

Mineral Industry Surveys

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SILICON IN DECEMBER 2007

Preliminary data for December 2007 indicate that domestic production and net shipments of silicon ferroalloys, on a gross-weight basis, increased by 3% and decreased by 15%, respectively, compared with those in November 2007, according to the U.S. Geological Survey. Ending stocks increased by 7% compared with those at the end of November. 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.

Domestic production of ferrosilicon during the fourth quarter of 2007 [67,100 metric tons (t)] was slightly higher compared with that of the third quarter 2007. Domestic shipments (57,000 t) were 7% higher than those shipped during the third quarter 2007. Domestic production of ferrosilicon during 2007 (271,000 t) was 7% higher than that of 2006. Net shipments of ferrosilicon during 2007 (222,000 t) were 9% higher than those in 2006. All domestic data for ferrosilicon have been combined to avoid disclosing company proprietary data.

U.S. trade data for November 2007 are published in this issue.

Prices, cents per pound, silicon content

| | <u>50% Ferrosilicon¹</u> | <u>75% Ferrosilicon²</u> | <u>Silicon Metal²</u> |
|--------------------|-------------------------------------|-------------------------------------|----------------------------------|
| December 6 | 78.00-80.00 | 70.00-71.00 | 150.00-155.00 |
| December 13 | 78.00-80.00 | 70.00-71.50 | 150.00-155.00 |
| December 20 | 78.00-80.00 | 70.00-71.50 | 150.00-155.00 |
| December 27 | 78.00-80.00 | 70.00-71.50 | 150.00-155.00 |

¹Source: Ryan's Notes, North American transaction price.

²Source: Platts Metals Week, dealer import price.

TABLE 1
U.S. PRODUCTION, SHIPMENTS, AND PRODUCER STOCKS OF SILICON ALLOYS AND METAL IN 2007^{1, 2, 3}

(Metric tons)

| Material | Gross production ⁴ | | Net shipments | | Stocks, |
|--|-------------------------------|--------------|---------------|--------------|-------------|
| | December | Year to date | December | Year to date | December 31 |
| Ferrosilicon, all grades ^{5, 6} | 23,300 | 271,000 | 17,800 | 222,000 | 22,300 |
| Silicon metal, excludes semiconductor grades | W | W | W | W | W |

W Withheld to avoid disclosing company proprietary data.

¹Data are rounded to no more than three significant digits.

²Includes U.S. Geological Survey estimates.

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

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

⁵Ferrosilicon categories were aggregated to avoid disclosing company proprietary data.

⁶Includes miscellaneous silicon alloys and other silicon products.

TABLE 2
U.S. EXPORTS OF FERROSILICON AND SILICON METAL IN NOVEMBER 2007^{1, 2}

(Metric tons, unless otherwise specified)

| Country | Gross weight | Contained weight | Value | Year to date | | |
|------------------------|--------------|------------------|-----------|--------------|------------------|-------------|
| | | | | Gross weight | Contained weight | Value |
| Ferrosilicon: | | | | | | |
| More than 55% silicon: | | | | | | |
| Canada | 617 | 370 | \$710,000 | 5,850 | 3,510 | \$6,840,000 |
| Colombia | -- | -- | -- | 58 | 40 | 85,000 |
| Costa Rica | 1 | 1 | 3,840 | 1 | 1 | 3,840 |
| Italy | -- | -- | -- | 16 | 10 | 30,200 |
| Malaysia | -- | -- | -- | 55 | 43 | 87,500 |
| Mexico | 103 | 62 | 136,000 | 1,190 | 722 | 1,460,000 |
| Netherlands | -- | -- | -- | 106 | 63 | 106,000 |
| Spain | -- | -- | -- | 16 | 10 | 20,300 |
| Thailand | -- | -- | -- | 16 | 10 | 16,100 |
| United Kingdom | -- | -- | -- | 12 | 11 | 33,900 |
| Total | 721 | 432 | 850,000 | 7,320 | 4,420 | 8,680,000 |
| Other ferrosilicon: | | | | | | |
| Belgium | -- | -- | -- | 17 | 8 | 19,600 |
| Canada | 50 | 25 | 104,000 | 1,850 | 925 | 2,240,000 |
| Colombia | 19 | 9 | 26,000 | 97 | 45 | 137,000 |
| Dominican Republic | -- | -- | -- | 18 | 9 | 48,200 |
| Germany | -- | -- | -- | 22 | 5 | 20,600 |
| Indonesia | 11 | 5 | 17,500 | 27 | 13 | 41,200 |
| Italy | -- | -- | -- | 50 | 27 | 90,700 |
| Mexico | 40 | 20 | 45,500 | 668 | 336 | 854,000 |
| Peru | -- | -- | -- | 15 | 8 | 28,800 |
| Spain | -- | -- | -- | 16 | 8 | 23,800 |
| Other (7 countries) | -- | -- | -- | 30 | 15 | 50,600 |
| Total | 120 | 59 | 193,000 | 2,810 | 1,400 | 3,560,000 |
| Total ferrosilicon | 841 | 491 | 1,040,000 | 10,100 | 5,810 | 12,200,000 |

