

# Mineral Industry Surveys

---

**For information, contact:**

Lisa A. Corathers, Silicon Commodity Specialist  
U.S. Geological Survey  
989 National Center  
Reston, VA 20192  
Telephone: (703) 648-4973, Fax: (703) 648-7757  
E-mail: lcorathers@usgs.gov

Lisa D. Miller (Data)  
Telephone: (703) 648-7973  
Fax: (703) 648-7975  
E-mail: millerl@usgs.gov

**Internet:** <http://minerals.usgs.gov/minerals>

## SILICON IN MAY 2007

Preliminary data for May 2007 indicate that domestic production of silicon ferroalloys, on a gross-weight basis, increased by 5% compared with the revised amount (24,900 metric tons) in April 2007, according to the U.S. Geological Survey. Net shipments were about the same as those in April. Ending stocks increased slightly compared with those at the end of April. Stocks included adjustments in inventory and in-plant

consumption of ferrosilicon to produce magnesium ferrosilicon and other miscellaneous alloys. Production-related statistics for silicon metal were concealed to avoid disclosing company proprietary data.

Data for U.S. imports and exports for January through April 2007 are published in this issue.

### Prices, cents per pound, silicon content

|               | <u>50% Ferrosilicon<sup>1</sup></u> | <u>75% Ferrosilicon<sup>2</sup></u> | <u>Silicon Metal<sup>2</sup></u> |
|---------------|-------------------------------------|-------------------------------------|----------------------------------|
| <b>May 3</b>  | <b>67.00-68.00</b>                  | <b>59.00-61.00</b>                  | <b>94.00-96.00</b>               |
| <b>May 10</b> | <b>67.00-68.00</b>                  | <b>60.00-61.00</b>                  | <b>95.00-97.50</b>               |
| <b>May 17</b> | <b>68.00-70.00</b>                  | <b>60.00-62.00</b>                  | <b>95.00-97.50</b>               |
| <b>May 24</b> | <b>70.00-72.00</b>                  | <b>62.00-66.00</b>                  | <b>95.00-97.50</b>               |
| <b>May 31</b> | <b>75.00-80.00</b>                  | <b>65.00-68.00</b>                  | <b>95.00-97.50</b>               |

<sup>1</sup>Source: Ryan's Notes, North American transaction price.

<sup>2</sup>Source: Platts Metals Week, dealer import price.

TABLE 1  
U.S. PRODUCTION, SHIPMENTS, AND PRODUCER STOCKS OF SILICON ALLOYS AND METAL IN 2007<sup>1, 2, 3</sup>

(Metric tons)

| Material                                     | Gross production <sup>4</sup> |                           | Net shipments |                           | Stocks, |
|--|-------------------------------|---------------------------|---------------|---------------------------|---------|
|  | May                           | Year to date <sup>7</sup> | May           | Year to date <sup>7</sup> | May 31  |
| Ferrosilicon, all grades <sup>5, 6</sup>     | 26,200                        | 116,000                   | 21,600        | 97,400                    | 23,900  |
| Silicon metal, excludes semiconductor grades | W                             | W                         | W             | W                         | W       |

W Withheld to avoid disclosing company proprietary data.

<sup>1</sup>Data are rounded to no more than three significant digits.

<sup>2</sup>Includes U.S. Geological Survey estimates.

<sup>3</sup>Data for silvery pig iron (less than 25% silicon) withheld to avoid disclosing company proprietary data.

<sup>4</sup>Includes in-plant consumption, as in production of magnesium ferrosilicon and other miscellaneous alloys.

<sup>5</sup>Ferrosilicon categories were aggregated to avoid disclosing company proprietary data.

<sup>6</sup>Includes miscellaneous silicon alloys.

<sup>7</sup>Includes revisions to prior months data.

