

Mineral Industry Surveys

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SILICON IN MAY 2004

In May 2004, domestic production of silicon ferroalloys plus metal, excluding silvery pig iron, decreased by 17% compared with that in April 2004, according to the U.S. Geological Survey. Domestic shipments and stocks of silicon ferroalloys plus metal decreased by 10% and 5%, respectively, compared with those in the previous month. All domestic data for ferrosilicon have been combined to avoid disclosing company proprietary data.

The ensuing discussion is based on a comparison of the April 2004 trade data, which are included in this report, to those of the prior month, on a gross weight basis. Ferrosilicon exports increased by 53%, owing to increases in both trade categories. Silicon metal exports increased by 6%, owing primarily to a significant increase in the "silicon metal, other" trade category. Ferrosilicon imports more than doubled, and silicon metal imports decreased by 8%. The increase in ferrosilicon imports was due primarily to a significant increase in the "ferrosilicon, 55%-80%, other" trade category, while the decrease in silicon metal imports was due to decreases in all trade categories.

On May 1, the Central Government of China announced new measures to stem excessive investment in ferroalloy production capacity by: 1) immediately closing all electric furnaces and blast furnaces with capacities less than 3,200 kVA and 100 cubic meters, respectively; 2) closing electric furnaces with capacities below 5,000 kVA before 2005; 3) eliminating favorable policies for ferroalloy producers including discounted

electricity rates, reduced tax rates, and benefits regarding land usage; and 4) tightening enforcement of environmental regulations (Metal Bulletin Research Ferro-alloys Monthly, 2004). Financial institutions are prohibited from offering financing to closed plants or illegal producers (TEX Report, 2004a).

Update

Brazilian ferroalloy producer Companhia de Ferro Ligas da Bahia-Ferbasa (Ferbasa) began construction of an electric furnace for ferrosilicon production at its Pojuca plant in the Bahia State. The new furnace will have a production capacity of 15,000 tons per year. Ferbasa expects construction to be completed by August 2005 (TEX Report, 2004b).

References Cited

- Metal Bulletin Research Ferro-alloys Monthly, 2004, Ferro-silicon highlights—Asian prices slipping: Metal Bulletin Research Ferro-alloys Monthly, issue 141, May 25, p. 4-5.
 TEX Report, 2004a, Chinese Government strengthens further control of facilities for production of ferro-alloys: TEX Report, v. 36, no. 8522, May 19, p. 4.
 TEX Report, 2004b, Ferbasa/Brazil constructs one electric furnace for Fe-Si production: TEX Report, v. 36, no. 8536, June 8, p. 1.

Prices, cents per pound, silicon content

	<u>50% Ferrosilicon¹</u>	<u>75% Ferrosilicon²</u>	<u>Silicon Metal²</u>
May 6	66.00-69.00	64.00-68.00	83.0-85.0
May 13	66.00-69.00	64.00-66.00	83.0-85.0
May 20	66.00-69.00	65.00-67.20	83.0-87.0
May 27	66.75-67.25	65.00-67.00	83.0-87.0

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 2004^{1, 2, 3}

(Metric tons)

Material	Gross production ⁴		Net shipments		Stocks, May 31
	May	Year to date ⁵	May	Year to date ⁵	
Ferrosilicon, all grades ^{6, 7}	11,300	71,200	11,000	59,200	15,700
Silicon metal, excludes semiconductor grades	11,600	63,300	10,600	62,500	3,470

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.

⁵Includes revisions to previous months' data.

⁶Ferrosilicon categories were aggregated to avoid disclosing company proprietary data.

⁷Includes miscellaneous silicon alloys.

TABLE 2
U.S. EXPORTS OF FERROSILICON AND SILICON METAL IN APRIL 2004^{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	695	417	\$535,000	1,760	1,060	\$1,420,000
Dominican Republic	19	14	38,700	19	14	38,700
Japan	--	--	--	1	(3)	2,780
Mexico	219	131	259,000	592	358	674,000
United Kingdom	--	--	--	2	1	2,690
Total	933	562	832,000	2,370	1,430	2,140,000
Other ferrosilicon:						
Canada	336	168	351,000	1,100	550	1,140,000
France	--	--	--	13	6	10,000
India	--	--	--	(3)	(3)	5,010
Indonesia	4	1	3,670	4	1	3,670
Mexico	172	86	190,000	574	287	583,000
Spain	--	--	--	12	6	10,800
Taiwan	1	1	6,340	1	1	6,340
Total	513	256	551,000	1,700	851	1,760,000
Total ferrosilicon	1,450	818	1,380,000	4,080	2,280	3,900,000

See footnotes at end of table.