See footnotes at end of table.

TABLE 2--Continued
U.S. EXPORTS OF FERROSILICON AND SILICON METAL IN NOVEMBER 2007^{1,2}

(Metric tons, unless otherwise specified)

| Country | Gross weight | Contained weight | Value | Year to date | | |
|---------------------------------|--------------|--------------------------|--------------------|---------------|---------------------------|----------------------|
| | | | | Gross weight | Contained weight | Value |
| Metal: | | | | | | |
| Over 99.99% silicon: | | | | | | |
| Canada | 2 | XX | \$166,000 | 61 | XX | \$4,200,000 |
| China | 314 | XX | 36,900,000 | 2,590 | XX | 295,000,000 |
| Germany | 293 | XX | 20,900,000 | 2,350 | XX | 177,000,000 |
| Japan | 821 | XX | 72,700,000 | 8,070 | XX | 719,000,000 |
| Korea, Republic of | 103 | XX | 8,760,000 | 1,110 | XX | 94,400,000 |
| Malaysia | 15 | XX | 3,290,000 | 136 | XX | 23,500,000 |
| Norway | 358 | XX | 21,200,000 | 3,160 | XX | 179,000,000 |
| Taiwan | 117 | XX | 9,190,000 | 913 | XX | 85,900,000 |
| Ukraine | 3 | XX | 183,000 | 162 | XX | 12,200,000 |
| United Kingdom | 10 | XX | 1,460,000 | 102 | XX | 15,000,000 |
| Other (46 countries) | 42 | XX | 4,890,000 | 363 | XX | 47,400,000 |
| Total | 2,080 | 2,080^c | 180,000,000 | 19,000 | 19,000^c | 1,650,000,000 |
| 99.00% - 99.99% silicon: | | | | | | |
| Brazil | -- | -- | -- | 678 | 672 | 1,720,000 |
| China | -- | -- | -- | 1,130 | 1,120 | 3,330,000 |
| Germany | 55 | 55 | 124,000 | 92 | 91 | 175,000 |
| Italy | 12 | 12 | 17,000 | 18 | 18 | 25,000 |
| Japan | -- | -- | -- | 17 | 17 | 24,500 |
| Mexico | -- | -- | -- | 14 | 14 | 22,900 |
| Singapore | 23 | 23 | 32,500 | 52 | 52 | 73,400 |
| Spain | 33 | 33 | 97,000 | 33 | 33 | 97,000 |
| Switzerland | -- | -- | -- | 21 | 21 | 30,300 |
| Taiwan | -- | -- | -- | 16 | 16 | 22,900 |
| Other (10 countries) | 3 | 3 | 8,010 | 62 | 61 | 98,400 |
| Total | 127 | 126 | 279,000 | 2,140 | 2,120 | 5,610,000 |
| Other silicon: | | | | | | |
| Canada | 189 | 184 | 189,000 | 573 | 556 | 598,000 |
| China | 44 | 43 | 292,000 | 761 | 739 | 2,260,000 |
| France | 45 | 44 | 59,800 | 82 | 80 | 109,000 |
| Germany | 102 | 97 | 883,000 | 139 | 133 | 940,000 |
| Hong Kong | -- | -- | -- | 42 | 41 | 55,500 |
| Japan | 100 | 97 | 132,000 | 1,250 | 1,210 | 4,610,000 |
| Korea, Republic of | -- | -- | -- | 847 | 822 | 1,120,000 |
| Mexico | 23 | 22 | 54,300 | 53 | 51 | 190,000 |
| Netherlands | 64 | 62 | 566,000 | 745 | 723 | 3,770,000 |
| Taiwan | 4 | 4 | 35,500 | 97 | 93 | 723,000 |
| Other (19 countries) | 1 | 1 | 16,000 | 185 | 179 | 434,000 |
| Total | 572 | 554 | 2,230,000 | 4,770 | 4,630 | 14,800,000 |
| Total silicon metal | 2,780 | 2,760 | 182,000,000 | 25,900 | 25,800 | 1,670,000,000 |

^cEstimated. XX Not applicable. -- Zero.