TABLE 2  
U.S. EXPORTS OF FERROSILICON AND SILICON METAL IN APRIL 2007<sup>1, 2</sup>

(Metric tons, unless otherwise specified)

| Country                    | Gross weight | Contained weight | Value     | Year to date |                  |             |
|----------------------------|--------------|------------------|-----------|--------------|------------------|-------------|
|                            |              |                  |           | Gross weight | Contained weight | Value       |
| <b>Ferrosilicon:</b>       |              |                  |           |              |                  |             |
| More than 55% silicon:     |              |                  |           |              |                  |             |
| Canada                     | 604          | 362              | \$669,000 | 2,200        | 1,320            | \$2,460,000 |
| Colombia                   | 5            | 4                | 7,800     | 11           | 8                | 15,600      |
| Italy                      | --           | --               | --        | 16           | 10               | 30,200      |
| Malaysia                   | --           | --               | --        | 11           | 8                | 15,600      |
| Mexico                     | 62           | 37               | 94,300    | 448          | 270              | 555,000     |
| Spain                      | --           | --               | --        | 16           | 10               | 20,300      |
| Thailand                   | --           | --               | --        | 16           | 10               | 16,100      |
| Total                      | 671          | 403              | 771,000   | 2,720        | 1,630            | 3,120,000   |
| <b>Other ferrosilicon:</b> |              |                  |           |              |                  |             |
| Belgium                    | 17           | 8                | 19,600    | 17           | 8                | 19,600      |
| Canada                     | 245          | 123              | 289,000   | 929          | 465              | 993,000     |
| China                      | --           | --               | --        | 9            | 5                | 15,100      |
| Colombia                   | 14           | 6                | 19,500    | 27           | 13               | 39,000      |
| India                      | --           | --               | --        | 3            | 1                | 4,810       |
| Indonesia                  | --           | --               | --        | 16           | 8                | 23,800      |
| Italy                      | 16           | 9                | 30,200    | 33           | 18               | 60,500      |
| Mexico                     | 64           | 32               | 85,300    | 218          | 110              | 279,000     |
| Peru                       | --           | --               | --        | 15           | 8                | 28,800      |
| Spain                      | --           | --               | --        | 16           | 8                | 23,800      |
| Total                      | 356          | 177              | 444,000   | 1,280        | 641              | 1,490,000   |
| Total ferrosilicon         | 1,030        | 581              | 1,210,000 | 4,000        | 2,280            | 4,600,000   |

See footnotes at end of table.

TABLE 2--Continued  
 U.S. EXPORTS OF FERROSILICON AND SILICON METAL IN APRIL 2007<sup>1,2</sup>

(Metric tons, unless otherwise specified)

