments primarily engaged in one or more of the following:

1. Power boiler and heat exchanger manufacturing;
2. Metal tank (heavy gauge) manufacturing; and
3. Metal can, box, and other metal container (light gauge) manufacturing.

### **33241 POWER BOILER AND HEAT EXCHANGER MANUFACTURING**

This industry comprises establishments primarily engaged in manufacturing power boilers and heat exchangers. Establishments in this industry may perform installation in addition to manufacturing power boilers and heat exchangers.

### **332410 POWER BOILER AND HEAT EXCHANGER MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing power boilers and heat exchangers. Establishments in this industry may perform installation in addition to manufacturing power boilers and heat exchangers.

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### **33242 METAL TANK (HEAVY GAUGE) MANUFACTURING**

This industry comprises establishments primarily engaged in cutting, forming, and joining heavy gauge metal to manufacture tanks, vessels, and other containers.

### **332420 METAL TANK (HEAVY GAUGE) MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in cutting, forming, and joining heavy gauge metal to manufacture tanks, vessels, and other containers.

### **33243 METAL CAN, BOX, AND OTHER METAL CONTAINER (LIGHT GAUGE) MANUFACTURING**

This industry comprises establishments primarily engaged in forming light gauge metal containers.

### **332431 METAL CAN MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing metal cans, lids, and ends.

### **332439 OTHER METAL CONTAINER MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing metal (light gauge) containers (except cans).

### **3325 HARDWARE MANUFACTURING**

This industry group comprises establishments primarily engaged in manufacturing metal hardware, such as metal hinges, metal handles, keys, and locks (except coin-operated and time locks).

### **33251 HARDWARE MANUFACTURING**

This industry comprises establishments primarily engaged in manufacturing metal hardware, such as metal hinges, metal handles, keys, and locks (except coin-operated and time locks).

### **332510 HARDWARE MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing metal hardware, such as metal hinges, metal handles, keys, and locks (except coin-operated and time locks).

### **3326 SPRING AND WIRE PRODUCT MANUFACTURING**

This industry group comprises establishments primarily engaged in:

1. Manufacturing steel springs by forming, such as cutting, bending, and heat winding, metal rod or strip stock, and/or
2. Manufacturing wire springs and fabricated wire products from wire drawn elsewhere (except watch and clock springs).

### **33261 SPRING AND WIRE PRODUCT MANUFACTURING**

This industry comprises establishments primarily engaged in:

1. manufacturing steel springs by forming, such as cutting, bending, and heat winding, metal rod or strip stock, and/or
2. manufacturing wire springs and fabricated wire products from wire drawn elsewhere (except watch and clock springs).

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### **332611 SPRING (HEAVY GAUGE) MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing heavy gauge springs by forming, such as cutting, bending, and heat winding, rod or strip stock.

### **332612 SPRING (LIGHT GAUGE) MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing light gauge springs from purchased wire or strip.

### **332618 OTHER FABRICATED WIRE PRODUCT MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing fabricated wire products (except springs) made from purchased wire.

### **3327 MACHINE SHOPS; TURNED PRODUCT; AND SCREW, NUT, AND BOLT MANUFACTURING**

This industry group comprises establishments primarily engaged in:

1. Machine shops and/or
2. Turned product and screw, nut, and bolt manufacturing.

#### **33271 MACHINE SHOPS**

This industry comprises establishments primarily engaged in machining metal parts on a job or order basis (known as machine shops). Generally machine shop jobs are low volume using machine tools, such as lathes (including computer numerically controlled); automatic screw machines; and machines for boring, grinding, and milling.

##### **332710 MACHINE SHOPS**

This U.S. industry comprises establishments primarily engaged in machining metal parts on a job or order basis (known as machine shops). Generally machine shop jobs are low volume using machine tools, such as lathes (including computer numerically controlled); automatic screw machines; and machines for boring, grinding, and milling.

##### **33272 TURNED PRODUCT AND SCREW, NUT, AND BOLT MANUFACTURING**

This industry comprises establishments primarily engaged in:

1. machining precision turned products or
2. manufacturing metal bolts, nuts, screws, rivets, and other industrial fasteners.

Included in this industry are establishments primarily engaged in manufacturing parts for machinery and equipment on a customized basis.

##### **332721 PRECISION TURNED PRODUCT MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in machining precision products of all materials on a job or order basis (known as precision turned manufacturers). Generally precision turned product jobs are large volume using machines, such as automatic screw machines, rotary transfer machines, computer numerically controlled (CNC) lathes, or turning centers.

##### **332722 BOLT, NUT, SCREW, RIVET, AND WASHER MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing metal bolts, nuts, screws, rivets, washers, and other industrial fasteners using machines, such as headers, threaders, and nut forming machines.

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### **3328 COATING, ENGRAVING, HEAT TREATING, AND ALLIED ACTIVITIES**

This industry group comprises establishments primarily engaged in one or more of the following:

1. Heat treating metals and metal products;
2. Enameling, lacquering, and varnishing metals and metal products;
3. Hot dip galvanizing metals and metal products;
4. Engraving, chasing, or etching metals and metal products (except jewelry; personal goods carried on or about the person, such as compacts and cigarette cases; precious metal products (except precious plated flatware and other plated ware); and printing plates);
5. Powder coating metals and metal products;
6. Electroplating, plating, anodizing, coloring, and finishing metals and metal products; and
7. Providing other metal surfacing services for the trade.

Included in this industry are establishments that coat engravings and heat treat metals and metal formed products fabricated elsewhere.

### **33281 COATING, ENGRAVING, HEAT TREATING, AND ALLIED ACTIVITIES**

This industry comprises establishments primarily engaged in one or more of the following:

1. heat treating metals and metal products;
2. enameling, lacquering, and varnishing metals and metal products;
3. hot dip galvanizing metals and metal products;
4. engraving, chasing, or etching metals and metal products (except jewelry; personal goods carried on or about the person, such as compacts and cigarette cases; precious metal products (except precious plated flatware and other plated ware); and printing plates);
5. powder coating metals and metal products;
6. electroplating, plating, anodizing, coloring, and finishing metals and metal products; and
7. providing other metal surfacing services for the trade.

Included in this industry are establishments that coat engravings and heat treat metals and metal formed products fabricated elsewhere.

### **332811 METAL HEAT TREATING**

This U.S. industry comprises establishments primarily engaged in heat treating, such as annealing, tempering, and brazing metals and metal products for the trade.

### **332812 METAL COATING, ENGRAVING (EXCEPT JEWELRY AND SILVERWARE), AND ALLIED SERVICES TO MANUFACTURERS**

This U.S. industry comprises establishments primarily engaged in one or more of the following:

1. enameling, lacquering, and varnishing metals and metal products;
2. hot dip galvanizing metals and metal products;
3. engraving, chasing, or etching metals and metal products (except jewelry; personal goods carried on or about the person, such as compacts and cigarette cases; precious metal products (except precious plated flatware and other plated ware); and printing plates);
4. powder coating metals and metal products; and
5. providing other metal surfacing services for the trade.

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### **332813 ELECTROPLATING, PLATING, POLISHING, ANODIZING, AND COLORING**

This U.S. industry comprises establishments primarily engaged in electroplating, plating, anodizing, coloring, buffing, polishing, cleaning, and sandblasting metals and metal products for the trade.

### **3329 OTHER FABRICATED METAL PRODUCT MANUFACTURING**

This industry group comprises establishments primarily engaged in manufacturing fabricated metal products (except forgings and stampings, cutlery and handtools, architectural and structural metals, boilers, tanks, shipping containers, hardware, spring and wire products, machine shop products, turned products, screws, and nuts and bolts).

### **33291 METAL VALVE MANUFACTURING**

This industry comprises establishments primarily engaged in manufacturing one or more of the following metal valves:

1. industrial valves;
2. fluid power valves and hose fittings;
3. plumbing fixture fittings and trim; and
4. other metal valves and pipe fittings.

### **332911 INDUSTRIAL VALVE MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing industrial valves and valves for water works and municipal water systems.

### **332912 FLUID POWER VALVE AND HOSE FITTING MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing fluid power valves and hose fittings.

### **332913 PLUMBING FIXTURE FITTING AND TRIM MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing metal and plastics plumbing fixture fittings and trim, such as faucets, flush valves, and shower heads.

### **332919 OTHER METAL VALVE AND PIPE FITTING MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing metal valves (except industrial valves, fluid power valves, fluid power hose fittings, and plumbing fixture fittings and trim).

### **33299 ALL OTHER FABRICATED METAL PRODUCT MANUFACTURING**

This industry comprises establishments primarily engaged in manufacturing fabricated metal products (except forgings and stampings, cutlery and handtools, architectural and structural metal products, boilers, tanks, shipping containers, hardware, spring and wire products, machine shop products, turned products, screws, nuts and bolts, and metal valves).

### **332991 BALL AND ROLLER BEARING MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing ball and roller bearings of all materials.

### **332992 SMALL ARMS AMMUNITION MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing small arms ammunition.

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### **332993 AMMUNITION (EXCEPT SMALL ARMS) MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing ammunition (except small arms). Examples of products made by these establishments are bombs, depth charges, rockets (except guided missiles), grenades, mines, and torpedoes.

### **332994 SMALL ARMS MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing small firearms that are carried and fired by the individual.

### **332995 OTHER ORDNANCE AND ACCESSORIES MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing ordnance (except small arms) and accessories.

### **332996 FABRICATED PIPE AND PIPE FITTING MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in fabricating, such as cutting, threading, and bending metal pipes and pipe fittings made from purchased metal pipe.

### **332997 INDUSTRIAL PATTERN MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing industrial patterns.

### **332998 ENAMELED IRON AND METAL SANITARY WARE MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing enameled iron and metal sanitary ware.

### **332999 ALL OTHER MISCELLANEOUS FABRICATED METAL PRODUCT MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing fabricated metal products (except forgings and stampings, cutlery and handtools, architectural and structural metals, boilers, tanks, shipping containers, hardware, spring and wire products, machine shop products, turned products, screws, nuts and bolts, metal valves, ball and roller bearings, ammunition, small arms and other ordnances, fabricated pipes and pipe fittings, industrial patterns, and enameled iron and metal sanitary ware).

## **333 MACHINERY MANUFACTURING**

Industries in the Machinery Manufacturing subsector create end products that apply mechanical force, for example, the application of gears and levers, to perform work. Some important processes for the manufacture of machinery are forging, stamping, bending, forming, and machining that are used to shape individual pieces of metal. Processes, such as welding and assembling are used to join separate parts together. Although these processes are similar to those used in metal fabricating establishments, machinery manufacturing is different because it typically employs multiple metal forming processes in manufacturing the various parts of the machine. Moreover, complex assembly operations are an inherent part of the production process.

In general, design considerations are very important in machinery production. Establishments specialize in making machinery designed for particular applications. Thus, design is considered to be part of the production process for the purpose of implementing NAICS. The NAICS structure reflects this by defining industries and industry groups that make machinery for different applications. A broad distinction exists between machinery that is generally used in a variety of industrial applications (i.e., general purpose machinery) and machinery that is designed to be used in a particular industry (i.e., special purpose machinery). Three industry groups consist of special purpose machinery--Agricultural, Construction, and Mining Machinery Manufacturing; Industrial Machinery

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Manufacturing; and Commercial and Service Industry Machinery Manufacturing. The other industry groups make general-purpose machinery: Ventilation, Heating, Air Conditioning, and Commercial Refrigeration Equipment Manufacturing; Metalworking Machinery Manufacturing; Engine, Turbine, and Power Transmission Equipment Manufacturing; and Other General Purpose Machinery Manufacturing.

### **3331 AGRICULTURE, CONSTRUCTION, AND MINING MACHINERY MANUFACTURING**

This industry group comprises establishments primarily engaged in one or more of the following:

1. Agricultural implement manufacturing;
2. Construction machinery manufacturing; and
3. Mining and oil and gas field machinery manufacturing.

#### **33311 AGRICULTURAL IMPLEMENT MANUFACTURING**

This industry comprises establishments primarily engaged in manufacturing farm machinery and equipment, powered mowing equipment, and other powered home lawn and garden equipment.

##### **333111 FARM MACHINERY AND EQUIPMENT MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing agricultural and farm machinery and equipment and other turf and grounds care equipment, including planting, harvesting, and grass mowing equipment (except lawn and garden-type).

##### **333112 LAWN AND GARDEN TRACTOR AND HOME LAWN AND GARDEN EQUIPMENT MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing powered lawnmowers, lawn and garden tractors, and other home lawn and garden equipment, such as tillers, shredders, and yard vacuums and blowers.

#### **33312 CONSTRUCTION MACHINERY MANUFACTURING**

This industry comprises establishments primarily engaged in manufacturing construction machinery, surface mining machinery, and logging equipment.

##### **333120 CONSTRUCTION MACHINERY MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing construction machinery, surface mining machinery, and logging equipment.

#### **33313 MINING AND OIL AND GAS FIELD MACHINERY MANUFACTURING**

This industry comprises establishments primarily engaged in manufacturing oil and gas field and underground mining machinery and equipment.