TABLE 2--Continued
 U.S. EXPORTS OF FERROSILICON AND SILICON METAL IN APRIL 2004^{1,2}

(Metric tons, unless otherwise specified)

Country	Gross weight	Contained weight	Value	Year to date		
				Gross weight	Contained weight	Value
Metal:						
More than 99.99% silicon:						
China	182	XX	\$4,800,000	558	XX	\$14,300,000
Denmark	11	XX	717,000	46	XX	3,000,000
France	12	XX	279,000	121	XX	2,880,000
Germany	71	XX	1,960,000	271	XX	8,370,000
Italy	9	XX	625,000	42	XX	2,800,000
Japan	317	XX	15,600,000	1,480	XX	65,900,000
Korea, Republic of	52	XX	1,970,000	240	XX	10,400,000
Norway	46	XX	1,160,000	142	XX	3,570,000
Taiwan	20	XX	724,000	69	XX	2,700,000
United Kingdom	10	XX	1,410,000	59	XX	5,680,000
Other (29 countries)	52	XX	2,300,000	162	XX	9,720,000
Total	780	780^e	31,500,000	3,190	3,190^e	129,000,000
99.00% - 99.99% silicon:						
Brazil	35	35	104,000	109	108	316,000
China	2	2	4,330	6	6	12,100
Colombia	--	--	--	85	84	120,000
France	--	--	--	8	8	17,400
Hong Kong	--	--	--	4	4	5,400
Italy	--	--	--	4	4	12,700
Japan	13	12	20,200	28	27	64,200
Korea, Republic of	--	--	--	4	4	12,900
Mexico	4	4	5,760	15	15	20,800
Panama	4	4	6,020	4	4	6,020
Other (2 countries)	--	--	--	5	5	10,700
Total	58	57	141,000	273	270	598,000
Other silicon:						
Canada	36	35	39,800	115	111	138,000
Hong Kong	--	--	--	4	4	44,100
Indonesia	8	8	10,400	12	12	15,900
Japan	--	--	--	146	142	460,000
Latvia	--	--	--	81	79	107,000
Mexico	27	27	56,400	141	136	368,000
Netherlands	44	42	371,000	265	254	1,880,000
Norway	441	428	582,000	478	464	631,000
Taiwan	--	--	--	164	159	216,000
United Kingdom	8	8	70,500	154	150	348,000
Other (7 countries)	--	--	--	9	8	36,300
Total	563	546	1,130,000	1,570	1,520	4,240,000
Total silicon metal	1,400	1,380	32,800,000	5,030	4,980	134,000,000

^eEstimated. 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 1/2 unit.

Source: U.S. Census Bureau.