| Country                   | Gross weight | Contained weight   | Value        | Year to date |                    |              |
|---------------------------|--------------|--------------------|--------------|--------------|--------------------|--------------|
|                           |              |                    |              | Gross weight | Contained weight   | Value        |
| <b>Metal:</b>             |              |                    |              |              |                    |              |
| More than 99.99% silicon: |              |                    |              |              |                    |              |
| China                     | 219          | XX                 | \$19,200,000 | 872          | XX                 | \$92,900,000 |
| Denmark                   | 9            | XX                 | 1,230,000    | 25           | XX                 | 2,970,000    |
| Germany                   | 183          | XX                 | 13,600,000   | 796          | XX                 | 59,200,000   |
| Italy                     | 3            | XX                 | 315,000      | 23           | XX                 | 2,620,000    |
| Japan                     | 812          | XX                 | 68,800,000   | 2,720        | XX                 | 248,000,000  |
| Korea, Republic of        | 106          | XX                 | 9,440,000    | 436          | XX                 | 36,300,000   |
| Malaysia                  | 10           | XX                 | 1,580,000    | 51           | XX                 | 8,180,000    |
| Norway                    | 266          | XX                 | 15,100,000   | 1,180        | XX                 | 55,600,000   |
| Taiwan                    | 128          | XX                 | 14,900,000   | 317          | XX                 | 36,300,000   |
| United Kingdom            | 12           | XX                 | 1,790,000    | 44           | XX                 | 6,370,000    |
| Other (31 countries)      | 21           | XX                 | 1,940,000    | 80           | XX                 | 8,950,000    |
| Total                     | 1,770        | 1,770 <sup>e</sup> | 148,000,000  | 6,550        | 6,550 <sup>e</sup> | 557,000,000  |
| 99.00% - 99.99% silicon:  |              |                    |              |              |                    |              |
| Brazil                    | 152          | 151                | 377,000      | 385          | 381                | 977,000      |
| China                     | 337          | 334                | 991,000      | 365          | 362                | 1,070,000    |
| France                    | --           | --                 | --           | 6            | 6                  | 8,500        |
| Germany                   | 36           | 36                 | 51,000       | 36           | 36                 | 51,000       |
| Indonesia                 | --           | --                 | --           | 5            | 5                  | 6,960        |
| Ireland                   | 11           | 11                 | 15,000       | 11           | 11                 | 15,000       |
| Peru                      | --           | --                 | --           | 3            | 3                  | 4,500        |
| Singapore                 | --           | --                 | --           | 9            | 9                  | 12,400       |
| Taiwan                    | --           | --                 | --           | 8            | 7                  | 10,600       |
| United Kingdom            | --           | --                 | --           | 7            | 7                  | 9,690        |
| Other (3 countries)       | 1            | 1                  | 3,900        | 8            | 8                  | 17,500       |
| Total                     | 538          | 533                | 1,440,000    | 842          | 834                | 2,180,000    |
| Other silicon:            |              |                    |              |              |                    |              |
| Belgium                   | 12           | 12                 | 26,100       | 16           | 15                 | 54,700       |
| Canada                    | 46           | 45                 | 47,800       | 121          | 118                | 130,000      |
| China                     | 189          | 183                | 252,000      | 326          | 317                | 510,000      |
| El Salvador               | 1            | 1                  | 3,530        | 11           | 11                 | 16,700       |
| Germany                   | 9            | 9                  | 12,000       | 15           | 15                 | 20,100       |
| Japan                     | 181          | 174                | 2,050,000    | 449          | 433                | 2,790,000    |
| Korea, Republic of        | --           | --                 | --           | 325          | 316                | 430,000      |
| Mexico                    | 3            | 3                  | 17,800       | 11           | 11                 | 56,400       |
| Netherlands               | 38           | 37                 | 443,000      | 246          | 239                | 1,300,000    |
| United Kingdom            | --           | --                 | --           | 11           | 10                 | 24,600       |
| Other (8 countries)       | 5            | 4                  | 20,200       | 27           | 26                 | 60,900       |
| Total                     | 483          | 467                | 2,870,000    | 1,560        | 1,510              | 5,400,000    |
| Total silicon metal       | 2,790        | 2,770              | 152,000,000  | 8,950        | 8,890              | 564,000,000  |

<sup>e</sup>Estimated. XX Not applicable. -- Zero.

<sup>1</sup>Presentation of monthly data is based on the year-to-date quantities (gross weight) of the top 10 countries.

<sup>2</sup>Data are rounded to no more than three significant digits; may not add to totals shown.

Source: U.S. Census Bureau.

TABLE 3  
U.S. IMPORTS FOR CONSUMPTION OF FERROSILICON AND SILICON METAL IN APRIL 2007<sup>1,2</sup>

(Metric tons, unless otherwise specified)

