

# Electrometallurgical Ferroalloy Product Manufacturing: 2002

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## 2002 Economic Census

*Manufacturing*

Industry 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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-- Not applicable for this report.

**Table 1. Historical Statistics for the Industry: 2002 and Earlier Years**

[Data based on the 2002 Economic Census and the 2002 Annual Survey of Manufactures (ASM). For information on confidentiality protection, sampling error, nonsampling error, and explanation of terms, see note at end of table. For meaning of abbreviations and symbols, see introductory text]

| Industry and year <sup>1</sup>                                      | Com-panies <sup>2</sup> | All estab-lish-ments <sup>3</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) |        |
|---|-------------------------|-----------------------------------|---------------------|-------------------|---------------------|---------------|-----------------|-----------------------|-----------------------------------|------------------------------------|--------------------------------------|--------|
|   |                         |                                   | Number <sup>4</sup> | Payroll (\$1,000) | Number <sup>4</sup> | Hours (1,000) | Wages (\$1,000) |                       |                                   |                                    |                                      |        |
| 331112, Electrometallurgical ferroalloy product manufacturing ..... | 2002..                  | 21                                | 24                  | 2 454             | 122 032             | 1 797         | 3 898           | 81 571                | 288 330                           | 564 782                            | 883 414                              | 19 727 |
|   | 2001..                  | N                                 | N                   | 2 747             | 126 032             | 1 946         | 4 111           | 78 985                | 319 005                           | 352 977                            | 676 880                              | 29 801 |
|   | 2000..                  | N                                 | N                   | 3 108             | 138 242             | 2 115         | 4 866           | 82 745                | 357 317                           | 527 169                            | 901 303                              | 33 291 |
|   | 1999..                  | N                                 | N                   | 2 947             | 133 604             | 2 029         | 4 483           | 83 790                | 388 399                           | 551 807                            | 940 939                              | 35 442 |
|   | 1998..                  | N                                 | N                   | 3 669             | 159 302             | 2 573         | 5 975           | 102 146               | 562 944                           | 874 863                            | 1 432 827                            | 49 576 |
|   | 1997..                  | 19                                | 23                  | 3 660             | 154 430             | 2 625         | 5 923           | 102 279               | 563 460                           | 849 839                            | 1 388 691                            | 69 065 |

<sup>1</sup>Statistics presented for years ending in 2 and 7 are census data. Interim census years are derived in a representative sample of manufacturing establishments canvassed in the Annual Survey of Manufactures (ASM).

<sup>2</sup>For the census, a company is defined as a business organization consisting of one establishment or more under common ownership or control.

<sup>3</sup>Includes establishments with payroll at any time during the year.

<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 and the 2002 Annual Survey of Manufactures (ASM). To maintain confidentiality, the Census Bureau suppresses data to protect the identity of any business or individual. The census results in this table contain sampling errors and 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.

**Table 2. Industry Statistics for Selected States: 2002**

[States that are a disclosure or with less than 100 employees are not shown. 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]

| Industry and geographic area                                  | 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>3</sup> | Hours (1,000) | Wages (\$1,000) |                       |                                   |                                    |                                      |
| 331112, Electrometallurgical ferroalloy product manufacturing |                |                                 |                           |                     |                   |                     |               |                 |                       |                                   |                                    |                                      |
| United States.....  | -              | 24                              | 17                        | 2 454               | 122 032           | 1 797               | 3 898         | 81 571          | 288 330               | 564 782                           | 883 414                            | 119 727                              |
| Ohio .....  | -              | 6                               | 6                         | 1 645               | 82 672            | 1 173               | 2 552         | 54 439          | 194 836               | 404 099                           | 618 870                            | 114 336                              |

<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 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>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. Detailed Statistics by Industry: 2002**