##### **333131 MINING MACHINERY AND EQUIPMENT MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in:

1. manufacturing underground mining machinery and equipment, such as coal breakers, mining cars, core drills, coal cutters, and rock drills and
2. manufacturing mineral beneficiating machinery and equipment used in surface or underground mines.

##### **333132 OIL AND GAS FIELD MACHINERY AND EQUIPMENT MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in:



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1. manufacturing oil and gas field machinery and equipment, such as oil and gas field drilling machinery and equipment; oil and gas field production machinery and equipment; and oil and gas field derricks; and
  2. manufacturing water well drilling machinery.

### **3332 INDUSTRIAL MACHINERY MANUFACTURING**

This industry group comprises establishments primarily engaged in one or more of the following:

1. Sawmill and woodworking machinery manufacturing;
2. Plastics and rubber industry machinery manufacturing; and
3. Other industrial machinery manufacturing.

#### **33321 SAWMILL AND WOODWORKING MACHINERY MANUFACTURING**

This industry comprises establishments primarily engaged in manufacturing sawmill and wood-working machinery (except handheld), such as circular and band sawing equipment, planing machinery, and sanding machinery.

##### **333210 SAWMILL AND WOODWORKING MACHINERY MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing sawmill and woodworking machinery (except handheld), such as circular and band sawing equipment, planing machinery, and sanding machinery.

#### **33322 PLASTICS AND RUBBER INDUSTRY MACHINERY MANUFACTURING**

This industry comprises establishments primarily engaged in manufacturing plastics and rubber products making machinery, such as plastics compression, extrusion and injection molding machinery and equipment, and tire building and recapping machinery and equipment.

##### **333220 PLASTICS AND RUBBER INDUSTRY MACHINERY MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing plastics and rubber products making machinery, such as plastics compression, extrusion and injection molding machinery and equipment, and tire building and recapping machinery and equipment.

#### **33329 OTHER INDUSTRIAL MACHINERY MANUFACTURING**

This industry comprises establishments primarily engaged in manufacturing industrial machinery (except agricultural and farm-type, construction, mining, sawmill and woodworking, and plastics and rubber products making machinery).

##### **333291 PAPER INDUSTRY MACHINERY MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing paper industry machinery for making paper and paper products, such as pulp making machinery, paper and paperboard making machinery, and paper and paperboard converting machinery.

##### **333292 TEXTILE MACHINERY MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing textile machinery for making thread, yarn, and fiber.

##### **333293 PRINTING MACHINERY AND EQUIPMENT MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing printing and bookbinding machinery and equipment, such as printing presses, typesetting machinery, and bindery machinery.

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### **333294 FOOD PRODUCT MACHINERY MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing food and beverage manufacturing-type machinery and equipment, such as dairy product plant machinery and equipment (e.g., homogenizers, pasteurizers, and ice cream freezers), bakery machinery and equipment (e.g., dough mixers, bake ovens, and pastry rolling machines), meat and poultry processing and preparation machinery, and other commercial food products machinery (e.g., slicers, choppers, and mixers).

### **333295 SEMICONDUCTOR MACHINERY MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing wafer processing equipment, semiconductor assembly and packaging equipment, and other semiconductor making machinery.

### **333298 ALL OTHER INDUSTRIAL MACHINERY MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing industrial machinery (except agricultural and farm-type, construction and mining machinery, sawmill and woodworking machinery, plastics and rubber making machinery, paper and paperboard making machinery, textile machinery, printing machinery and equipment, food manufacturing-type machinery, and semiconductor making machinery).

### **3333 COMMERCIAL AND SERVICE INDUSTRY MACHINERY MANUFACTURING**

This industry group comprises establishments primarily engaged in manufacturing commercial and service machinery, such as automatic vending machinery, commercial laundry and dry-cleaning machinery, office machinery, photographic and photocopying machinery, optical instruments and machinery, automotive maintenance equipment (except mechanic's handtools), industrial vacuum cleaners, and commercial-type cooking equipment.

### **33331 COMMERCIAL AND SERVICE INDUSTRY MACHINERY MANUFACTURING**

This industry comprises establishments primarily engaged in manufacturing commercial and service machinery, such as automatic vending machinery, commercial laundry and dry-cleaning machinery, office machinery, photographic and photocopying machinery, optical instruments and machinery, automotive maintenance equipment (except mechanic's handtools), industrial vacuum cleaners, and commercial-type cooking equipment.

### **333311 AUTOMATIC VENDING MACHINE MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in:

1. manufacturing coin, token, currency, or magnetic card operated vending machines; and/or
2. manufacturing coin operated mechanism for machines, such as vending machines, lockers, and laundry machines.

### **333312 COMMERCIAL LAUNDRY, DRYCLEANING, AND PRESSING MACHINE MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing commercial and industrial laundry and drycleaning equipment and pressing machines.

### **333313 OFFICE MACHINERY MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing office machinery (except computers and photocopying equipment), such as mailhandling machinery and equipment, calculators, typewriters, and dedicated word processing equipment.

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### **333314 OPTICAL INSTRUMENT AND LENS MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in one or more of the following:

1. manufacturing optical instruments and lens, such as binoculars, microscopes (except electron and proton), telescopes, prisms, and lenses (except ophthalmic);
2. coating or polishing lenses (except ophthalmic); and
3. mounting lenses (except ophthalmic).

### **333315 PHOTOGRAPHIC AND PHOTOCOPYING EQUIPMENT MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing photographic and photocopying equipment, such as cameras (except television, video, and digital), projectors, film developing equipment, photocopying equipment, and microfilm equipment.

### **333319 OTHER COMMERCIAL AND SERVICE INDUSTRY MACHINERY MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing commercial and service industry equipment (except automatic vending machines, commercial laundry, drycleaning and pressing machines, office machinery, optical instruments and lenses, and photographic and photocopying equipment).

### **3334 VENTILATION, HEATING, AIR-CONDITIONING, AND COMMERCIAL REFRIGERATION EQUIPMENT MANUFACTURING**

This industry group comprises establishments primarily engaged in manufacturing ventilation, heating, air-conditioning, and commercial and industrial refrigeration and freezer equipment.

### **33341 VENTILATION, HEATING, AIR-CONDITIONING, AND COMMERCIAL REFRIGERATION EQUIPMENT MANUFACTURING**

This industry comprises establishments primarily engaged in manufacturing ventilation, heating, air-conditioning, and commercial and industrial refrigeration and freezer equipment.

### **333411 AIR PURIFICATION EQUIPMENT MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing stationary air purification equipment, such as industrial dust and fume collection equipment, electrostatic precipitation equipment, warm air furnace filters, air washers, and other dust collection equipment.

### **333412 INDUSTRIAL AND COMMERCIAL FAN AND BLOWER MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing attic fans and industrial and commercial fans and blowers, such as commercial exhaust fans and commercial ventilating fans.

### **333414 HEATING EQUIPMENT (EXCEPT WARM AIR FURNACES) MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing heating equipment (except electric and warm air furnaces), such as heating boilers, heating stoves, floor and wall furnaces, and wall and baseboard heating units.

### **333415 AIR-CONDITIONING AND WARM AIR HEATING EQUIPMENT AND COMMERCIAL AND INDUSTRIAL REFRIGERATION EQUIPMENT MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in:

1. manufacturing air-conditioning (except motor vehicle) and warm air furnace equipment and/or
2. manufacturing commercial and industrial refrigeration and freezer equipment.

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### **3335 METALWORKING MACHINERY MANUFACTURING**

This industry group comprises establishments primarily engaged in manufacturing metalworking machinery, such as metal cutting and metal forming machine tools; cutting tools; and accessories for metalworking machinery; special dies, tools, jigs, and fixtures; industrial molds; rolling mill machinery; assembly machinery; coil handling, conversion, or straightening equipment; and wire drawing and fabricating machines.

### **33351 METALWORKING MACHINERY MANUFACTURING**

This industry comprises establishments primarily engaged in manufacturing metalworking machinery, such as metal cutting and metal forming machine tools; cutting tools; and accessories for metalworking machinery; special dies, tools, jigs, and fixtures; industrial molds; rolling mill machinery; assembly machinery; coil handling, conversion, or straightening equipment; and wire drawing and fabricating machines.

### **333511 INDUSTRIAL MOLD MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing industrial molds for casting metals or forming other materials, such as plastics, glass, or rubber.

### **333512 MACHINE TOOL (METAL CUTTING TYPES) MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing metal cutting machine tools (except handtools).

### **333513 MACHINE TOOL (METAL FORMING TYPES) MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing metal forming machine tools (except handtools), such as punching, sheering, bending, forming, pressing, forging, and die-casting machines.

### **333514 SPECIAL DIE AND TOOL, DIE SET, JIG, AND FIXTURE MANUFACTURING**

This U.S. industry comprises establishments, known as tool and die shops, primarily engaged in manufacturing special tools and fixtures, such as cutting dies and jigs.

### **333515 CUTTING TOOL AND MACHINE TOOL ACCESSORY MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing accessories and attachments for metal cutting and metal forming machine tools.

### **333516 ROLLING MILL MACHINERY AND EQUIPMENT MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing rolling mill machinery and equipment for metal production.

### **333518 OTHER METALWORKING MACHINERY MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing metal working machinery (except industrial molds; metal cutting machine tools; metal forming machine tools; special dies and tools, die sets, jigs, and fixtures; cutting tools and machine tool accessories; and rolling mill machinery and equipment).

### **3336 ENGINE, TURBINE, AND POWER TRANSMISSION EQUIPMENT MANUFACTURING**

This industry group comprises establishments primarily engaged in manufacturing turbines, power transmission equipment, and internal combustion engines (except automotive, gasoline, and aircraft).

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### **33361 ENGINE, TURBINE, AND POWER TRANSMISSION EQUIPMENT MANUFACTURING**

This industry comprises establishments primarily engaged in manufacturing turbines, power transmission equipment, and internal combustion engines (except automotive, gasoline, and aircraft).

#### **333611 TURBINE AND TURBINE GENERATOR SET UNITS MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing turbines (except aircraft) and complete turbine generator set units, such as steam, hydraulic, gas, and wind.

#### **333612 SPEED CHANGER, INDUSTRIAL HIGH-SPEED DRIVE, AND GEAR MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing gears, speed changers, and industrial high-speed drives (except hydrostatic).

#### **333613 MECHANICAL POWER TRANSMISSION EQUIPMENT MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing mechanical power transmission equipment (except motor vehicle and aircraft), such as plain bearings, clutches (except motor vehicle and electromagnetic industrial control), couplings, joints, and drive chains.

#### **333618 OTHER ENGINE EQUIPMENT MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing internal combustion engines (except automotive gasoline and aircraft).

#### **3339 OTHER GENERAL PURPOSE MACHINERY MANUFACTURING**

This industry group comprises establishments primarily engaged in one or more of the following:

1. Pump and compressor manufacturing;
2. Material handling equipment manufacturing; and
3. All other general purpose machinery manufacturing.

#### **33391 PUMP AND COMPRESSOR MANUFACTURING**

This industry comprises establishments primarily engaged in manufacturing pumps and compressors, such as general purpose air and gas compressors, nonagricultural spraying and dusting equipment, general purpose pumps and pumping equipment (except fluid power pumps and motors), and measuring and dispensing pumps.

##### **333911 PUMP AND PUMPING EQUIPMENT MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing general purpose pumps and pumping equipment (except fluid power pumps and motors), such as reciprocating pumps, turbine pumps, centrifugal pumps, rotary pumps, diaphragm pumps, domestic water system pumps, oil well and oil field pumps, and sump pumps.

##### **333912 AIR AND GAS COMPRESSOR MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing general purpose air and gas compressors, such as reciprocating compressors, centrifugal compressors, vacuum pumps (except laboratory), and nonagricultural spraying and dusting compressors and spray gun units.

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### **333913 MEASURING AND DISPENSING PUMP MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing measuring and dispensing pumps, such as gasoline pumps and lubricating oil measuring and dispensing pumps.

### **33392 MATERIAL HANDLING EQUIPMENT MANUFACTURING**

This industry comprises establishments primarily engaged in manufacturing material handling equipment, such as elevators and moving stairs; conveyors and conveying equipment; overhead traveling cranes, hoists, and monorail systems; and industrial trucks, tractors, trailers, and stacker machinery.

### **333921 ELEVATOR AND MOVING STAIRWAY MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing elevators and moving stairways.

### **333922 CONVEYOR AND CONVEYING EQUIPMENT MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing conveyors and conveying equipment, such as gravity conveyors, trolley conveyors, tow conveyors, pneumatic tube conveyors, carousel conveyors, farm conveyors, and belt conveyors.

### **333923 OVERHEAD TRAVELING CRANE, HOIST, AND MONORAIL SYSTEM MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing overhead traveling cranes, hoists, and monorail systems.