| Country                        | Gross weight | Contained weight | Value      | Year to date |                  |            |
|--------------------------------|--------------|------------------|------------|--------------|------------------|------------|
|                                |              |                  |            | Gross weight | Contained weight | Value      |
| <b>Ferrosilicon:</b>           |              |                  |            |              |                  |            |
| 55% - 80% silicon, over 3% Ca: |              |                  |            |              |                  |            |
| Brazil                         | --           | --               | --         | 95           | 58               | \$124,000  |
| China                          | 78           | 51               | \$109,000  | 255          | 152              | 343,000    |
| France                         | --           | --               | --         | 264          | 160              | 419,000    |
| Sweden                         | --           | --               | --         | 4            | 2                | 11,300     |
| Total                          | 78           | 51               | 109,000    | 618          | 372              | 897,000    |
| 55% - 80% silicon, Other:      |              |                  |            |              |                  |            |
| Brazil                         | 119          | 93               | 109,000    | 887          | 676              | 872,000    |
| Canada                         | 1,070        | 802              | 1,390,000  | 4,310        | 3,250            | 5,300,000  |
| China                          | 461          | 348              | 370,000    | 41,000       | 29,000           | 33,700,000 |
| France                         | 319          | 223              | 631,000    | 673          | 479              | 1,230,000  |
| Germany                        | 35           | 26               | 186,000    | 138          | 103              | 711,000    |
| Japan                          | 17           | 12               | 22,800     | 34           | 25               | 45,600     |
| Iceland                        | 8            | 6                | 8,430      | 353          | 264              | 348,000    |
| Norway                         | 227          | 168              | 286,000    | 798          | 586              | 1,120,000  |
| Russia                         | 5,490        | 3,670            | 4,440,000  | 23,800       | 17,400           | 20,300,000 |
| Venezuela                      | 5,200        | 3,900            | 4,290,000  | 15,100       | 11,300           | 12,200,000 |
| Other (2 countries)            | 19           | 12               | 123,000    | 53           | 37               | 246,000    |
| Total                          | 13,000       | 9,260            | 11,900,000 | 87,200       | 63,200           | 76,000,000 |
| 80% - 90% silicon, Germany     | 17           | 13               | 95,500     | 34           | 25               | 184,000    |
| More than 90% silicon, China   | --           | --               | --         | 3,000        | 2,750            | 2,390,000  |
| <b>Magnesium ferrosilicon:</b> |              |                  |            |              |                  |            |
| Argentina                      | 196          | 80               | 373,000    | 609          | 272              | 1,100,000  |
| Brazil                         | --           | --               | --         | 1,560        | 712              | 1,370,000  |
| Canada                         | 1,050        | 486              | 1,100,000  | 3,720        | 1,730            | 3,790,000  |
| China                          | 17           | 2                | 17,100     | 87           | 40               | 100,000    |
| France                         | --           | --               | --         | 47           | 23               | 70,900     |
| Germany                        | 15           | 8                | 38,100     | 35           | 18               | 67,100     |
| Japan                          | --           | --               | --         | 95           | 34               | 205,000    |
| Netherlands                    | --           | --               | --         | 54           | 25               | 52,700     |
| Norway                         | 644          | 300              | 601,000    | 1,010        | 469              | 952,000    |
| Russia                         | --           | --               | --         | 1,400        | 630              | 672,000    |
| Other (South Africa)           | --           | --               | --         | 18           | 9                | 22,800     |
| Total                          | 1,920        | 876              | 2,130,000  | 8,640        | 3,960            | 8,400,000  |
| <b>Other ferrosilicon:</b>     |              |                  |            |              |                  |            |
| Canada                         | 603          | 119              | 524,000    | 2,790        | 635              | 2,520,000  |
| China                          | --           | --               | --         | 12,200       | 1,540            | 3,320,000  |
| France                         | 5            | 3                | 6,480      | 23           | 11               | 23,700     |
| Russia                         | 33           | 16               | 25,000     | 163          | 82               | 145,000    |
| Total                          | 642          | 138              | 555,000    | 15,100       | 2,270            | 6,010,000  |
| Total ferrosilicon             | 15,600       | 10,300           | 14,700,000 | 115,000      | 72,600           | 93,900,000 |

See footnotes at end of table.