[Data based on the 2002 Economic Census and the 2002 Annual Survey of Manufactures (ASM). For information on confidentiality protection, sampling error, nonsampling error, and explanation of terms, see note 2 at end of table. For meaning of abbreviations and symbols, see introductory text]

| Item   | Value                 |
|--|-----------------------|
| <b>331112, Electrometallurgical ferroalloy product manufacturing</b>                       |                       |
| Companies <sup>1</sup> .....   | number.. 21           |
| All establishments <sup>2</sup> .....  | number.. 24           |
| Establishments with 1 to 19 employees.....   | number.. 7            |
| Establishments with 20 to 99 employees.....  | number.. 10           |
| Establishments with 100 employees or more.....   | number.. 7            |
| All employees <sup>3</sup> .....   | number.. 2 454        |
| Total compensation.....  | \$1,000.. 169 270     |
| Annual payroll.....  | \$1,000.. 122 032     |
| Total fringe benefits.....   | \$1,000.. 47 238      |
| Production workers, average for year.....  | number.. 1 797        |
| Production workers on March 12.....  | number.. 1 778        |
| Production workers on May 12.....  | number.. 1 805        |
| Production workers on August 12.....   | number.. 1 788        |
| Production workers on November 12.....   | number.. 1 815        |
| Production worker hours.....   | 1,000.. 3 898         |
| Production worker wages.....   | \$1,000.. 81 571      |
| Total cost of materials.....   | \$1,000.. 564 782     |
| Materials, parts, containers, packaging, etc., used.....                                   | \$1,000.. 423 479     |
| Resales.....   | \$1,000.. 23 958      |
| Purchased fuels.....   | \$1,000.. 29 569      |
| Purchased electricity.....   | \$1,000.. 79 685      |
| Contract work.....   | \$1,000.. 8 091       |
| Quantity of electricity purchased for heat and power.....                                  | 1,000 kWh.. 2 668 440 |
| Quantity of electricity generated less sold for heat and power.....                        | 1,000 kWh.. S         |
| Total value of shipments.....  | \$1,000.. 883 414     |
| Primary products value of shipments.....   | \$1,000.. D           |
| Secondary products value of shipments.....   | \$1,000.. D           |
| Total miscellaneous receipts.....  | \$1,000.. 41 039      |
| Value of resales.....  | \$1,000.. D           |
| Contract receipts.....   | \$1,000.. D           |
| Other miscellaneous receipts.....  | \$1,000.. D           |
| Primary products specialization ratio.....   | percent.. D           |
| Value of primary products shipments made in all industries.....                            | \$1,000.. 814 749     |
| Value of primary products shipments made in this industry.....                             | \$1,000.. D           |
| Value of primary products shipments made in other industries.....                          | \$1,000.. D           |
| Coverage ratio.....  | percent.. 96          |
| Value added.....   | \$1,000.. 288 330     |
| Total inventories, beginning of year.....  | \$1,000.. 197 731     |
| Finished goods inventories.....  | \$1,000.. 77 286      |
| Work-in-process inventories.....   | \$1,000.. 55 948      |
| Materials and supplies inventories.....  | \$1,000.. 64 497      |
| Total inventories, end of year.....  | \$1,000.. 152 088     |
| Finished goods inventories.....  | \$1,000.. 58 586      |
| Work-in-process inventories.....   | \$1,000.. 44 346      |
| Materials and supplies inventories.....  | \$1,000.. 49 156      |
| Gross value of depreciable assets (acquisition costs) at beginning of year.....            | \$1,000.. 587 314     |
| Total capital expenditures (new and used).....   | \$1,000.. 19 727      |
| Buildings and other structures (new and used).....   | \$1,000.. 1 735       |
| Machinery and equipment (new and used).....  | \$1,000.. 17 992      |
| Automobiles, trucks, etc., for highway use.....  | \$1,000.. 338         |
| Computers and peripheral data processing equipment.....                                    | \$1,000.. 559         |
| All other expenditures for machinery and equipment.....                                    | \$1,000.. 17 095      |
| Total retirements.....   | \$1,000.. 5 923       |
| Gross value of depreciable assets at end of year.....                                      | \$1,000.. 601 118     |
| Depreciation charges during year.....  | \$1,000.. 32 913      |
| Total rental payments.....   | \$1,000.. 7 279       |
| Buildings and other structures.....  | \$1,000.. 1 799       |
| Machinery and equipment.....   | \$1,000.. 5 480       |
| Total other expenses <sup>4</sup> .....  | \$1,000.. 64 780      |
| Response coverage ratio <sup>5</sup> .....   | percent.. 67          |
| Repair and maintenance services of buildings and/or machinery <sup>4</sup> .....           | \$1,000.. 18 139      |
| Communications services <sup>4</sup> .....   | \$1,000.. 1 218       |
| Legal services <sup>4</sup> .....  | \$1,000.. 2 891       |
| Accounting, auditing, and bookkeeping services <sup>4</sup> .....                          | \$1,000.. 704         |
| Advertising and promotional services <sup>4</sup> .....                                    | \$1,000.. 303         |
| Expensed computer hardware and supplies and purchased computer services <sup>4</sup> ..... | \$1,000.. 588         |
| Refuse removal (including hazardous waste) services <sup>4</sup> .....                     | \$1,000.. 7 642       |
| Management consulting and administrative services <sup>4</sup> .....                       | \$1,000.. 6 410       |
| Taxes and license fees <sup>4</sup> .....  | \$1,000.. 4 222       |
| All other expenses <sup>4</sup> .....  | \$1,000.. 22 663      |