¹Countries listed are the 10 leading exporters in terms of year-to-date quantities (gross weight).

²Data 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 NOVEMBER 2007^{1,2}

(Metric tons, unless otherwise specified)

| Country | Gross weight | Contained weight | Value | Year to date | | |
|---------------------------------------|--------------|------------------|-------------|--------------|------------------|-------------|
| | | | | Gross weight | Contained weight | Value |
| Ferrosilicon: | | | | | | |
| 55% - 80% silicon, over 3% Ca: | | | | | | |
| Brazil | -- | -- | -- | 152 | 92 | \$200,000 |
| Canada | -- | -- | -- | 68 | 41 | 36,800 |
| China | 1,510 | 1,130 | \$1,370,000 | 5,350 | 3,970 | 4,830,000 |
| France | 126 | 76 | 192,000 | 1,210 | 752 | 1,920,000 |
| Sweden | -- | -- | -- | 4 | 2 | 11,300 |
| Total | 1,640 | 1,200 | 1,560,000 | 6,790 | 4,860 | 7,010,000 |
| 55% - 80% silicon, Other: | | | | | | |
| Brazil | 65 | 49 | 67,200 | 4,250 | 3,220 | 4,210,000 |
| Canada | 874 | 652 | 1,130,000 | 12,200 | 9,020 | 15,100,000 |
| China | 20 | 15 | 18,900 | 119,000 | 87,900 | 104,000,000 |
| France | 162 | 106 | 273,000 | 1,900 | 1,310 | 3,620,000 |
| Germany | 57 | 43 | 263,000 | 428 | 319 | 2,090,000 |
| Iceland | -- | -- | -- | 503 | 375 | 494,000 |
| Japan | 51 | 17 | 116,000 | 118 | 64 | 219,000 |
| Norway | 109 | 80 | 164,000 | 2,010 | 1,480 | 2,880,000 |
| Russia | 7,900 | 6,020 | 9,150,000 | 53,200 | 39,800 | 52,600,000 |
| Venezuela | 4,000 | 3,000 | 3,540,000 | 39,100 | 29,300 | 32,900,000 |
| Other (4 countries) | 10 | 6 | 59,000 | 192 | 133 | 681,000 |
| Total | 13,200 | 9,980 | 14,800,000 | 233,000 | 173,000 | 219,000,000 |
| 80% - 90% silicon, Germany | -- | -- | -- | 34 | 25 | 184,000 |
| More than 90% silicon, China | -- | -- | -- | 3,000 | 2,750 | 2,390,000 |
| Magnesium Ferrosilicon: | | | | | | |
| Argentina | 144 | 59 | 298,000 | 1,430 | 605 | 2,720,000 |
| Brazil | -- | -- | -- | 1,800 | 818 | 1,580,000 |
| Canada | 976 | 450 | 924,000 | 10,100 | 4,710 | 10,500,000 |
| China | -- | -- | -- | 820 | 363 | 875,000 |
| France | -- | -- | -- | 137 | 64 | 182,000 |
| Germany | -- | -- | -- | 79 | 35 | 144,000 |
| Japan | 15 | 7 | 31,300 | 207 | 78 | 458,000 |
| Netherlands | -- | -- | -- | 54 | 25 | 52,700 |
| Norway | 27 | 13 | 27,600 | 1,920 | 888 | 1,840,000 |
| Russia | -- | -- | -- | 1,400 | 630 | 672,000 |
| Other (2 countries) | -- | -- | -- | 71 | 40 | 96,200 |
| Total | 1,160 | 528 | 1,280,000 | 18,000 | 8,260 | 19,100,000 |
| Other ferrosilicon: | | | | | | |
| Brazil | 11 | 5 | 24,800 | 11 | 5 | 24,800 |
| Canada | 1,150 | 315 | 944,000 | 7,640 | 1,910 | 6,900,000 |
| China | 1 | (3) | 5,930 | 21,000 | 2,780 | 6,150,000 |
| France | 18 | 8 | 17,200 | 122 | 57 | 121,000 |
| Russia | -- | -- | -- | 241 | 117 | 208,000 |
| Total | 1,180 | 329 | 992,000 | 29,000 | 4,860 | 13,400,000 |
| Total ferrosilicon | 17,200 | 12,000 | 18,600,000 | 287,000 | 191,000 | 26,800,000 |