### **333924 INDUSTRIAL TRUCK, TRACTOR, TRAILER, AND STACKER MACHINERY MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing industrial trucks, tractors, trailers, and stackers (i.e., truck-type), such as forklifts, pallet loaders and unloaders, and portable loading docks.

### **33399 ALL OTHER GENERAL PURPOSE MACHINERY MANUFACTURING**

This industry comprises establishments primarily engaged in manufacturing general purpose machinery (except ventilation, heating, air-conditioning, and commercial refrigeration equipment; metal working machinery; engines, turbines, and power transmission equipment; pumps and compressors; and material handling equipment).

### **333991 POWER-DRIVEN HANDTOOL MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing power-driven (e.g., battery, corded, and pneumatic) handtools, such as drills, screwguns, circular saws, chain saws, staplers, and nailers.

### **333992 WELDING AND SOLDERING EQUIPMENT MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing welding and soldering equipment and accessories (except transformers), such as arc, resistance, gas, plasma, laser, electron beam, and ultrasonic welding equipment; welding electrodes; coated or cored welding wire; and soldering equipment (except handheld).

### **333993 PACKAGING MACHINERY MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing packaging machinery, such as wrapping, bottling, canning, and labeling machinery.

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### **333994 INDUSTRIAL PROCESS FURNACE AND OVEN MANUFACTURING**

This U.S. Industry comprises establishments primarily engaged in manufacturing industrial process furnaces, ovens, induction and dielectric heating equipment, and kilns (except cement, chemical, and wood).

### **333995 FLUID POWER CYLINDER AND ACTUATOR MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing fluid power (i.e., hydraulic and pneumatic) cylinders and actuators.

### **333996 FLUID POWER PUMP AND MOTOR MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing fluid power (i.e., hydraulic and pneumatic) pumps and motors.

### **333997 SCALE AND BALANCE (EXCEPT LABORATORY) MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing scales and balances (except laboratory).

### **333999 ALL OTHER MISCELLANEOUS GENERAL PURPOSE MACHINERY MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing general purpose machinery (except ventilating, heating, air-conditioning, and commercial refrigeration equipment; metal working machinery; engines, turbines, and power transmission equipment; pumps and compressors; material handling equipment; power-driven handtools; welding and soldering equipment; packaging machinery; industrial process furnaces and ovens; fluid power cylinders and actuators; fluid power pumps and motors; and scales and balances).

## **334 COMPUTER AND ELECTRONIC PRODUCT MANUFACTURING**

Industries in the Computer and Electronic Product Manufacturing subsector group establishments that manufacture computers, computer peripherals, communications equipment, and similar electronic products, and establishments that manufacture components for such products. The Computer and Electronic Product Manufacturing industries have been combined in the hierarchy of NAICS because of the economic significance they have attained. Their rapid growth suggests that they will become even more important to the economies of all three North American countries in the future, and in addition their manufacturing processes are fundamentally different from the manufacturing processes of other machinery and equipment. The design and use of integrated circuits and the application of highly specialized miniaturization technologies are common elements in the production technologies of the computer and electronic subsector. Convergence of technology motivates this NAICS subsector. Digitalization of sound recording, for example, causes both the medium (the compact disc) and the equipment to resemble the technologies for recording, storing, transmitting, and manipulating data. Communications technology and equipment have been converging with computer technology. When technologically-related components are in the same sector, it makes it easier to adjust the classification for future changes, without needing to redefine its basic structure. The creation of the Computer and Electronic Product Manufacturing subsector will assist in delineating new and emerging industries because the activities that will serve as the probable sources of new industries, such as computer manufacturing and communications equipment manufacturing, or computers and audio equipment, are brought together. As new activities emerge, they are less likely therefore, to cross the subsector boundaries of the classification.

### **3341 COMPUTER AND PERIPHERAL EQUIPMENT MANUFACTURING**

This industry group comprises establishments primarily engaged in manufacturing and/or assembling electronic computers, such as mainframes, personal computers, workstations, laptops, and computer servers; and computer peripheral equipment, such as storage devices, printers, monitors, input/output devices and terminals. Computers can be analog, digital, or hybrid. Digital computers, the most common type, are devices that do all of the following:

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1. Store the processing program or programs and the data immediately necessary for the execution of the program;
  2. Can be freely programmed in accordance with the requirements of the user;
  3. Perform arithmetical computations specified by the user; and
  4. Execute, without human intervention, a processing program that requires the computer to modify its execution by logical decision during the processing run.

Analog computers are capable of simulating mathematical models and comprise at least analog, control, and programming elements.

### **33411 COMPUTER AND PERIPHERAL EQUIPMENT MANUFACTURING**

This industry comprises establishments primarily engaged in manufacturing and/or assembling electronic computers, such as mainframes, personal computers, workstations, laptops, and computer servers; and computer peripheral equipment, such as storage devices, printers, monitors, input/output devices and terminals. Computers can be analog, digital, or hybrid. Digital computers, the most common type, are devices that do all of the following:

1. store the processing program or programs and the data immediately necessary for the execution of the program;
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3. perform arithmetical computations specified by the user; and
4. execute, without human intervention, a processing program that requires the computer to modify its execution by logical decision during the processing run.

Analog computers are capable of simulating mathematical models and comprise at least analog, control, and programming elements.

### **334111 ELECTRONIC COMPUTER MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing and/or assembling electronic computers, such as mainframes, personal computers, workstations, laptops, and computer servers. Computers can be analog, digital, or hybrid. Digital computers, the most common type, are devices that do all of the following:

1. store the processing program or programs and the data immediately necessary for the execution of the program;
2. can be freely programmed in accordance with the requirements of the user;
3. perform arithmetical computations specified by the user; and
4. execute, without human intervention, a processing program that requires the computer to modify its execution by logical decision during the processing run.

Analog computers are capable of simulating mathematical models and contain at least analog, control, and programming elements. The manufacture of computers includes the assembly or integration of processors, coprocessors, memory, storage, and input/output devices into a user-programmable final product.

### **334112 COMPUTER STORAGE DEVICE MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing computer storage devices that allow the storage and retrieval of data from a phase change, magnetic, optical, or magnetic/optical media. Examples of products made by these establishments are CD-ROM drives, floppy disk drives, hard disk drives, and tape storage and backup units.



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### **334113 COMPUTER TERMINAL MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing computer terminals. Computer terminals are input/output devices that connect with a central computer for processing.

### **334119 OTHER COMPUTER PERIPHERAL EQUIPMENT MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing computer peripheral equipment (except storage devices and computer terminals).

### **3342 COMMUNICATIONS EQUIPMENT MANUFACTURING**

This industry group comprises establishments primarily engaged in one or more of the following:

1. Telephone apparatus manufacturing;
2. Radio and television broadcasting and wireless communications equipment manufacturing; and
3. Other communications equipment manufacturing.

### **33421 TELEPHONE APPARATUS MANUFACTURING**

This industry comprises establishments primarily engaged in manufacturing wire telephone and data communications equipment. These products may be standalone or board-level components of a larger system. Examples of products made by these establishments are central office switching equipment, cordless telephones (except cellular), PBX equipment, telephones, telephone answering machines, LAN modems, multi-user modems, and other data communications equipment, such as bridges, routers, and gateways.

### **334210 TELEPHONE APPARATUS MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing wire telephone and data communications equipment. These products may be stand-alone or board-level components of a larger system. Examples of products made by these establishments are central office switching equipment, cordless telephones (except cellular), PBX equipment, telephones, telephone answering machines, and data communications equipment, such as bridges, routers, and gateways.

### **33422 RADIO AND TELEVISION BROADCASTING AND WIRELESS COMMUNICATIONS EQUIPMENT MANUFACTURING**

This industry comprises establishments primarily engaged in manufacturing radio and television broadcast and wireless communications equipment. Examples of products made by these establishments are: transmitting and receiving antennas, cable television equipment, GPS equipment, pagers, cellular phones, mobile communications equipment, and radio and television studio and broadcasting equipment.

### **334220 RADIO AND TELEVISION BROADCASTING AND WIRELESS COMMUNICATIONS EQUIPMENT MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing radio and television broadcast and wireless communications equipment. Examples of products made by these establishments are transmitting and receiving antennas, cable television equipment, GPS equipment, pagers, cellular phones, mobile communications equipment, and radio and television studio and broadcasting equipment.

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### **33429 OTHER COMMUNICATIONS EQUIPMENT MANUFACTURING**

This industry comprises establishments primarily engaged in manufacturing communications equipment (except telephone apparatus, and radio and television broadcast, and wireless communications equipment).

### **334290 OTHER COMMUNICATIONS EQUIPMENT MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing communications equipment (except telephone apparatus, radio and television broadcast, and wireless communications equipment).

### **3343 AUDIO AND VIDEO EQUIPMENT MANUFACTURING**

This industry group comprises establishments primarily engaged in manufacturing electronic audio and video equipment for home entertainment, motor vehicle, public address and musical instrument amplifications. Examples of products made by these establishments are video cassette recorders, televisions, stereo equipment, speaker systems, household-type video cameras, jukeboxes, and amplifiers for musical instruments and public address systems.

### **33431 AUDIO AND VIDEO EQUIPMENT MANUFACTURING**

This industry comprises establishments primarily engaged in manufacturing electronic audio and video equipment for home entertainment, motor vehicle, public address and musical instrument amplifications. Examples of products made by these establishments are video cassette recorders, televisions, stereo equipment, speaker systems, household-type video cameras, jukeboxes, and amplifiers for musical instruments and public address systems.

### **334310 AUDIO AND VIDEO EQUIPMENT MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing electronic audio and video equipment for home entertainment, motor vehicle, public address and musical instrument amplifications. Examples of products made by these establishments are video cassette recorders, televisions, stereo equipment, speaker systems, household-type video cameras, jukeboxes, and amplifiers for musical instruments and public address systems.

### **3344 SEMICONDUCTOR AND OTHER ELECTRONIC COMPONENT MANUFACTURING**

This industry group comprises establishments primarily engaged in manufacturing semiconductors and other components for electronic applications. Examples of products made by these establishments are capacitors, resistors, microprocessors, bare and loaded printed circuit boards, electron tubes, electronic connectors, and computer modems.

### **33441 SEMICONDUCTOR AND OTHER ELECTRONIC COMPONENT MANUFACTURING**

This industry comprises establishments primarily engaged in manufacturing semiconductors and other components for electronic applications. Examples of products made by these establishments are capacitors, resistors, microprocessors, bare and loaded printed circuit boards, electron tubes, electronic connectors, and computer modems.

### **334411 ELECTRON TUBE MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing electron tubes and parts (except glass blanks). Examples of products made by these establishments are cathode ray tubes (i.e., picture tubes), klystron tubes, magnetron tubes, and traveling wave tubes.

### **334412 BARE PRINTED CIRCUIT BOARD MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing bare (i.e., rigid or flexible) printed circuit boards without mounted electronic components. These establishments print, perforate, plate, screen, etch, or photoprint interconnecting pathways for electric current on laminates.

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### **334413 SEMICONDUCTOR AND RELATED DEVICE MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing semiconductors and related solid state devices. Examples of products made by these establishments are integrated circuits, memory chips, microprocessors, diodes, transistors, solar cells and other optoelectronic devices.

### **334414 ELECTRONIC CAPACITOR MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing electronic fixed and variable capacitors and condensers.

### **334415 ELECTRONIC RESISTOR MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing electronic resistors, such as fixed and variable resistors, resistor networks, thermistors, and varistors.

### **334416 ELECTRONIC COIL, TRANSFORMER, AND OTHER INDUCTOR MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing electronic inductors, such as coils and transformers.

### **334417 ELECTRONIC CONNECTOR MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing electronic connectors, such as coaxial; cylindrical; rack and panel; pin and sleeve; printed circuit; and fiber optic.

### **334418 PRINTED CIRCUIT ASSEMBLY (ELECTRONIC ASSEMBLY) MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in loading components onto printed circuit boards or who manufacture and ship loaded printed circuit boards. Also known as printed circuit assemblies, electronics assemblies, or modules, these products are printed circuit boards that have some or all of the semiconductor and electronic components inserted or mounted and are inputs to a wide variety of electronic systems and devices.

### **334419 OTHER ELECTRONIC COMPONENT MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing electronic components (except electron tubes; bare printed circuit boards; semiconductors and related devices; electronic capacitors; electronic resistors; coils, transformers, and other inductors; connectors; and loaded printed circuit boards).

### **3345 NAVIGATIONAL, MEASURING, ELECTROMEDICAL, AND CONTROL INSTRUMENTS MANUFACTURING**

This industry group comprises establishments primarily engaged in manufacturing navigational, measuring, electromedical, and control instruments. Examples of products made by these establishments are aeronautical instruments, appliance regulators and controls (except switches), laboratory analytical instruments, navigation and guidance systems, and physical properties testing equipment.

### **33451 NAVIGATIONAL, MEASURING, ELECTROMEDICAL, AND CONTROL INSTRUMENTS MANUFACTURING**

This industry comprises establishments primarily engaged in manufacturing navigational, measuring, electromedical, and control instruments. Examples of products made by these establishments are aeronautical instruments, appliance regulators and controls (except switches), laboratory analytical instruments, navigation and guidance systems, and physical properties testing equipment.