<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.

<sup>4</sup>Based on 2002 Annual Survey of Manufactures (ASM) sample data.

<sup>5</sup>A response coverage ratio is derived for this item by calculating the ratio of the weighted employment (establishment data multiplied by sample weight) for those Annual Survey of Manufactures (ASM) establishments that reported to the weighted total employment for all ASM establishments classified in this industry.

Note 1: The amounts shown for other expenses reflect only those services that establishments purchase from other companies.

Note 2: The data in this table are based on the 2002 Economic Census and the 2002 Annual Survey of Manufactures (ASM). To maintain confidentiality, the Census Bureau suppresses data to protect the identity of any business or individual. The census results in this table contain sampling errors and 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.

**Table 4. Industry Statistics by Employment Size: 2002**

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

| Employment size class   | 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) |
|---|----------------|---------------------------------|---------------------|-------------------|---------------------|---------------|-----------------|-----------------------|-----------------------------------|------------------------------------|--------------------------------------|
|   |                |                                 | Number <sup>3</sup> | Payroll (\$1,000) | Number <sup>3</sup> | Hours (1,000) | Wages (\$1,000) |                       |                                   |                                    |                                      |
| 331112, Electrometallurgical ferroalloy product manufacturing |                |                                 |                     |                   |                     |               |                 |                       |                                   |                                    |                                      |
| All establishments .....                                      | —              | 24                              | 2 454               | 122 032           | 1 797               | 3 898         | 81 571          | 288 330               | 564 782                           | 883 414                            | 19 727                               |
| Establishments with—  |                |                                 |                     |                   |                     |               |                 |                       |                                   |                                    |                                      |
| 1 to 4 employees .....  | 9              | 1                               | a                   | D                 | D                   | D             | D               | D                     | D                                 | D                                  | —                                    |
| 5 to 9 employees .....  | —              | 2                               | a                   | D                 | D                   | D             | D               | D                     | D                                 | D                                  | D                                    |
| 10 to 19 employees .....                                      | 1              | 4                               | b                   | D                 | D                   | D             | D               | D                     | D                                 | D                                  | 91                                   |
| 20 to 49 employees .....                                      | 4              | 5                               | 160                 | 7 397             | 114                 | 227           | 4 459           | 16 794                | 28 059                            | 45 352                             | D                                    |
| 50 to 99 employees .....                                      | —              | 5                               | 357                 | 15 379            | 267                 | 583           | 9 625           | 39 046                | 60 334                            | 93 436                             | 8 402                                |
| 100 to 249 employees .....                                    | —              | 5                               | 646                 | 32 515            | 493                 | 1 024         | 22 041          | 79 971                | 135 810                           | 231 079                            | D                                    |
| 250 to 499 employees .....                                    | —              | 1                               | e                   | D                 | D                   | D             | D               | D                     | D                                 | D                                  | D                                    |
| 500 to 999 employees .....                                    | —              | 1                               | f                   | D                 | D                   | D             | D               | D                     | D                                 | D                                  | D                                    |
| 1,000 to 2,499 employees .....                                | —              | —                               | —                   | —                 | —                   | —             | —               | —                     | —                                 | —                                  | —                                    |
| 2,500 employees or more .....                                 | —              | —                               | —                   | —                 | —                   | —             | —               | —                     | —                                 | —                                  | —                                    |
| Administrative records <sup>4</sup> .....                     | —              | —                               | —                   | —                 | —                   | —             | —               | —                     | —                                 | —                                  | —                                    |