TABLE 3--Continued  
 U.S. IMPORTS FOR CONSUMPTION OF FERROSILICON AND SILICON METAL IN APRIL 2007<sup>1,2</sup>

(Metric tons, unless otherwise specified)

| Country                   | Gross weight | Contained weight | Value      | Year to date |                  |             |
|---------------------------|--------------|------------------|------------|--------------|------------------|-------------|
|                           |              |                  |            | Gross weight | Contained weight | Value       |
| <b>Metal:</b>             |              |                  |            |              |                  |             |
| More than 99.99% silicon: |              |                  |            |              |                  |             |
| Brazil                    | --           | XX               | --         | 3            | XX               | \$271,000   |
| Canada                    | 2            | XX               | \$76,000   | 7            | XX               | 225,000     |
| China                     | 19           | XX               | 658,000    | 27           | XX               | 1,570,000   |
| Germany                   | 102          | XX               | 9,980,000  | 384          | XX               | 37,500,000  |
| Italy                     | 27           | XX               | 2,080,000  | 97           | XX               | 7,850,000   |
| Japan                     | 47           | XX               | 7,180,000  | 147          | XX               | 19,200,000  |
| Korea, Republic of        | 5            | XX               | 860,000    | 23           | XX               | 5,030,000   |
| Poland                    | 6            | XX               | 190,000    | 6            | XX               | 190,000     |
| Taiwan                    | 1            | XX               | 107,000    | 18           | XX               | 1,330,000   |
| Turkey                    | --           | XX               | --         | 13           | XX               | 28,900      |
| Other (12 countries)      | 3            | XX               | 595,000    | 11           | XX               | 1,630,000   |
| Total                     | 212          | 212 <sup>e</sup> | 21,700,000 | 737          | 737 <sup>e</sup> | 74,700,000  |
| 99.00% - 99.99% silicon:  |              |                  |            |              |                  |             |
| Australia                 | 1,080        | 1,080            | 1,920,000  | 5,030        | 5,000            | 8,620,000   |
| Brazil                    | 4,130        | 4,100            | 7,200,000  | 15,200       | 15,100           | 25,300,000  |
| Canada                    | 1,940        | 1,930            | 3,370,000  | 7,340        | 7,290            | 12,800,000  |
| Netherlands               | --           | --               | --         | 312          | 310              | 567,000     |
| Norway                    | 648          | 643              | 1,770,000  | 2,550        | 2,510            | 6,390,000   |
| Philippines               | 147          | 146              | 225,000    | 440          | 404              | 676,000     |
| South Africa              | 1,450        | 1,440            | 2,460,000  | 9,040        | 8,940            | 14,400,000  |
| Total                     | 9,400        | 9,330            | 17,000,000 | 39,900       | 39,500           | 68,700,000  |
| Other silicon:            |              |                  |            |              |                  |             |
| Brazil                    | --           | --               | --         | 1,270        | 1,250            | 2,250,000   |
| Canada                    | 593          | 582              | 1,110,000  | 1,930        | 1,880            | 3,310,000   |
| China                     | 7            | 4 <sup>3</sup>   | 33,100     | 17           | 14               | 68,200      |
| France                    | --           | --               | --         | (4)          | (4)              | 2,660       |
| Japan                     | 11           | 1                | 12,000     | 73           | 1                | 79,100      |
| Norway                    | --           | --               | --         | 18           | 18               | 57,100      |
| Philippines               | 15           | 14 <sup>3</sup>  | 22,200     | 187          | 182              | 284,000     |
| Sweden                    | 120          | 21               | 131,000    | 205          | 52               | 329,000     |
| United Kingdom            | 40           | 39               | 74,500     | 179          | 175              | 315,000     |
| Total                     | 786          | 661              | 1,380,000  | 3,870        | 3,570            | 6,700,000   |
| Total silicon metal       | 10,400       | 10,200           | 40,100,000 | 44,500       | 43,800           | 150,000,000 |

<sup>e</sup>Estimated. XX Not applicable. -- Zero.

<sup>1</sup>Presentation of monthly data is based on the year-to-date quantities (gross weight) of the top 10 countries.

<sup>2</sup>Data are rounded to no more than three significant digits; may not add to totals shown.

<sup>3</sup>All or part of these data have been referred to the U.S. Census Bureau for verification.

<sup>4</sup>Less than ½ unit.

Source: U.S. Census Bureau.