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### **334510 ELECTROMEDICAL AND ELECTROTHERAPEUTIC APPARATUS MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing electromedical and electrotherapeutic apparatus, such as magnetic resonance imaging equipment, medical ultrasound equipment, pacemakers, hearing aids, electrocardiographs, and electromedical endoscopic equipment.

### **334511 SEARCH, DETECTION, NAVIGATION, GUIDANCE, AERONAUTICAL, AND NAUTICAL SYSTEM AND INSTRUMENT MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing search, detection, navigation, guidance, aeronautical, and nautical systems and instruments. Examples of products made by these establishments are aircraft instruments (except engine), flight recorders, navigational instruments and systems, radar systems and equipment, and sonar systems and equipment.

### **334512 AUTOMATIC ENVIRONMENTAL CONTROL MANUFACTURING FOR RESIDENTIAL, COMMERCIAL, AND APPLIANCE USE**

This U.S. industry comprises establishments primarily engaged in manufacturing automatic controls and regulators for applications, such as heating, air-conditioning, refrigeration, and appliances.

### **334513 INSTRUMENTS AND RELATED PRODUCTS MANUFACTURING FOR MEASURING, DISPLAYING, AND CONTROLLING INDUSTRIAL PROCESS VARIABLES**

This U.S. industry comprises establishments primarily engaged in manufacturing instruments and related devices for measuring, displaying, indicating, recording, transmitting, and controlling industrial process variables. These instruments measure, display, or control (i.e., monitor and analyze) industrial process variables, such as temperature, humidity, pressure, vacuum, combustion, flow, level, viscosity, density, acidity, concentration, and rotation.

### **334514 TOTALIZING FLUID METER AND COUNTING DEVICE MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing totalizing (i.e., registering) fluid meters and counting devices. Examples of products made by these establishments are gas consumption meters, water consumption meters, parking meters, taxi meters, motor vehicle gauges, and fare collection equipment.

### **334515 INSTRUMENT MANUFACTURING FOR MEASURING AND TESTING ELECTRICITY AND ELECTRICAL SIGNALS**

This U.S. industry comprises establishments primarily engaged in manufacturing instruments for measuring and testing the characteristics of electricity and electrical signals. Examples of products made by these establishments are circuit and continuity testers, volt meters, ohm meters, wattmeters, multimeters, and semiconductor test equipment.

### **334516 ANALYTICAL LABORATORY INSTRUMENT MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing instruments and instrumentation systems for laboratory analysis of the chemical or physical composition or concentration of samples of solid, fluid, gaseous, or composite material.

### **334517 IRRADIATION APPARATUS MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing irradiation apparatus and tubes for applications, such as medical diagnostic, medical therapeutic, industrial, and research and scientific evaluation. Irradiation can take the form of beta-rays, gamma-rays, X-rays, or other ionizing radiation.

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### **334518 WATCH, CLOCK, AND PART MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing and/or assembling: clocks; watches; timing mechanisms for clockwork operated devices; time clocks; time and date recording devices; and clock and watch parts (except crystals), such as springs, jewels, and modules.

### **334519 OTHER MEASURING AND CONTROLLING DEVICE MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing measuring and controlling devices (except search, detection, navigation, guidance, aeronautical, and nautical instruments and systems; automatic environmental controls for residential, commercial, and appliance use; instruments for measurement, display, and control of industrial process variables; totalizing fluid meters and counting devices; instruments for measuring and testing electricity and electrical signals; analytical laboratory instruments; watches, clocks, and parts; irradiation equipment; and electromedical and electrotherapeutic apparatus).

### **3346 MANUFACTURING AND REPRODUCING MAGNETIC AND OPTICAL MEDIA**

This industry group comprises establishments primarily engaged in:

1. Manufacturing optical and magnetic media, such as blank audio tape, blank video tape, and blank diskettes and/or
2. Mass duplicating (i.e., making copies) audio, video, software, and other data on magnetic, optical, and similar media.

### **33461 MANUFACTURING AND REPRODUCING MAGNETIC AND OPTICAL MEDIA**

This industry comprises establishments primarily engaged in:

1. manufacturing optical and magnetic media, such as blank audio tape, blank video tape, and blank diskettes and/or;
2. mass duplicating (i.e., making copies) audio, video, software, and other data on magnetic, optical, and similar media.

### **334611 SOFTWARE REPRODUCING**

This U.S. industry comprises establishments primarily engaged in mass reproducing computer software. These establishments do not generally develop any software, they mass reproduce data and programs on magnetic media, such as diskettes, tapes, or cartridges. Establishments in this industry mass reproduce products, such as CD-ROMs and game cartridges.

### **334612 PRERECORDED COMPACT DISC (EXCEPT SOFTWARE), TAPE, AND RECORD REPRODUCING**

This U.S. industry comprises establishments primarily engaged in mass reproducing audio and video material on magnetic or optical media. Examples of products mass reproduced by these establishments are audio compact discs, prerecorded audio and video cassettes, and laser discs.

### **334613 MAGNETIC AND OPTICAL RECORDING MEDIA MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing magnetic and optical recording media, such as blank magnetic tape, blank diskettes, blank optical discs, hard drive media, and blank magnetic tape cassettes.

### **335 ELECTRICAL EQUIPMENT, APPLIANCE, AND COMPONENT MANUFACTURING**

Industries in the Electrical Equipment, Appliance, and Component Manufacturing subsector manufacture products that generate, distribute and use electrical power. Electric Lighting Equipment Manufacturing establishments produce electric lamp bulbs, lighting fixtures, and parts. Household

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Appliance Manufacturing establishments make both small and major electrical appliances and parts. Electrical Equipment Manufacturing establishments make goods, such as electric motors, generators, transformers, and switchgear apparatus. Other Electrical Equipment and Component Manufacturing establishments make devices for storing electrical power (e.g., batteries), for transmitting electricity (e.g., insulated wire), and wiring devices (e.g., electrical outlets, fuse boxes, and light switches).

### **3351 ELECTRIC LIGHTING EQUIPMENT MANUFACTURING**

This industry group comprises establishments primarily engaged in one or more of the following:

1. Electric lamp bulb and part manufacturing and/or
2. Lighting fixture manufacturing.

#### **33511 ELECTRIC LAMP BULB AND PART MANUFACTURING**

This industry comprises establishments primarily engaged in manufacturing electric light bulbs and tubes, and parts and components (except glass blanks for electric light bulbs).

##### **335110 ELECTRIC LAMP BULB AND PART MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing electric light bulbs and tubes, and parts and components (except glass blanks for electric light bulbs).

#### **33512 LIGHTING FIXTURE MANUFACTURING**

This industry comprises establishments primarily engaged in manufacturing electric lighting fixtures (except vehicular), nonelectric lighting equipment, lamp shades (except glass and plastics), and lighting fixture components (except current-carrying wiring devices).

##### **335121 RESIDENTIAL ELECTRIC LIGHTING FIXTURE MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing fixed or portable residential electric lighting fixtures and lamp shades of metal, paper, or textiles. Residential electric lighting fixtures include those for use both inside and outside the residence.

##### **335122 COMMERCIAL, INDUSTRIAL, AND INSTITUTIONAL ELECTRIC LIGHTING FIXTURE MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing commercial, industrial, and institutional electric lighting fixtures.

##### **335129 OTHER LIGHTING EQUIPMENT MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing electric lighting fixtures (except residential, commercial, industrial, institutional, and vehicular) and nonelectric lighting equipment.

### **3352 HOUSEHOLD APPLIANCE MANUFACTURING**

This industry group comprises establishments primarily engaged in one or more of the following:

1. Small electrical appliance manufacturing and/or
2. Major appliance manufacturing.

#### **33521 SMALL ELECTRICAL APPLIANCE MANUFACTURING**

This industry comprises establishments primarily engaged in manufacturing small electric appliances and electric housewares, household-type fans, household-type vacuum cleaners, and other electric household-type floor care machines.

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### **335211 ELECTRIC HOUSEWARES AND HOUSEHOLD FAN MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing small electric appliances and electric housewares for heating, cooking, and other purposes, and electric household-type fans (except attic fans).

### **335212 HOUSEHOLD VACUUM CLEANER MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing electric vacuum cleaners, electric floor waxing machines, and other electric floor care machines typically for household use.

### **33522 MAJOR APPLIANCE MANUFACTURING**

This industry comprises establishments primarily engaged in manufacturing household-type cooking appliances, household-type laundry equipment, household-type refrigerators, upright and chest freezers, and other electrical and nonelectrical major household-type appliances, such as dishwashers, water heaters, and garbage disposal units.

### **335221 HOUSEHOLD COOKING APPLIANCE MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing household-type electric and nonelectric cooking equipment (except small electric appliances and electric housewares).

### **335222 HOUSEHOLD REFRIGERATOR AND HOME FREEZER MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing household-type refrigerators and upright and chest freezers.

### **335224 HOUSEHOLD LAUNDRY EQUIPMENT MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing household-type laundry equipment.

### **335228 OTHER MAJOR HOUSEHOLD APPLIANCE MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing electric and non-electric major household-type appliances (except cooking equipment, refrigerators, upright and chest freezers, and household-type laundry equipment).

### **3353 ELECTRICAL EQUIPMENT MANUFACTURING**

This industry group comprises establishments primarily engaged in manufacturing power, distribution, and specialty transformers; electric motors, generators, and motor generator sets; switchgear and switchboard apparatus; relays; and industrial controls.

### **33531 ELECTRICAL EQUIPMENT MANUFACTURING**

This industry comprises establishments primarily engaged in manufacturing power, distribution, and specialty transformers; electric motors, generators, and motor generator sets; switchgear and switchboard apparatus; relays; and industrial controls.

### **335311 POWER, DISTRIBUTION, AND SPECIALTY TRANSFORMER MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing power, distribution, and specialty transformers (except electronic components). Industrial-type and consumer-type transformers in this industry vary (e.g., step up or step down) voltage but do not convert alternating to direct or direct to alternating current.

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### **335312 MOTOR AND GENERATOR MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing electric motors (except internal combustion engine starting motors), power generators (except battery charging alternators for internal combustion engines), and motor generator sets (except turbine generator set units). This industry includes establishments rewinding armatures on a factory basis.

### **335313 SWITCHGEAR AND SWITCHBOARD APPARATUS MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing switchgear and switchboard apparatus.

### **335314 RELAY AND INDUSTRIAL CONTROL MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing relays, motor starters and controllers, and other industrial controls and control accessories.

### **3359 OTHER ELECTRICAL EQUIPMENT AND COMPONENT MANUFACTURING**

This industry group comprises establishments primarily engaged in manufacturing electrical equipment and components (except electric lighting equipment, household-type appliances, transformers, switchgear, relays, motors, and generators).

### **33591 BATTERY MANUFACTURING**

This industry comprises establishments primarily engaged in manufacturing primary and storage batteries.

### **335911 STORAGE BATTERY MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing storage batteries.

### **335912 PRIMARY BATTERY MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing wet or dry primary batteries.

### **33592 COMMUNICATION AND ENERGY WIRE AND CABLE MANUFACTURING**

This industry comprises establishments insulating fiber-optic cable, and manufacturing insulated nonferrous wire and cable from nonferrous wire drawn in other establishments.

### **335921 FIBER OPTIC CABLE MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing insulated fiber-optic cable from purchased fiber-optic strand.

### **335929 OTHER COMMUNICATION AND ENERGY WIRE MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing insulated wire and cable of nonferrous metals from purchased wire.

### **33593 WIRING DEVICE MANUFACTURING**

This industry comprises establishments primarily engaged in manufacturing current-carrying wiring devices and noncurrent-carrying wiring devices for wiring electrical circuits.

### **335931 CURRENT-CARRYING WIRING DEVICE MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing current-carrying wiring devices.



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### **335932 NONCURRENT-CARRYING WIRING DEVICE MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing noncurrent-carrying wiring devices.

### **33599 ALL OTHER ELECTRICAL EQUIPMENT AND COMPONENT MANUFACTURING**

This industry comprises establishments primarily engaged in manufacturing electrical equipment (except electric lighting equipment, household-type appliances, transformers, motors, generators, switchgear, relays, industrial controls, batteries, communication and energy wire and cable, and wiring devices).

### **335991 CARBON AND GRAPHITE PRODUCT MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing carbon, graphite, and metal-graphite brushes and brush stock; carbon or graphite electrodes for thermal and electrolytic uses; carbon and graphite fibers; and other carbon, graphite, and metal-graphite products.

### **335999 ALL OTHER MISCELLANEOUS ELECTRICAL EQUIPMENT AND COMPONENT MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing industrial and commercial electric apparatus and other equipment (except lighting equipment, household appliances, transformers, motors, generators, switchgear, relays, industrial controls, batteries, communication and energy wire and cable, wiring devices, and carbon and graphite products). This industry includes power converters (i.e., AC to DC and DC to AC), power supplies, surge suppressors, and similar equipment for industrial-type and consumer-type equipment.