<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 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>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.

<sup>4</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. Data are also included in respective size classes shown.

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.

**Table 5. Industry Statistics by Primary Product Class Specialization: 2002**

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

| Industry or product class code | Industry or primary product class                                  | All establishments <sup>1</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) |
|--------------------------------|--|---------------------------------|---------------------|-------------------|---------------------|---------------|-----------------|-----------------------|-----------------------------------|------------------------------------|--------------------------------------|
|                                |  |                                 | Number <sup>2</sup> | Payroll (\$1,000) | Number <sup>2</sup> | Hours (1,000) | Wages (\$1,000) |                       |                                   |                                    |                                      |
| 331112                         | Electrometallurgical ferroalloy product manufacturing .....        | 24                              | 2 454               | 122 032           | 1 797               | 3 898         | 81 571          | 288 330               | 564 782                           | 883 414                            | 19 727                               |
| 3311123                        | Ferrosilicon, including briquettes, and other silicon alloys ..... | 6                               | 385                 | 23 258            | 302                 | 696           | 17 120          | 34 747                | 107 251                           | 158 527                            | 3 386                                |
| 3311125                        | Other ferroalloys .....  | 18                              | 2 069               | 98 774            | 1 495               | 3 202         | 64 451          | 253 583               | 457 531                           | 724 887                            | 16 341                               |

<sup>1</sup>Includes establishments with payroll at any time during the year.

<sup>2</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.

**Table 6a. Products Statistics: 2002 and 1997**

[Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. Data based on the 2002 Economic Census. For information on confidentiality protection, nonsampling error, and explanation of terms, see note 2 at end of table. For meaning of abbreviations and symbols, see introductory text]