See footnotes at end of table

TABLE 3--Continued
U.S. IMPORTS FOR CONSUMPTION OF FERROSILICON AND SILICON METAL IN NOVEMBER 2007^{1,2}

(Metric tons, unless otherwise specified)

| | Gross weight | Contained weight | Value | Year to date | | |
|----------------------------------|---------------|------------------------|-------------------|----------------|--------------------------|--------------------|
| | | | | Gross weight | Contained weight | Value |
| Metal: | | | | | | |
| More than 99.99% silicon: | | | | | | |
| Canada | 20 | XX | \$794,000 | 62 | XX | \$2,070,000 |
| China | 7 | XX | 134,000 | 81 | XX | 5,280,000 |
| Germany | 143 | XX | 13,700,000 | 1,200 | XX | 124,000,000 |
| Italy | 24 | XX | 2,130,000 | 257 | XX | 22,700,000 |
| Japan | 39 | XX | 5,430,000 | 494 | XX | 67,000,000 |
| Korea, Republic of | 1 | XX | 289,000 | 34 | XX | 7,530,000 |
| Poland | (3) | XX | 9,400 | 13 | XX | 599,000 |
| Taiwan | -- | XX | -- | 20 | XX | 1,520,000 |
| Turkey | -- | XX | -- | 13 | XX | 28,900 |
| United Kingdom | 3 | XX | 541,000 | 18 | XX | 1,110,000 |
| Other (15 countries) | 2 | XX | 464,000 | 28 | XX | 3,970,000 |
| Total | 239 | 239^c | 23,500,000 | 2,220 | 2,220^c | 235,000,000 |
| 99.00% - 99.99% silicon: | | | | | | |
| Australia | 750 | 745 | 1,340,000 | 13,300 | 13,200 | 23,300,000 |
| Brazil | 3,740 | 3,720 | 7,620,000 | 42,400 | 42,100 | 75,200,000 |
| Canada | 1,770 | 1,760 | 3,410,000 | 19,200 | 19,000 | 35,000,000 |
| France | 893 | 885 | 2,110,000 | 893 | 885 | 2,110,000 |
| Germany | -- | -- | -- | 354 | 5 ⁴ | 460,000 |
| Netherlands | -- | -- | -- | 312 | 310 | 567,000 |
| Norway | 1,460 | 1,450 | 3,490,000 | 8,610 | 8,530 | 22,000,000 |
| Philippines | 21 | 21 | 34,200 | 914 | 874 | 1,440,000 |
| South Africa | 4,350 | 4,320 | 8,290,000 | 35,900 | 35,600 | 62,000,000 |
| Spain | 549 | 545 | 1,150,000 | 2,300 | 2,280 | 4,890,000 |
| Other (3 countries) | 15 | 7 | 26,700 | 78 | 59 | 145,000 |
| Total | 13,500 | 13,400 | 27,500,000 | 124,000 | 123,000 | 227,000,000 |
| Other silicon: | | | | | | |
| Brazil | 405 | 400 | 689,000 | 2,230 | 2,180 | 4,070,000 |
| Canada | 373 | 367 | 698,000 | 5,410 | 5,300 | 9,630,000 |
| France | 95 | 94 | 221,000 | 95 | 94 ⁴ | 224,000 |
| Germany | (3) | (3) | 2,800 | 411 | (3) | 451,000 |
| Japan | -- | -- | -- | 84 | 2 | 97,200 |
| Norway | 268 | 245 | 585,000 | 383 | 338 | 834,000 |
| Philippines | 101 | 99 | 144,000 | 459 | 450 ⁴ | 691,000 |
| South Africa | -- | -- | -- | 40 | 39 | 77,600 |
| Sweden | -- | -- | -- | 277 | 73 | 460,000 |
| United Kingdom | 20 | 20 | 36,000 | 406 | 398 | 719,000 |
| Other (7 countries) | 1 | 1 | 2,400 | 36 | 32 | 218,000 |
| Total | 1,260 | 1,230 | 2,380,000 | 9,820 | 8,910 | 17,500,000 |
| Total silicon metal | 15,000 | 14,900 | 53,300,000 | 19,600 | 17,800 | 480,000,000 |

^cEstimated. XX Not applicable. -- Zero.

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

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

³Less than ½ unit.

⁴All or part of these data have been referred to the U.S. Census Bureau for verification.

Source: U.S. Census Bureau.