### **336 TRANSPORTATION EQUIPMENT MANUFACTURING**

Industries in the Transportation Equipment Manufacturing subsector produce equipment for transporting people and goods. Transportation equipment is a type of machinery. An entire subsector is devoted to this activity because of the significance of its economic size in all three North American countries.

Establishments in this subsector utilize production processes similar to those of other machinery manufacturing establishments - bending, forming, welding, machining, and assembling metal or plastic parts into components and finished products. However, the assembly of components and subassemblies and their further assembly into finished vehicles tends to be a more common production process in this subsector than in the Machinery Manufacturing subsector.

NAICS has industry groups for the manufacture of equipment for each mode of transport - road, rail, air and water. Parts for motor vehicles warrant a separate industry group because of their importance and because parts manufacture requires less assembly, and the establishments that manufacture only parts are not as vertically integrated as those that make complete vehicles.

Land use motor vehicle equipment not designed for highway operation (e.g., agricultural equipment, construction equipment, and materials handling equipment) is classified in the appropriate NAICS subsector based on the type and use of the equipment.

### **3361 MOTOR VEHICLE MANUFACTURING**

This industry group comprises establishments primarily engaged in:

1. Automobile and light duty motor vehicle manufacturing and/or
2. Heavy duty truck manufacturing.

### **33611 AUTOMOBILE AND LIGHT DUTY MOTOR VEHICLE MANUFACTURING**

This industry comprises establishments primarily engaged in:

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1. manufacturing complete automobile and light duty motor vehicles (i.e., body and chassis or unibody) or
  2. manufacturing chassis only.

### **336111 AUTOMOBILE MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in:

1. manufacturing complete automobiles (i.e., body and chassis or unibody) or
2. manufacturing automobile chassis only.

### **336112 LIGHT TRUCK AND UTILITY VEHICLE MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in:

1. manufacturing complete light trucks and utility vehicles (i.e., body and chassis) or
2. manufacturing light truck and utility vehicle chassis only.

Vehicles made include light duty vans, pick-up trucks, minivans, and sport utility vehicles.

### **33612 HEAVY DUTY TRUCK MANUFACTURING**

This industry comprises establishments primarily engaged in:

1. manufacturing heavy duty truck chassis and assembling complete heavy duty trucks, buses, heavy duty motor homes, and other special purpose heavy duty motor vehicles for highway use or
2. manufacturing heavy duty truck chassis only.

### **336120 HEAVY DUTY TRUCK MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in:

1. manufacturing heavy duty truck chassis and assembling complete heavy duty trucks, buses, heavy duty motor homes, and other special purpose heavy duty motor vehicles for highway use or
2. manufacturing heavy duty truck chassis only.

### **3362 MOTOR VEHICLE BODY AND TRAILER MANUFACTURING**

This industry group comprises establishments primarily engaged in:

1. Manufacturing motor vehicle bodies and cabs or
2. Manufacturing truck, automobile and utility trailers, truck trailer chassis, detachable trailer bodies, and detachable trailer chassis.

The products made may be sold separately or may be assembled on purchased chassis and sold as complete vehicles.

Motor homes are units where the motor and the living quarters are contained in the same integrated unit, while travel trailers are designed to be towed by a motor unit, such as an automobile or a light truck.

### **33621 MOTOR VEHICLE BODY AND TRAILER MANUFACTURING**

This industry comprises establishments primarily engaged in:

1. manufacturing motor vehicle bodies and cabs or
2. manufacturing truck, automobile and utility trailers, truck trailer chassis, detachable trailer bodies, and detachable trailer chassis.

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The products made may be sold separately or may be assembled on purchased chassis and sold as complete vehicles.

Motor homes are units where the motor and the living quarters are contained in the same integrated unit, while travel trailers are designed to be towed by a motor unit, such as an automobile or a light truck.

### **336211 MOTOR VEHICLE BODY MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing truck and bus bodies and cabs and automobile bodies. The products made may be sold separately or may be assembled on purchased chassis and sold as complete vehicles.

### **336212 TRUCK TRAILER MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing truck trailers, truck trailer chassis, cargo container chassis, detachable trailer bodies, and detachable trailer chassis for sale separately.

### **336213 MOTOR HOME MANUFACTURING**

This U.S. industry group comprises establishments primarily engaged in:

1. manufacturing motor homes on purchased chassis and/or
2. manufacturing conversion vans on an assembly line basis.

Motor homes are units where the motor and the living quarters are integrated in the same unit.

### **336214 TRAVEL TRAILER AND CAMPER MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in one or more of the following:

1. manufacturing travel trailers and campers designed to attach to motor vehicles;
2. manufacturing pickup coaches (i.e., campers) and caps (i.e., covers) for mounting on pickup trucks; and
3. manufacturing automobile, utility, and light-truck trailers.

Travel trailers do not have their own motor but are designed to be towed by a motor unit, such as an automobile or a light truck.

### **3363 MOTOR VEHICLE PARTS MANUFACTURING**

This industry group comprises establishments primarily engaged in:

1. Motor vehicle gasoline engine and engine parts manufacturing;
2. Motor vehicle electrical and electronic equipment manufacturing;
3. Motor vehicle steering and suspension components (except spring) manufacturing;
4. Motor vehicle brake system manufacturing;
5. Motor vehicle transmission and power train parts manufacturing;
6. Motor vehicle seating and interior trim manufacturing;
7. Motor vehicle metal stamping; and/or
8. Other motor vehicle parts manufacturing.

### **33631 MOTOR VEHICLE GASOLINE ENGINE AND ENGINE PARTS MANUFACTURING**

This industry comprises establishments primarily engaged in manufacturing and/or rebuilding motor vehicle gasoline engines, and engine parts, whether or not for vehicular use.

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### **336311 CARBURETOR, PISTON, PISTON RING, AND VALVE MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing and/or rebuilding carburetors, pistons, piston rings, and engine intake and exhaust valves.

### **336312 GASOLINE ENGINE AND ENGINE PARTS MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing and/or rebuilding gasoline motor vehicle engines and gasoline motor vehicle engine parts, excluding carburetors, pistons, piston rings, and valves.

### **33632 MOTOR VEHICLE ELECTRICAL AND ELECTRONIC EQUIPMENT MANUFACTURING**

This industry comprises establishments primarily engaged in:

1. manufacturing vehicular lighting and/or
2. manufacturing and/or rebuilding motor vehicle electrical and electronic equipment.

The products made can be used for all types of transportation equipment (i.e., aircraft, automobiles, trains, and ships).

### **336321 VEHICULAR LIGHTING EQUIPMENT MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing vehicular lighting fixtures.

### **336322 OTHER MOTOR VEHICLE ELECTRICAL AND ELECTRONIC EQUIPMENT MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing and/or rebuilding electrical and electronic equipment for motor vehicles and internal combustion engines.

### **33633 MOTOR VEHICLE STEERING AND SUSPENSION COMPONENTS (EXCEPT SPRING) MANUFACTURING**

This industry comprises establishments primarily engaged in manufacturing and/or rebuilding motor vehicle steering mechanisms and suspension components (except springs).

### **336330 MOTOR VEHICLE STEERING AND SUSPENSION COMPONENTS (EXCEPT SPRING) MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing and/or rebuilding motor vehicle steering mechanisms and suspension components (except springs).

### **33634 MOTOR VEHICLE BRAKE SYSTEM MANUFACTURING**

This industry comprises establishments primarily engaged in manufacturing and/or rebuilding motor vehicle brake systems and related components.

### **336340 MOTOR VEHICLE BRAKE SYSTEM MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing and/or rebuilding motor vehicle brake systems and related components.

### **33635 MOTOR VEHICLE TRANSMISSION AND POWER TRAIN PARTS MANUFACTURING**

This industry comprises establishments primarily engaged in manufacturing and/or rebuilding motor vehicle transmission and power train parts.

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### **336350 MOTOR VEHICLE TRANSMISSION AND POWER TRAIN PARTS MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing and/or rebuilding motor vehicle transmission and power train parts.

### **33636 MOTOR VEHICLE SEATING AND INTERIOR TRIM MANUFACTURING**

This industry comprises establishments primarily engaged in manufacturing motor vehicle seating, seats, seat frames, seat belts, and interior trimmings.

### **336360 MOTOR VEHICLE SEATING AND INTERIOR TRIM MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing motor vehicle seating, seats, seat frames, seat belts, and interior trimmings.

### **33637 MOTOR VEHICLE METAL STAMPING**

This industry comprises establishments primarily engaged in manufacturing motor vehicle stampings, such as fenders, tops, body parts, trim, and molding.

### **336370 MOTOR VEHICLE METAL STAMPING**

This U.S. industry comprises establishments primarily engaged in manufacturing motor vehicle stampings, such as fenders, tops, body parts, trim, and molding.

### **33639 OTHER MOTOR VEHICLE PARTS MANUFACTURING**

This industry comprises establishments primarily engaged in manufacturing and/or rebuilding motor vehicle parts and accessories (except motor vehicle gasoline engines and engine parts, motor vehicle electrical and electronic equipment, motor vehicle steering and suspension components, motor vehicle brake systems, motor vehicle transmission and power train parts, motor vehicle seating and interior trim, and motor vehicle stampings).

### **336391 MOTOR VEHICLE AIR-CONDITIONING MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing air-conditioning systems and compressors for motor vehicles, such as automobiles, trucks, buses, aircraft, farm machinery, construction machinery, and other related vehicles.

### **336399 ALL OTHER MOTOR VEHICLE PARTS MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing and/or rebuilding motor vehicle parts and accessories (except motor vehicle gasoline engines and engine parts, motor vehicle electrical and electronic equipment, motor vehicle steering and suspension components, motor vehicle brake systems, motor vehicle transmission and power train parts, motor vehicle seating and interior trim, motor vehicle stampings, and motor vehicle air-conditioning systems and compressors).

### **3364 AEROSPACE PRODUCT AND PARTS MANUFACTURING**

This industry group comprises establishments primarily engaged in one or more of the following:

1. Manufacturing complete aircraft, missiles, or space vehicles;
2. Manufacturing aerospace engines, propulsion units, auxiliary equipment or parts;
3. Developing and making prototypes of aerospace products;
4. Aircraft conversion (i.e., major modifications to systems); and
5. Complete aircraft or propulsion systems overhaul and rebuilding (i.e., periodic restoration of aircraft to original design specifications).

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### **33641 AEROSPACE PRODUCT AND PARTS MANUFACTURING**

This industry comprises establishments primarily engaged in one or more of the following:

1. manufacturing complete aircraft, missiles, or space vehicles;
2. manufacturing aerospace engines, propulsion units, auxiliary equipment or parts;
3. developing and making prototypes of aerospace products;
4. aircraft conversion (i.e., major modifications to systems); and
5. complete aircraft or propulsion systems overhaul and rebuilding (i.e., periodic restoration of aircraft to original design specifications).

### **336411 AIRCRAFT MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in one or more of the following:

1. manufacturing or assembling complete aircraft;
2. developing and making aircraft prototypes;
3. aircraft conversion (i.e., major modifications to systems); and
4. complete aircraft overhaul and rebuilding (i.e., periodic restoration of aircraft to original design specifications).

### **336412 AIRCRAFT ENGINE AND ENGINE PARTS MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in one or more of the following:

1. manufacturing aircraft engines and engine parts;
2. developing and making prototypes of aircraft engines and engine parts;
3. aircraft propulsion system conversion (i.e., major modifications to systems); and
4. aircraft propulsion systems overhaul and rebuilding (i.e., periodic restoration of aircraft propulsion system to original design specifications).

### **336413 OTHER AIRCRAFT PARTS AND AUXILIARY EQUIPMENT MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in:

1. manufacturing aircraft parts or auxiliary equipment (except engines and aircraft fluid power subassemblies) and/or
2. developing and making prototypes of aircraft parts and auxiliary equipment.

Auxiliary equipment includes such items as crop dusting apparatus, armament racks, inflight refueling equipment, and external fuel tanks.

### **336414 GUIDED MISSILE AND SPACE VEHICLE MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in:

1. manufacturing complete guided missiles and space vehicles and/or
2. developing and making prototypes of guided missile or space vehicles.

### **336415 GUIDED MISSILE AND SPACE VEHICLE PROPULSION UNIT AND PROPULSION UNIT PARTS MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in:

1. manufacturing guided missile and/or space vehicle propulsion units and propulsion unit parts and/or

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2. developing and making prototypes of guided missile and space vehicle propulsion units and propulsion unit parts.

### **336419 OTHER GUIDED MISSILE AND SPACE VEHICLE PARTS AND AUXILIARY EQUIPMENT MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in:

1. manufacturing guided missile and space vehicle parts and auxiliary equipment (except guided missile and space vehicle propulsion units and propulsion unit parts) and/or
2. developing and making prototypes of guided missile and space vehicle parts and auxiliary equipment.