TABLE 3
U.S. IMPORTS FOR CONSUMPTION OF FERROSILICON AND SILICON METAL IN APRIL 2004^{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	--	--	--	111	67	\$119,000
France	--	--	--	53	32	72,100
Total	--	--	--	164	99	191,000
55% - 80% silicon, Other:						
Brazil	141	92	\$138,000	325	229	260,000
Canada	1,080	817	803,000	4,530	3,410	3,340,000
China	5,760	4,330	3,730,000	23,400	17,900	14,600,000
France	298	201	489,000	1,130	749	1,940,000
Iceland	2,700	2,030	1,980,000	7,000	5,260	4,680,000
Kazakhstan	3,980	3,040	3,850,000	7,980	6,100	6,720,000
Norway	837	624	1,070,000	2,840	2,100	3,340,000
Russia	6,670	4,950	6,430,000	10,700	7,970	9,090,000
South Africa	--	--	--	1,300	991	872,000
Venezuela	4,530	3,480	3,650,000	14,800	11,400	10,800,000
Other (5 countries)	77	53	173,000	356	240	1,020,000
Total	26,100	19,600	22,300,000	74,400	56,400	56,700,000
80% - 90% silicon:						
Brazil	--	--	--	5	4	3,230
Canada	--	--	--	18	14	9,430
Total	--	--	--	23	19	12,700
Magnesium ferrosilicon:						
Argentina	180	86	136,000	1,020	476	796,000
Brazil	454	204	359,000	875	392	654,000
Canada	18	9	14,700	133	64	109,000
China	24	12	23,400	1,750	792	1,240,000
France	--	--	--	20	10	22,100
India	--	--	--	155	89	167,000
Japan	73	38	97,100	120	57	203,000
Netherlands	--	--	--	109	51	84,900
Norway	1,140	533	904,000	4,900	2,230	3,870,000
New Zealand	--	--	--	41	19	26,700
Other (South Africa)	--	--	--	1	(3)	10,500
Total	1,890	881	1,530,000	9,120	4,190	7,180,000
Other ferrosilicon:						
Brazil	61	17	88,400	330	118	348,000
Canada	950	278	671,000	3,320	981	2,330,000
China	--	--	--	64	33	108,000
France	--	--	--	22	12	50,500
India	19	14	23,900	19	14	23,900
Italy	--	--	--	4	2	3,670
Russia	4	2	3,270	4	2	3,270
Ukraine	--	--	--	5	3	4,030
Venezuela	4	2	3,270	4	2	3,270
Total	1,040	312	789,000	3,770	1,170	2,870,000
Total ferrosilicon	29,000	20,800	24,600,000	87,400	61,800	67,000,000

See footnotes at end of table.

TABLE 3--Continued
 U.S. IMPORTS FOR CONSUMPTION OF FERROSILICON AND SILICON METAL IN APRIL 2004^{1,2}

(Metric tons, unless otherwise specified)

Country	Gross weight	Contained weight	Value	Year to date		
				Gross weight	Contained weight	Value
Metal:						
More than 99.99% silicon:						
China	(3)	XX	\$12,700	(3)	XX	\$41,100
Denmark	(3)	XX	51,200	1	XX	188,000
Germany	40	XX	4,060,000	145	XX	16,600,000
Ireland	--	XX	--	(3)	XX	4,890
Italy	42	XX	1,960,000	137	XX	5,800,000
Japan	38	XX	1,930,000	111	XX	5,540,000
Korea, Republic of	5	XX	46,900	16	XX	166,000
Mexico	--	XX	--	16	XX	111,000
Spain	--	XX	--	3	XX	12,000
Taiwan	--	XX	--	24	XX	126,000
Other (Ukraine)	--	XX	--	(3)	XX	2,420
Total	124	124^e	8,060,000	452	452^e	28,600,000
99.00% - 99.99% silicon:						
Australia	308	306	436,000	920	914	1,260,000
Brazil	6,490	6,440	7,670,000	19,900	19,800	23,400,000
Canada	1,690	1,680	2,260,000	7,670	7,620	10,200,000
France	--	--	--	934	928	1,420,000
Germany	(3)	(3)	3,630	(3)	(3)	3,630
Netherlands	520	517	1,050,000	2,080	2,060	4,130,000
Norway	3	3	7,530	12	12	37,600
South Africa	2,760	2,740	3,010,000	8,630	8,310	10,100,000
Sweden	--	--	--	17	17	121,000
Total	11,800	11,700	14,400,000	40,200	39,600	50,500,000
Other silicon:						
Belgium	23	2	25,200	119	55	155,000
Brazil	1,270	1,250	1,600,000	3,030	2,980	3,780,000
Canada	288	251	381,000	1,160	1,100	1,520,000
China	366	361	417,000	1,060	1,040	1,100,000
France	--	--	--	795	773	1,020,000
Germany	--	--	--	100	97	443,000
Korea, Republic of	--	--	--	21	(3)	22,800
South Africa	--	--	--	1,390	1,360	1,370,000
Ukraine	91	88	97,100	626	610	677,000
United Kingdom	56	55	89,800	131	129	210,000
Other (2 countries)	--	--	--	2	2	11,400
Total	2,090	2,010	2,610,000	8,420	8,160	10,300,000
Total silicon metal	14,000	13,800	25,100,000	49,000	48,200	89,400,000

^eEstimated. 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 1/2 unit.

Source: U.S. Census Bureau.