| Product code | Product  | Number of companies with shipments of \$100,000 or more | Quantity of production for all purposes | Product shipments |                      |
|--------------|--|---|---|-------------------|----------------------|
|              |  |   |   | Quantity          | Value (\$1,000)      |
| 331112       | Electrometallurgical ferroalloy product manufacturing .....  | 2002.. N<br>1997.. N                                    | X<br>X                                  | X<br>X            | 814 749<br>1 130 049 |
| 3311121      | Ferrochromium, including briquettes, ferrochromium silicon, exothermic chromium additives, and other chromium alloys ..... | 2002.. N<br>1997.. N                                    | X<br>X                                  | X<br>X            | -<br>D               |
| 33111211     | Ferrochromium, including briquettes, ferrochromium silicon, exothermic chromium additives, and other chromium alloys ..... | 2002.. N<br>1997.. N                                    | X<br>X                                  | X<br>X            | -<br>D               |
| 3311121100   | Ferrochromium, including briquettes, ferrochromium silicon, exothermic chromium additives, and other chromium alloys ..... | 1,000 s tons. 2002.. -<br>1997.. 2                      | -<br>D                                  | -<br>D            | -<br>D               |
| 3311123      | Ferrosilicon, including briquettes, and other silicon alloys .....   | 2002.. N<br>1997.. N                                    | X<br>X                                  | X<br>X            | 163 491<br>357 627   |
| 33111231     | Ferrosilicon, including briquettes, and other silicon alloys .....   | 2002.. N<br>1997.. N                                    | X<br>X                                  | X<br>X            | 163 491<br>357 627   |
| 3311123100   | Ferrosilicon, including briquettes, and other silicon alloys .....   | 1,000 s tons. 2002.. 6<br>1997.. 5                      | X<br>X                                  | S<br>395.4        | 163 491<br>357 627   |
| 3311125      | Other ferroalloys .....  | 2002.. N<br>1997.. N                                    | X<br>X                                  | X<br>X            | 651 258<br>D         |
| 33111251     | Ferrous superalloys .....  | 2002.. N<br>1997.. N                                    | X<br>X                                  | X<br>X            | 356 488<br>301 648   |
| 3311125101   | Ferrous superalloys .....  | 1,000 s tons. 2002.. 5<br>1997.. 4                      | X<br>X                                  | 38.9<br>32.6      | 356 488<br>301 648   |
| 33111252     | Other ferroalloys, including silvery iron, ferromanganese, manganese metal, silicomanganese and ferrospegeleisen .....     | 2002.. N<br>1997.. N                                    | X<br>X                                  | X<br>X            | 225 180<br>D         |
| 3311125203   | Other ferroalloys, including silvery iron, ferromanganese, manganese metal, silicomanganese and ferrospegeleisen .....     | 1,000 s tons. 2002.. 8<br>1997.. 5                      | X<br>D                                  | P321.9<br>D       | 225 180<br>D         |
| 33111253     | Other ferrous products made in electric and other furnaces .....   | 2002.. N<br>1997.. N                                    | X<br>X                                  | X<br>X            | 69 470<br>163 217    |
| 3311125305   | Other ferrous products made in electric and other furnaces .....   | 2002.. 12<br>1997.. 8                                   | X<br>X                                  | X<br>X            | 69 470<br>163 217    |
| 3311125Y     | Other ferroalloys, nsk .....   | 2002.. N<br>1997.. N                                    | X<br>X                                  | X<br>X            | 120<br>17 875        |
| 3311125YVW   | Other ferroalloys, nsk .....   | 2002.. N<br>1997.. N                                    | X<br>X                                  | X<br>X            | 120<br>17 875        |
| 331112W      | Electrometallurgical ferroalloy product manufacturing, nsk, total .....  | 2002.. N<br>1997.. N                                    | X<br>X                                  | X<br>X            | -<br>-               |
| 331112WY     | Electrometallurgical ferroalloy product manufacturing, nsk, total .....  | 2002.. N<br>1997.. N                                    | X<br>X                                  | X<br>X            | -<br>-               |
| 331112WYWW   | Electrometallurgical ferroalloy product manufacturing, nsk, for nonadministrative-record establishments .....              | 2002.. N<br>1997.. N                                    | X<br>X                                  | X<br>X            | -<br>-               |
| 331112WYWY   | Electrometallurgical ferroalloy product manufacturing, nsk, for administrative-record establishments .....                 | 2002.. N<br>1997.. N                                    | X<br>X                                  | X<br>X            | -<br>-               |

Note 1: For some establishments, data have been estimated from central unit values that are based on quantity-value relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: p-10 to 19 percent estimated; q-20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by S.

Note 2: 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.

**Table 6b. Product Class Shipments for Selected States: 2002 and 1997**

[Product classes covered are those that are economically significant and whose production is geographically dispersed, provided dispersion is not approximated by data in Table 2. Also, product classes are not shown if they are miscellaneous or "not specified by kind" classes. Statistics for some states are withheld because they are either less than \$2 million in product class shipments or they disclose data for individual companies in 2002. Data based on the 2002 Economic Census. For information on confidentiality protection, nonsampling error, explanation of terms, and geographic 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 product class code | Product class and geographic area  | Value of product shipments (\$1,000) |
|--------------------------|--|--------------------------------------|
| 3311121                  | Ferrochromium, including briquettes, ferrochromium silicon, exothermic chromium additives, and other chromium alloys |                                      |
|                          | United States..... 2002.. 1997..   | - D                                  |
| 3311123                  | Ferrosilicon, including briquettes, and other silicon alloys   |                                      |
|                          | United States..... 2002.. 1997..   | 163 491 357 627                      |
| 3311125                  | Other ferroalloys  |                                      |
|                          | United States..... 2002.. 1997..   | 651 258 D                            |
|                          | Ohio ..... 2002.. 1997..   | 494 114 337 853                      |