### **3365 RAILROAD ROLLING STOCK MANUFACTURING**

This industry group comprises establishments primarily engaged in one or more of the following:

1. Manufacturing and/or rebuilding locomotives, locomotive frames, and parts;
2. Manufacturing railroad, street, and rapid transit cars and car equipment for operation on rails for freight and passenger service; and
3. Manufacturing rail layers, ballast distributors, rail tamping equipment, and other railway track maintenance equipment.

### **33651 RAILROAD ROLLING STOCK MANUFACTURING**

This industry comprises establishments primarily engaged in one or more of the following:

1. manufacturing and/or rebuilding locomotives, locomotive frames, and parts;
2. manufacturing railroad, street, and rapid transit cars and car equipment for operation on rails for freight and passenger service; and
3. manufacturing rail layers, ballast distributors, rail tamping equipment, and other railway track maintenance equipment.

### **336510 RAILROAD ROLLING STOCK MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in one or more of the following:

1. manufacturing and/or rebuilding locomotives, locomotive frames, and parts;
2. manufacturing railroad, street, and rapid transit cars and car equipment for operation on rails for freight and passenger service; and
3. manufacturing rail layers, ballast distributors, rail tamping equipment, and other railway track maintenance equipment.

### **3366 SHIP AND BOAT BUILDING**

This industry group comprises establishments primarily engaged in operating shipyards or boat yards (i.e., ship or boat manufacturing facilities). Shipyards are fixed facilities with drydocks and fabrication equipment capable of building a ship, defined as watercraft typically suitable or intended for other than personal or recreational use. Boats are defined as watercraft typically suitable or intended for personal use. Activities of shipyards include the construction of ships, their repair, conversion and alteration, the production of prefabricated ship and barge sections, and specialized services, such as ship scaling.

### **33661 SHIP AND BOAT BUILDING**

This industry comprises establishments primarily engaged in operating shipyards or boat yards (i.e., ship or boat manufacturing facilities). Shipyards are fixed facilities with drydocks and fabrication equipment capable of building a ship, defined as watercraft typically suitable or intended for

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other than personal or recreational use. Boats are defined as watercraft typically suitable or intended for personal use. Activities of shipyards include the construction of ships, their repair, conversion and alteration, the production of prefabricated ship and barge sections, and specialized services, such as ship scaling.

### **336611 SHIP BUILDING AND REPAIRING**

This U.S. industry comprises establishments primarily engaged in operating a shipyard. Shipyards are fixed facilities with drydocks and fabrication equipment capable of building a ship, defined as watercraft typically suitable or intended for other than personal or recreational use. Activities of shipyards include the construction of ships, their repair, conversion and alteration, the production of prefabricated ship and barge sections, and specialized services, such as ship scaling.

### **336612 BOAT BUILDING**

This U.S. industry comprises establishments primarily engaged in building boats. Boats are defined as watercraft not built in shipyards and typically of the type suitable or intended for personal use.

### **3369 OTHER TRANSPORTATION EQUIPMENT MANUFACTURING**

This industry group comprises establishments primarily engaged in manufacturing transportation equipment (except motor vehicles and parts, aerospace products and parts, railroad rolling stock, ship building, and boat manufacturing).

### **33699 OTHER TRANSPORTATION EQUIPMENT MANUFACTURING**

This industry comprises establishments primarily engaged in manufacturing motorcycles, bicycles, metal tricycles, complete military armored vehicles, tanks, self-propelled weapons, vehicles pulled by draft animals, and other transportation equipment (except motor vehicles, boats, ships, railroad rolling stock, and aerospace products), including parts thereof.

### **336991 MOTORCYCLE, BICYCLE, AND PARTS MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing motorcycles, bicycles, tricycles and similar equipment, and parts.

### **336992 MILITARY ARMORED VEHICLE, TANK, AND TANK COMPONENT MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing complete military armored vehicles, combat tanks, specialized components for combat tanks, and self-propelled weapons.

### **336999 ALL OTHER TRANSPORTATION EQUIPMENT MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing transportation equipment (except motor vehicles, motor vehicle parts, boats, ships, railroad rolling stock, aerospace products, motorcycles, bicycles, and armored vehicles and tanks).

### **337 FURNITURE AND RELATED PRODUCT MANUFACTURING**

Industries in the Furniture and Related Product Manufacturing subsector make furniture and related articles, such as mattresses, window blinds, cabinets, and fixtures. The processes used in the manufacture of furniture include the cutting, bending, molding, laminating, and assembly of such materials as wood, metal, glass, plastics, and rattan. However, the production process for



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furniture is not solely bending metal, cutting and shaping wood, or extruding and molding plastics. Design and fashion trends play an important part in the production of furniture. The integrated design of the article for both esthetic and functional qualities is also a major part of the process of manufacturing furniture. Design services may be performed by the furniture establishment's work force or may be purchased from industrial designers.

Furniture may be made of any material, but the most common ones used in North America are metal and wood. Furniture manufacturing establishments may specialize in making articles primarily from one material. Some of the equipment required to make a wooden table, for example, is different from that used to make a metal one. However, furniture is usually made from several materials. A wooden table might have metal brackets, and a wooden chair a fabric or plastics seat. Therefore, in NAICS, furniture initially is classified based on the type of furniture (application for which it is designed) rather than the material used. For example, an upholstered sofa is treated as household furniture, although it may also be used in hotels or offices.

When classifying furniture according to the component material from which it is made, furniture made from more than one material is classified based on the material used in the frame, or if there is no frame, the predominant component material. Upholstered household furniture (excluding kitchen and dining room chairs with upholstered seats) is classified without regard to the frame material. Kitchen or dining room chairs with upholstered seats are classified according to the frame material.

Furniture may be made on a stock or custom basis and may be shipped assembled or unassembled (i.e., knockdown). The manufacture of furniture parts and frames is included in this subsector.

Some of the processes used in furniture manufacturing are similar to processes that are used in other segments of manufacturing. For example, cutting and assembly occurs in the production of wood trusses that are classified in Subsector 321, Wood Product Manufacturing. However, the multiple processes that distinguish wood furniture manufacturing from wood product manufacturing warrant inclusion of wooden furniture manufacturing in the Furniture and Related Product Manufacturing subsector. Metal furniture manufacturing uses techniques that are also employed in the manufacturing of roll-formed products classified in Subsector 332, Fabricated Metal Product Manufacturing. The molding process for plastics furniture is similar to the molding of other plastics products. However, plastics furniture producing establishments tend to specialize in furniture.

NAICS attempts to keep furniture manufacturing together, but there are two notable exceptions: seating for transportation equipment and laboratory and hospital furniture. These exceptions are related to that fact that some of the aspects of the production process for these products, primarily the design, are highly integrated with that of other manufactured goods, namely motor vehicles and health equipment.

### **3371 HOUSEHOLD AND INSTITUTIONAL FURNITURE AND KITCHEN CABINET MANUFACTURING**

This industry group comprises establishments manufacturing household-type furniture, such as living room, kitchen and bedroom furniture and institutional (i.e., public building) furniture, such as furniture for schools, theaters, and churches.

#### **33711 WOOD KITCHEN CABINET AND COUNTERTOP MANUFACTURING**

This industry comprises establishments primarily engaged in manufacturing wood or plastics laminated on wood kitchen cabinets, bathroom vanities, and countertops (except freestanding). The cabinets and counters may be made on a stock or custom basis.

##### **337110 WOOD KITCHEN CABINET AND COUNTERTOP MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing wood or plastics laminated on wood kitchen cabinets, bathroom vanities, and countertops (except freestanding). The cabinets and counters may be made on a stock or custom basis.

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### **33712 HOUSEHOLD AND INSTITUTIONAL FURNITURE MANUFACTURING**

This industry comprises establishments primarily engaged in manufacturing household-type and public building furniture (i.e., library, school, theater, and church furniture). The furniture may be made on a stock or custom basis and may be assembled or unassembled (i.e., knockdown).

#### **337121 UPHOLSTERED HOUSEHOLD FURNITURE MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing upholstered household-type furniture. The furniture may be made on a stock or custom basis.

#### **337122 NONUPHOLSTERED WOOD HOUSEHOLD FURNITURE MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing nonupholstered wood household-type furniture and freestanding cabinets (except television, radio, and sewing machine cabinets). The furniture may be made on a stock or custom basis and may be assembled or unassembled (i.e., knockdown).

#### **337124 METAL HOUSEHOLD FURNITURE MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing metal household-type furniture and freestanding cabinets. The furniture may be made on a stock or custom basis and may be assembled or unassembled (i.e., knockdown).

#### **337125 HOUSEHOLD FURNITURE (EXCEPT WOOD AND METAL) MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing household-type furniture of materials other than wood or metal, such as plastics, reed, rattan, wicker, and fiberglass. The furniture may be made on a stock or custom basis and may be assembled or unassembled (i.e., knockdown).

#### **337127 INSTITUTIONAL FURNITURE MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing institutional-type furniture (e.g., library, school, theater, and church furniture). The furniture may be made on a stock or custom basis and may be assembled or unassembled (i.e., knockdown).

#### **337129 WOOD TELEVISION, RADIO, AND SEWING MACHINE CABINET MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing wood cabinets used as housings by television, stereo, loudspeaker, and sewing machine manufacturers.

### **3372 OFFICE FURNITURE (INCLUDING FIXTURES) MANUFACTURING**

This industry group comprises establishments primarily engaged in manufacturing office furniture and/or office and store fixtures. The furniture may be made on a stock or custom basis and may be assembled or unassembled (i.e., knockdown).

#### **33721 OFFICE FURNITURE (INCLUDING FIXTURES) MANUFACTURING**

This industry comprises establishments primarily engaged in manufacturing office furniture and/or office and store fixtures. The furniture may be made on a stock or custom basis and may be assembled or unassembled (i.e., knockdown).

##### **337211 WOOD OFFICE FURNITURE MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing wood office-type furniture. The furniture may be made on a stock or custom basis and may be assembled or unassembled (i.e., knockdown).

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### **337212 CUSTOM ARCHITECTURAL WOODWORK AND MILLWORK MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing custom designed interiors consisting of architectural woodwork and fixtures utilizing wood, wood products, and plastics laminates. All of the industry output is made to individual order on a job shop basis and requires skilled craftsmen as a labor input. A job might include custom manufacturing of display fixtures, gondolas, wall shelving units, entrance and window architectural detail, sales and reception counters, wall paneling, and matching furniture.

### **337214 OFFICE FURNITURE (EXCEPT WOOD) MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing nonwood office-type furniture. The furniture may be made on a stock or custom basis and may be assembled or unassembled (i.e., knockdown).

### **337215 SHOWCASE, PARTITION, SHELVING, AND LOCKER MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing wood and nonwood office and store fixtures, shelving, lockers, frames, partitions, and related fabricated products of wood and nonwood materials, including plastics laminated fixture tops. The products are made on a stock basis and may be assembled or unassembled (i.e., knockdown). Establishments exclusively making furniture parts (e.g., frames) are included in this industry.

### **337211 WOOD OFFICE FURNITURE MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing wood office-type furniture. The furniture may be made on a stock or custom basis and may be assembled or unassembled (i.e., knockdown).

### **337214 OFFICE FURNITURE (EXCEPT WOOD) MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing nonwood office-type furniture. The furniture may be made on a stock or custom basis and may be assembled or unassembled (i.e., knockdown).

### **3379 OTHER FURNITURE RELATED PRODUCT MANUFACTURING**

This industry group comprises establishments manufacturing furniture related products, such as mattresses, blinds, and shades.

### **33791 MATTRESS MANUFACTURING**

This industry comprises establishments primarily engaged in manufacturing innerspring, box spring, and noninnerspring mattresses, including mattresses for waterbeds.

### **337910 MATTRESS MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing innerspring, box spring, and noninnerspring mattresses, including mattresses for waterbeds.

### **33792 BLIND AND SHADE MANUFACTURING**

This industry comprises establishments primarily engaged in manufacturing one or more of the following: venetian blinds, other window blinds, shades; curtain and drapery rods, poles; and/or curtain and drapery fixtures. The blinds and shades may be made on a stock or custom basis and may be made of any material.

### **337920 BLIND AND SHADE MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing one or more of the following:

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1. venetian blinds, other window blinds, shades;
  2. curtain and drapery rods, poles; and/or
  3. curtain and drapery fixtures.

The blinds and shades may be made on a stock or custom basis and may be made of any material.

### **339 MISCELLANEOUS MANUFACTURING**

Industries in the Miscellaneous Manufacturing subsector make a wide range of products that cannot readily be classified in specific NAICS subsectors in manufacturing. Processes used by these establishments vary significantly, both among and within industries. For example, a variety of manufacturing processes are used in manufacturing sporting and athletic goods that include products, such as tennis racquets and golf balls. The processes for these products differ from each other, and the processes differ significantly from the fabrication processes used in making dolls or toys, the melting and shaping of precious metals to make jewelry, and the bending, forming, and assembly used in making medical products.

The industries in this subsector are defined by what is made rather than how it is made. Although individual establishments might be appropriately classified elsewhere in the NAICS structure, for historical continuity, these product-based industries were maintained. In most cases, no one process or material predominates for an industry.