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 7. Materials Consumed by Kind: 2002 and 1997**

[Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. Data based on the 2002 Economic Census. For information on confidentiality protection, nonsampling error, and explanation of terms, see note 2 at end of table. For meaning of abbreviations and symbols, see introductory text]

| Material code | Material consumed   | Quantity | Delivered cost (\$1,000) |
|---------------|---|----------|--------------------------|
| 331112        | Electrometallurgical ferroalloy product manufacturing   |          |                          |
| 0090001       | Total materials .....   | X        | 423 479                  |
|               | .....2002..   | X        | 562 971                  |
|               | .....1997..   | X        | D                        |
| 32741009      | Dead-burned dolomite fluxes .....   | X        | D                        |
|               | .....2002..   | X        | D                        |
|               | .....1997..   | X        | D                        |
| 32799209      | Fluorspar fluxes .....  | X        | D                        |
|               | .....2002..   | X        | D                        |
|               | .....1997..   | X        | D                        |
| 32700013      | All other stone, clay, glass, and concrete products .....   | X        | D                        |
|               | .....2002..   | X        | 6 196                    |
|               | .....1997..   | X        | 4 896                    |
| 32500011      | Industrial chemicals (excluding sulfuric acid and oxygen) .....   | X        | 4 563                    |
|               | .....2002..   | X        | D                        |
|               | .....1997..   | X        | 1 134                    |
| 32512003      | Oxygen (including high and low purity) .....  | X        | D                        |
|               | .....2002..   | X        | 1 134                    |
|               | .....1997..   | X        | D                        |
| 32500039      | All other chemicals and allied products .....   | X        | D                        |
|               | .....2002..   | X        | 1 593                    |
|               | .....1997..   | X        | D                        |
| 21229901      | Mining manganese ore (including 10 percent manganese) and ferroalloy ore .....  | X        | D                        |
|               | .....2002..   | X        | D                        |
|               | .....1997..   | X        | D                        |
| 21220013      | All other metal mining .....  | X        | D                        |
|               | .....2002..   | X        | D                        |
|               | .....1997..   | X        | -                        |
| 21211001      | Coal used in the production of coke .....   | D        | D                        |
|               | .....1,000 s tons .....   | D        | D                        |
|               | .....2002..   | D        | D                        |
|               | .....1997..   | D        | D                        |
| 00190023      | Iron and steel scrap, excluding home scrap .....  | P206.5   | 13 985                   |
|               | .....1,000 s tons .....   | S        | 46 057                   |
|               | .....2002..   | S        | D                        |
|               | .....1997..   | S        | N                        |
| 00190053      | Direct-reduced iron (DRI) .....   | D        | D                        |
|               | .....1,000 s tons .....   | N        | N                        |
|               | .....2002..   | N        | D                        |
|               | .....1997..   | N        | D                        |
| 33120045      | Pig iron shapes and forms (excluding silvery iron, castings, forgings, and fabricated metal products) .....                     | D        | D                        |
|               | .....1,000 s tons .....   | D        | D                        |
|               | .....2002..   | D        | D                        |
|               | .....1997..   | D        | D                        |
| 32410017      | Lubricating oils and greases and other petroleum products .....   | X        | 962                      |
|               | .....2002..   | X        | 890                      |
|               | .....1997..   | X        | D                        |
| 33350003      | Industrial dies, molds, jigs, and fixtures .....  | X        | 249                      |
|               | .....2002..   | X        | D                        |
|               | .....1997..   | X        | D                        |
| 33599103      | Carbon and graphite electrodes .....  | X        | 12 149                   |
|               | .....2002..   | X        | 32 231                   |
|               | .....1997..   | X        | D                        |
| 33111205      | Ferrochromium shapes and forms (excluding castings, forgings, and fabricated metal products) .....                              | D        | D                        |
|               | .....1,000 s tons .....   | D        | D                        |
|               | .....2002..   | D        | D                        |