Establishments in this subsector manufacture products as diverse as medical equipment and supplies, jewelry, sporting goods, toys, and office supplies.

#### **3391 MEDICAL EQUIPMENT AND SUPPLIES MANUFACTURING**

This industry group comprises establishments primarily engaged in manufacturing medical equipment and supplies. Examples of products made by these establishments are laboratory apparatus and furniture, surgical and medical instruments, surgical appliances and supplies, dental equipment and supplies, orthodontic goods, dentures, and orthodontic appliances.

##### **33911 MEDICAL EQUIPMENT AND SUPPLIES MANUFACTURING**

This industry comprises establishments primarily engaged in manufacturing medical equipment and supplies. Examples of products made by these establishments are laboratory apparatus and furniture, surgical and medical instruments, surgical appliances and supplies, dental equipment and supplies, orthodontic goods, dentures, and orthodontic appliances.

###### **339111 LABORATORY APPARATUS AND FURNITURE MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing laboratory apparatus and laboratory and hospital furniture (except dental). Examples of products made by these establishments are hospital beds, operating room tables, laboratory balances and scales, furnaces, ovens, centrifuges, cabinets, cases, benches, tables, and stools.

For this industry, the 1997 Economic Census did not fully implement the conversion to NAICS. The data from 1997 to 2001 for NAICS industry 339111 did not include establishments primarily engaged in the manufacture of hospital beds and other hospital furniture. These establishments are included in the 2002 Economic Census data.

###### **339112 SURGICAL AND MEDICAL INSTRUMENT MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing medical, surgical, ophthalmic, and veterinary instruments and apparatus (except electrotherapeutic, electro-medical and irradiation apparatus). Examples of products made by these establishments are syringes, hypodermic needles, anesthesia apparatus, blood transfusion equipment, catheters, surgical clamps, and medical thermometers.

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### **339113 SURGICAL APPLIANCE AND SUPPLIES MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing surgical appliances and supplies. Examples of products made by these establishments are orthopedic devices, prosthetic appliances, surgical dressings, crutches, surgical sutures, and personal industrial safety devices (except protective eyewear).

### **339114 DENTAL EQUIPMENT AND SUPPLIES MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing dental equipment and supplies used by dental laboratories and offices of dentists, such as dental chairs, dental instrument delivery systems, dental hand instruments, and dental impression material and dental cements.

### **339115 OPHTHALMIC GOODS MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing ophthalmic goods. Examples of products made by these establishments are prescription eyeglasses (except manufactured in a retail setting), contact lenses, sunglasses, eyeglass frames, reading glasses made to standard powers, and protective eyewear.

### **339116 DENTAL LABORATORIES**

This U.S. industry comprises establishments primarily engaged in manufacturing dentures, crowns, bridges, and orthodontic appliances customized for individual application.

### **3399 OTHER MISCELLANEOUS MANUFACTURING**

This industry group comprises establishments primarily engaged in one or more of the following:

1. Jewelry and silverware manufacturing;
2. Sporting and athletic goods manufacturing;
3. Doll, toy, and game manufacturing;
4. Office supplies (except paper) manufacturing;
5. Sign manufacturing; and/or
6. All other miscellaneous manufacturing.

### **33991 JEWELRY AND SILVERWARE MANUFACTURING**

This industry comprises establishments primarily engaged in one or more of the following:

1. manufacturing, engraving, chasing, or etching jewelry;
2. manufacturing metal personal goods (i.e., small articles carried on or about the person, such as compacts or cigarette cases);
3. manufacturing, engraving, chasing, or etching precious metal solid, precious metal clad, or pewter cutlery and flatware;
4. manufacturing, engraving, chasing, or etching personal metal goods (i.e., small articles carried on or about the person, such as compacts or cigarette cases);
5. stamping coins;
6. manufacturing unassembled jewelry parts and stock shop products, such as sheet, wire, and tubing;
7. cutting, slabbing, tumbling, carving, engraving, polishing, or faceting precious or semiprecious stones and gems;
8. recutting, repolishing, and setting gem stones; and

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9. drilling, sawing, and peeling cultured and costume pearls.

### **339911 JEWELRY (EXCEPT COSTUME) MANUFACTURING**

This U.S. industry group comprises establishments primarily engaged in one of the following:

1. manufacturing, engraving, chasing, or etching precious metal solid or precious metal clad jewelry;
2. manufacturing, engraving, chasing, or etching personal goods (i.e., small articles carried on or about the person, such as compacts or cigarette cases) made of precious solid or clad metal; and
3. stamping coins.

### **339912 SILVERWARE AND HOLLOWWARE MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing, engraving, chasing, or etching precious metal solid, precious metal clad, or pewter flatware and other hollowware.

### **339913 JEWELERS' MATERIAL AND LAPIDARY WORK MANUFACTURING**

This U.S. industry group comprises establishments primarily engaged in one of the following:

1. manufacturing unassembled jewelry parts and stock shop products, such as sheet, wire, and tubing;
2. cutting, slabbing, tumbling, carving, engraving, polishing, or faceting precious or semiprecious stones and gems;
3. recutting, repolishing, and setting gem stones; and
4. drilling, sawing, and peeling cultured pearls.

### **339914 COSTUME JEWELRY AND NOVELTY MANUFACTURING**

This U.S. industry group comprises establishments primarily engaged in one of the following:

1. manufacturing, engraving, chasing, and etching costume jewelry; and/or
2. manufacturing, engraving, chasing, or etching nonprecious metal personal goods (i.e., small articles carried on or about the person, such as compacts or cigarette cases).

This industry includes establishments primarily engaged in manufacturing precious plated jewelry and precious plated personal goods.

### **33992 SPORTING AND ATHLETIC GOODS MANUFACTURING**

This industry comprises establishments primarily engaged in manufacturing sporting and athletic goods (except apparel and footwear).

### **339920 SPORTING AND ATHLETIC GOODS MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing sporting and athletic goods (except apparel and footwear).

### **33993 DOLL, TOY, AND GAME MANUFACTURING**

This industry comprises establishments primarily engaged in manufacturing dolls, toys, and games, such as complete dolls, doll parts, doll clothes, action figures, toys, games (including electronic), hobby kits, and children's vehicles (except metal bicycles and tricycles).

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### **339931 DOLL AND STUFFED TOY MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing complete dolls, doll parts, and doll clothes; action figures; and stuffed toys.

### **339932 GAME, TOY, AND CHILDREN'S VEHICLE MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing games (including electronic), toys, and children's vehicles (except bicycles and metal tricycles).

### **33994 OFFICE SUPPLIES (EXCEPT PAPER) MANUFACTURING**

This industry comprises establishments primarily engaged in manufacturing office supplies. Examples of products made by these establishments are pens, pencils, felt tip markers, crayons, chalk, pencil sharpeners, staplers, hand operated stamps, modeling clay, and inked ribbons.

### **339941 PEN AND MECHANICAL PENCIL MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing pens, ballpoint pen refills and cartridges, mechanical pencils, and felt tipped markers.

### **339942 LEAD PENCIL AND ART GOOD MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing nonmechanical pencils and art goods. Examples of products made by these establishments are pencil leads, crayons, chalk, framed blackboards, pencil sharpeners, staplers, artists' palettes and paints, and modeling clay.

### **339943 MARKING DEVICE MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing marking devices, such as hand operated stamps, embossing stamps, stamp pads, and stencils.

### **339944 CARBON PAPER AND INKED RIBBON MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing carbon paper and inked ribbons.

### **33995 SIGN MANUFACTURING**

This industry comprises establishments primarily engaged in manufacturing signs and related displays of all materials (except printing paper and paperboard signs, notices, and displays).

### **339950 SIGN MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing signs and related displays of all materials (except printing paper and paperboard signs, notices, and displays).

### **33999 ALL OTHER MISCELLANEOUS MANUFACTURING**

This industry comprises establishments primarily engaged in miscellaneous manufacturing (except medical equipment and supplies, jewelry and flatware, sporting and athletic goods, dolls, toys, games, office supplies (except paper), and signs).

### **339991 GASKET, PACKING, AND SEALING DEVICE MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing gaskets, packing, and sealing devices of all materials.

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### **339992 MUSICAL INSTRUMENT MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing musical instruments (except toys).

### **339993 FASTENER, BUTTON, NEEDLE, AND PIN MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing fasteners, buttons, needles, pins, and buckles (except precious metals or precious and semiprecious stones and gems).

### **339994 BROOM, BRUSH, AND MOP MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing brooms, mops, and brushes.

### **339995 BURIAL CASKET MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in manufacturing burial caskets, cases, and vaults (except concrete).

### **339999 ALL OTHER MISCELLANEOUS MANUFACTURING**

This U.S. industry comprises establishments primarily engaged in miscellaneous manufacturing (except medical equipment and supplies, jewelry and flatware, sporting and athletic goods, dolls, toys, games, office supplies (except paper), musical instruments, fasteners, buttons, needles, pins, brooms, brushes, mops, and burial caskets).



# Appendix C.

## Methodology

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### SOURCES OF THE DATA

The manufacturing sector includes approximately 350,000 establishments. This number includes those industries in the North American Industry Classification System (NAICS) definition of manufacturing. The amount of information requested from manufacturing establishments was 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 (ASM).

Establishments in the 2002 Economic Census are divided into those sent report forms and those not sent report forms. The coverage of and the method of obtaining census information from each are described below:

1. Establishments sent a report form:

- a. ASM sample establishments. This group accounts for approximately 15 percent of all manufacturing establishments. The ASM panel covers 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. For more information, see the Description of the ASM Survey Sample.

In an economic census year, the ASM report form (MA-10000) 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 additional information on gross book value of assets and capital expenditures. ASM establishments were also requested to provide information on retirements, depreciation, rental payments, and supplemental labor costs. For establishments not included in the ASM, these additional items were estimated using relationships observed in the ASM establishment data. The census statistics for these variables are a sum of the ASM establishment data and the estimated data for non-ASM establishments. ASM establishments were also requested to provide information for selected purchased services. The census statistics for the purchased service items were derived solely from the ASM establishments. See Appendix A. Explanation of Terms, for an explanation of these items. The census part of the report form is 1 of 220 versions containing product, material, and special inquiries. The diversity of manufacturing activities necessitated the use of this many forms to canvass the 473 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 perform. Respondents were requested to identify the products, the value of each product, and, in certain 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

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for the respondent to describe significant materials not listed on the form.

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

- b. Large and medium establishments (non-ASM). Approximately 30 percent of all manufacturing establishments were included in this group. A variable cutoff, based on administrative-record payroll data and determined on an industry-by-industry basis, was used to select those establishments that were to receive 1 of the 220 economic census — manufacturing 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 includes approximately 15 percent of all manufacturing establishments. For those industries where application of the variable cutoff for administrative-record cases resulted in a large number of small establishments being included in the mail canvass, an abbreviated “short form” was used. These establishments received 1 of the 31 versions of the short form, which requested summary product and material data and totals but no details on employment, payroll, cost of materials, inventories, and capital expenditures.

Use of the short form has no adverse effect on published totals for the industry statistics, because the same data were collected on the short form as on the long form. However, detailed information on products and materials consumed was not collected on the short form; thus, its use would increase the value of the “not specified by kind” (nsk) categories.

## 2. Establishments not sent a report form:

- a. Small single-establishment companies not sent a report form. Approximately 40 percent of the manufacturing establishments were small single-establishment companies that were excused from filing a census report. Selection of these establishments was based on two factors: annual payroll and the Census Bureau’s ability to assign the correct six-digit NAICS industry classification to the establishment. For each six-digit NAICS industry code, an annual payroll cutoff was determined. These cutoffs were derived so that the establishments with payroll less than the cutoff were expected to account for no more than 3 percent of the value of shipments for the industry. Generally, all single-establishment companies with less than 5 employees were excused, while all establishments with more than 20 employees were mailed forms. Establishments below the cutoff that could not be directly assigned a six-digit NAICS code were mailed a classification report that requested information for assigning NAICS industry codes. Establishments below the cutoff that could be directly assigned a six-digit NAICS code were excused from filing any report. For below cutoff establishments, information on the physical location, payroll, and receipts was obtained from the administrative records of other federal agencies under special arrangements that 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” (nsk) categories.

The industry classification codes included in the administrative-record 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 to a six-digit NAICS industry. This was especially true whenever there was a relatively fine line of demarcation between industries or between manufacturing and nonmanufacturing activity.

Sometimes the administrative-record cases had only two- or three-digit NAICS group classification codes available in the files. For manufacturing, these establishments were sent a

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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 appropriate six-digit NAICS level. Establishments that did not return the classification form were coded later to those six-digit NAICS industries identified as “All other” industries within the given subsector.

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.

- b. All nonemployers, i.e., all firms subject to federal income tax, with no paid employees, during 2002 are excluded as in previous censuses. Data for nonemployers are not included in this report, but are released in the annual *Nonemployer Statistics* series.

The report forms used to collect information for establishments in this sector are available at [help.econ.census.gov/econhelp/resources/](http://help.econ.census.gov/econhelp/resources/).

A more detailed examination of census methodology is presented in the *History of the Economic Census* at [www.census.gov/econ/www/history.html](http://www.census.gov/econ/www/history.html).

## **INDUSTRY CLASSIFICATION OF ESTABLISHMENTS**

The classifications for all establishments covered in the 2002 Economic Census — Manufacturing are classified in 1 of 473 industries in accordance with the industry definitions in the *North American Industry Classification System (NAICS), United States, 2002* manual. There were no changes between the 2002 edition and the 1997 edition affecting this sector. When applicable, Appendix F of this report shows the product class and product comparability between the two systems for data in this report.

In the NAICS system, an industry is generally defined as a group of establishments that have similar production processes. To the extent practical, the system uses supply-based or production-oriented concepts in defining industries. The resulting group of establishments must be significant in terms of number, value added by manufacture, value of shipments, and number of employees.

The coding system works in such a way that the definitions progressively become narrower with successive additions of numerical digits. In the manufacturing sector for 2002, there are 21 subsectors (three-digit NAICS), 86 industry groups (four-digit NAICS), 184 NAICS industries (five-digit NAICS) that are comparable with Canadian and Mexican classification, and 473 U.S. industries (six-digit NAICS). Product classes and products of the manufacturing industries have been assigned codes based on the industry from which they originate. There are 1,450 product classes (seven-digit codes), 5,674 census products, and an additional 3,746 ten-digit product codes. The ten-digit products are considered the primary products of the industry with the same first six digits.

For the 2002 Economic Census — Manufacturing, all establishments were classified in particular industries based on the products they produced. If an establishment made products of more than one industry, it was classified in the industry with the largest product value. For 2002, there were no “resistance rules” or “frozen industries.”

In ASM years, establishments included in the ASM sample with certainty weights 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. However, in the following census year, these ASM plants are allowed to shift from one industry to another.

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The results of these rules covering the switching of plants from one industry classification to another are that some industries comprise different mixes of establishments in different survey years. Hence, comparisons between prior-year and current-year published totals, particularly at the six-digit NAICS 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-record 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.

Establishments frequently make products classified both in their industry (primary products) and other industries (secondary products). Industry statistics (employment, payroll, value added by manufacture, value of shipments, etc.) reflect the activities of the establishments that may make both primary and secondary products. Product statistics, however, represent the output of all establishments without regard for the classification of the producing establishment. For this reason, when relating the industry statistics, especially the value of shipments, to the product statistics, the composition of the industry's output should be considered.

The extent to which industry and product statistics may be matched with each other is measured by the primary product specialization ratio and the coverage ratio. The primary product specialization ratio is the proportion of industry shipments accounted for by the primary products of establishments classified in the industry. The coverage ratio is the proportion of product shipments accounted for by establishments classified in the industry.

#### **ESTABLISHMENT BASIS OF REPORTING**

The 2002 Economic Census — Manufacturing is conducted on an establishment basis. A company operating at more than one location is required to file a separate report for each location or establishment. 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 2002, 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.

The 2002 Economic Census — Manufacturing excludes data for central administrative offices (CAOs). These would include separately operated administrative offices, warehouses, garages, and other auxiliary units that service manufacturing establishments of the same company. These data are published in a separate report series.

#### **DESCRIPTION OF THE ASM SURVEY SAMPLE**

The ASM sample is drawn for the second survey year after a census. The most recent sample was drawn for the 1999 survey year based on the 1997 Economic Census — Manufacturing. This sample will be in place through the 2003 ASM.

In 1997, there were approximately 370,000 individual manufacturing establishments. For sample efficiency and cost considerations, the establishments in the 1997 manufacturing population were partitioned into two components for developing estimates within the ASM. The details of each are described below:

1. Mail stratum. The mail stratum of the survey is comprised of larger single-location manufacturing companies and all manufacturing establishments of multiunit companies (companies

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that operate at more than one physical location). Approximately 200,000 of the 370,000 establishments in the 1997 census were assigned to the mail stratum. On an annual basis, the mail stratum is supplemented with larger, newly active single-location companies identified from a list provided by the Internal Revenue Service (IRS) and new manufacturing locations of multiunit companies identified from the Census Bureau's Company Organization Survey (COS).

For the 1999 survey, a new sample of approximately 58,000 individual establishments was selected from the mail stratum assembled from the 1997 census. Supplemental samples representing both 1998 and 1999 births (newly active establishments that were not included in the 1997 census) were also selected. Establishments selected for the sample are mailed an ASM survey questionnaire for each year through 2003.

The 1999-2003 ASM sample design is similar to the one used since 1984. Companies in the 1997 Economic Census — Manufacturing with manufacturing shipments of at least \$500 million were defined as company certainties. For these large companies, each manufacturing establishment is included in the mail sample. For the 1999-2003 sample, there are approximately 500 certainty companies collectively accounting for over 18,000 establishments.

For the remaining portion of the mail component of the survey, the establishment was defined as the sample unit. All establishments with 250 employees or more were defined as employment certainties. Across these arbitrary certainty classes, there were approximately 25,000 establishments included in the sample with certainty. Collectively, these certainty establishments accounted for approximately 80 percent of the total value of shipments in the 1997 Economic Census — Manufacturing.

Smaller establishments in the remaining portion of the mail stratum were sampled with probabilities ranging from .02 to 1.00. The initial probabilities of selection assigned to these establishments were proportionate to a measure-of-size determined for each establishment. The measure-of-size was a function of the establishment's 1997 industry classification and its 1997 product class data. For each product class (1,755) and six-digit industry (473), a desired reliability constraint was specified. Using a technique developed by Dr. James R. Chromy of the Research Triangle Institute, the initial establishment probabilities were optimized such that the expected sample satisfied all industry and product class reliability constraints, while the sample size was minimized. This technique reduces the likelihood of selecting nonrepresentative samples for individual product classes or industries.

This method of assigning probabilities based on product class shipments is motivated by the Census Bureau's primary desire to produce reliable estimates of both product class and industry shipments. The high correlation between shipments and employment, value-added, and other general statistics assures that these variables will also be well represented by the sample. The actual sample selection procedure uses an independent chance of selection method (Poisson sampling) that permits us to prevent small establishments from being selected in consecutive samples without introducing a bias into the survey estimates.

2. Nonmail stratum. The initial nonmail component of the survey was comprised of approximately 170,000 small, single-establishment companies that were tabulated as administrative records in the 1997 Economic Census — Manufacturing. The nonmail stratum is also supplemented annually using the list of newly active single-location companies provided by the Internal Revenue Service (IRS) and payroll cutoffs. Companies with payroll below the payroll cutoff are added to the nonmail stratum. For this portion of the population, sampling is not used. The data for this group are estimated based on selected information obtained annually from the administrative records of the IRS and Social Security Administration (SSA). This administrative information, which includes payroll, total employment, industry classification, and physical location, is obtained under conditions which safeguard the confidentiality of both tax and census records.

## **RELIABILITY OF DATA**

All data compiled in the economic census are subject to nonsampling errors. Nonsampling errors can be attributed to many sources during the development or execution of the census. The following are two ways that further explain this method: ASM Estimating Procedure. Most of the ASM

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estimates derived for the mail stratum are computed using a difference estimator. At the establishment level, there is a strong correlation between the current-year data values and the corresponding 1997 (base) data values. Therefore, within the mailed stratum, for each item at each level of aggregation, an estimate of the “difference” between the current year and the base year is computed from sample cases and added to the corresponding base-year values. For the 1998-2002 ASM estimates, the 1997 Economic Census — Manufacturing values serve as the base year. For the 2003 ASM, the base will be updated to be the 2002 Economic Census — Manufacturing.

Due to the positive year-to-year correlation, estimates derived using this methodology are generally more reliable than comparable estimates developed from the current sample data alone. Estimates for the capital expenditures variables are not generated using the difference estimator because the year-to-year correlations are considerably weaker. The standard linear estimator is used for these variables.

For the nonmail stratum, estimates for payroll and employment are directly tabulated from the administrative-record data provided by IRS and SSA. Estimates of data other than payroll and employment are developed from industry averages. Although the nonmail stratum contained approximately 170,000 individual establishments in 1999, it accounts for less than 2 percent of the estimate for total value of shipments at the total manufacturing level.

Corresponding estimates for the mail and nonmail components are combined to produce the estimates included in this publication. ASM Data Qualifications. The estimates developed from the sample are apt to differ somewhat from the results of a survey covering all companies in the sample lists, but otherwise conducted under essentially the same conditions as the actual sample survey. The estimates of the magnitude of the sampling errors (the difference between the estimates obtained and the results theoretically obtained from a comparable, complete-coverage survey) are provided by the standard errors of estimates.

The particular sample selected for the ASM is one of many 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 theoretically comparable, complete-coverage values.

Estimates of the standard errors have been computed from the sample data for selected ASM statistics in this report. They are represented 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:

- From one standard error below to one standard error above the derived estimate for about two-thirds of all possible samples.
- From two standard errors below to two standard errors above the derived estimate for about 19 out of 20 of all possible samples.
- 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.

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For example, suppose an estimated total is shown at 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 during 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 moderately higher. However, for particular estimates, the total error may considerably exceed the standard errors shown. Any figures shown in the tables in this publication having an associated standard error exceeding 15 percent may be combined with higher level totals, creating a broader aggregate, which then may be of acceptable reliability.

#### **DUPLICATION IN COST OF MATERIALS AND VALUE OF SHIPMENTS**

Data for cost of materials and value of shipments include varying amounts of duplication, especially at higher levels of aggregation. This is because the products of one establishment may be the materials of another. The value added statistics avoid this duplication and are, for most purposes, the best measure for comparing the relative economic importance of industries and geographic areas.

#### **VALUE OF INDUSTRY SHIPMENTS COMPARED WITH VALUE OF PRODUCT SHIPMENTS**

The 2002 Economic Census — Manufacturing shows value of shipments data for industries and products. In the industry statistics tables and files, 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 the products statistics tables and files represent the total value of all products shipped that are classified as primary to an industry regardless of the classification of the producing establishment.

#### **DISCLOSURE**

In accordance with federal law governing census reports (Title 13 of the United States Code), no data are published that would disclose the operations of an individual establishment or company. However, the number of establishments in a specific industry or geographic area is not considered a disclosure; therefore, this information may be released even though other information is withheld. Techniques employed to limit disclosure are discussed at [www.census.gov/epcd/ec02/disclosure.htm](http://www.census.gov/epcd/ec02/disclosure.htm).

The disclosure analysis for the industry statistics files 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 capital expenditures. Nonetheless, the suppressed data are included in higher-level totals. A separate disclosure analysis is performed for capital expenditures, which can be suppressed even though value of shipments data are published.

# Appendix D. Geographic Notes

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## ARIZONA

**Apache Junction** is in Maricopa and Pinal Counties.

**Carefree** is now tabulated separately due to a population increase. This change deletes territory from the Balance of Maricopa County.

**Peoria** is in Maricopa and Yavapai Counties; it annexed into Yavapai County in July 1999. This change deletes territory from the Balance of Yavapai County.

**Quartzsite** is now tabulated separately due to a population increase. This change deletes territory from the Balance of La Paz County.

**Queen Creek** is in Maricopa and Pinal Counties.

**Sahuarita** is now tabulated separately due to a population increase. This change deletes territory from the Balance of Pima County.

**Sedona** is in Coconino and Yavapai Counties.

**Balance of La Paz County** no longer includes Quartzsite, which is tabulated separately due to a population increase.

**Balance of Maricopa County** no longer includes Carefree, which is tabulated separately due to a population increase.

**Balance of Pima County** no longer includes Sahuarita, which is tabulated separately due to a population increase.

**Balance of Yavapai County** lost territory due to the annexation of Peoria into the county.



# Appendix E.

## Metropolitan and Micropolitan Statistical Areas

### **FLAGSTAFF, AZ METROPOLITAN STATISTICAL AREA**

Coconino County, AZ

### **LAKE HAVASU CITY-KINGMAN, AZ MICROPOLITAN STATISTICAL AREA**

Mohave County, AZ

### **NOGALES, AZ MICROPOLITAN STATISTICAL AREA**

Santa Cruz County, AZ

### **PAYSON, AZ MICROPOLITAN STATISTICAL AREA**

Gila County, AZ

### **PHOENIX-MESA-SCOTTSDALE, AZ METROPOLITAN STATISTICAL AREA**

Maricopa County, AZ

Pinal County, AZ

### **PRESCOTT, AZ METROPOLITAN STATISTICAL AREA**

Yavapai County, AZ

### **SAFFORD, AZ MICROPOLITAN STATISTICAL AREA**

Graham County, AZ

Greenlee County, AZ

### **SIERRA VISTA-DOUGLAS, AZ MICROPOLITAN STATISTICAL AREA**

Cochise County, AZ

### **TUCSON, AZ METROPOLITAN STATISTICAL AREA**

Pima County, AZ

### **YUMA, AZ METROPOLITAN STATISTICAL AREA**

Yuma County, AZ