|               | .....1997..   | D        | D                        |
| 33111207      | Ferrosilicon (more than 8 percent silicon) shapes and forms (excluding castings, forgings, and fabricated metal products) ..... | D        | D                        |
|               | .....1,000 s tons .....   | 7.3      | 4 050                    |
|               | .....2002..   | 7.3      | D                        |
|               | .....1997..   | 7.3      | D                        |
| 331000AE      | All other ferrous shapes and forms (excluding castings, forgings, and fabricated metal products) .....                          | D        | D                        |
|               | .....1,000 s tons .....   | -        | -                        |
|               | .....2002..   | -        | -                        |
|               | .....1997..   | -        | -                        |
| 33100038      | Aluminum and aluminum-base alloy shapes and forms (excluding castings, forgings, and fabricated metal products) .....           | X        | D                        |
|               | .....2002..   | X        | N                        |
|               | .....1997..   | X        | N                        |
| 33141933      | Nickel (excluding ferronickel) shapes and forms (excluding castings, forgings, and fabricated metal products) .....             | D        | D                        |
|               | .....1,000 s tons .....   | 1.7      | 11 442                   |
|               | .....2002..   | 1.7      | D                        |
|               | .....1997..   | 1.7      | N                        |
| 33141939      | Tin shapes and forms (excluding castings, forgings, and fabricated metal products) .....  | D        | D                        |
|               | .....1,000 s tons .....   | N        | N                        |
|               | .....2002..   | N        | N                        |
|               | .....1997..   | N        | N                        |
| 33141905      | All other nonferrous shapes and forms (excluding castings, forgings, and fabricated metal products) .....                       | X        | 70 179                   |
|               | .....2002..   | X        | N                        |
|               | .....1997..   | X        | D                        |
| 33151103      | Gray iron ingot molds and stools .....  | X        | 84                       |
|               | .....2002..   | X        | D                        |
|               | .....1997..   | X        | D                        |
| 33151007      | All other iron and steel castings .....   | X        | D                        |
|               | .....2002..   | X        | 1 557                    |
|               | .....1997..   | X        | D                        |
| 32712400      | Clay refractories .....   | X        | D                        |
|               | .....2002..   | X        | 1 316                    |
|               | .....1997..   | X        | 6 657                    |
| 32712500      | Nonclay refractories .....  | X        | 11 517                   |
|               | .....2002..   | X        | D                        |
|               | .....1997..   | X        | D                        |
| 32741007      | Lime fluxes, including quicklime .....  | X        | D                        |
|               | .....2002..   | X        | D                        |
|               | .....1997..   | X        | D                        |
| 32799207      | Limestone fluxes .....  | X        | D                        |
|               | .....2002..   | X        | D                        |
|               | .....1997..   | X        | D                        |
| 33120067      | Steel wire, for redrawing .....   | D        | D                        |
|               | .....1,000 s tons .....   | N        | N                        |
|               | .....2002..   | N        | D                        |
|               | .....1997..   | N        | D                        |
| 33111201      | Other ferroalloy shapes and forms (including silvery iron, ferrotungsten, ferromolybdenum, ferronickel, etc.) .....             | D        | D                        |
|               | .....1,000 s tons .....   | D        | D                        |
|               | .....2002..   | D        | D                        |
|               | .....1997..   | D        | D                        |
| 00970099      | All other materials and components, parts, containers, and supplies .....   | X        | 213 581                  |
|               | .....2002..   | X        | 355 607                  |
|               | .....1997..   | X        | 2 926                    |
| 00971000      | Materials, ingredients, containers, and supplies, nsk .....   | X        | 8 586                    |
|               | .....2002..   | X        | D                        |
|               | .....1997..   | X        | D                        |

Note 1: For some establishments, data have been estimated from central unit values that are based on quantity-value relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: p-10 to 19 percent estimated; q-20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by S.

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