

# Mineral Industry Surveys

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## SILICON IN SEPTEMBER 2006

Preliminary data for September 2006 indicate that domestic production and net shipments of silicon ferroalloys, on a gross-weight basis, increased by 4% and 3%, respectively, compared with the revised amounts [21,300 metric tons (t), production; and 16,700 t net shipments] in August 2006, according to the U.S. Geological Survey. Stocks increased by 6% compared with the revised amounts at the end of the prior month. 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 third quarter of 2006 was 62,700 t (includes revisions to prior months data), an increase of 3% compared with that of the second quarter. Net shipments during the third quarter were 49,100 t (includes revisions to prior months data), a 6% decrease compared with the revised amounts of the second quarter. Domestic production

and net shipments of ferrosilicon during the first 9 months of 2006 were 186,000 t and 151,000 t, respectively; 17% and 14% higher, respectively, compared with those during the same period of 2005. All domestic data for ferrosilicon have been combined to avoid disclosing company proprietary data.

Based on a gross-weight comparison of August 2006 export data (table 2) with those of July 2006, ferrosilicon exports increased by 12%, owing to increases in the “more than 55% silicon” ferrosilicon trade category. Silicon metal exports increased by 17%, owing to increases in the 99.00% to 99.99% silicon and “other” silicon metal trade categories.

Based on a gross-weight comparison of August 2006 import data (table 3) with those of the prior month, ferrosilicon imports increased by 48%, owing primarily to an increase in the “other” ferrosilicon trade category. Silicon metal imports increased by 16% during the same period, because of increases in the 99.00% to 99.99% silicon and “other” silicon metal trade categories.

### 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>September 7</b>	<b>63.00-66.00</b>	<b>56.00-60.00</b>	<b>78.00-81.00</b>
<b>September 14</b>	<b>63.00-66.00</b>	<b>55.00-57.00</b>	<b>80.00-82.00</b>
<b>September 21</b>	<b>63.00-66.00</b>	<b>55.00-57.00</b>	<b>84.00-86.00</b>
<b>September 28</b>	<b>63.00-66.00</b>	<b>55.00-57.00</b>	<b>84.00-86.00</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 2006<sup>1,2,3</sup>

(Metric tons)

Material	Gross production <sup>4</sup>		Net shipments		Stocks,
	September	Year to date	September	Year to date	September 30
Ferrosilicon, all grades <sup>5,6</sup>	22,200	186,000	17,200	151,000	23,300
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 AUGUST 2006<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	363	218	\$440,000	2,760	1,650	\$2,990,000
Colombia	8	6	11,900	47	34	73,800
Malaysia	--	--	--	22	17	31,200
Mexico	147	88	182,000	988	594	1,260,000
Total	518	312	634,000	3,810	2,300	4,360,000
<b>Other ferrosilicon:</b>						
Brazil	26	13	41,800	145	73	161,000
Canada	164	82	184,000	1,550	775	1,600,000
Colombia	11	5	15,600	69	32	99,500
Finland	--	--	--	8	4	8,510
Indonesia	--	--	--	21	10	25,100
Korea, Republic of	--	--	--	2	1	11,400
Mexico	28	14	41,900	495	246	630,000
Spain	--	--	--	8	4	9,360
Switzerland	--	--	--	34	17	26,700
Total	229	114	284,000	2,330	1,160	2,570,000
Total ferrosilicon	747	426	918,000	6,150	3,460	6,930,000

See footnotes at end of table.

TABLE 2--Continued  
 U.S. EXPORTS OF FERROSILICON AND SILICON METAL IN AUGUST 2006<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	131	XX	\$12,700,000	1,240	XX	\$110,000,000
Finland	13	XX	490,000	78	XX	2,990,000
Germany	195	XX	8,960,000	1,510	XX	79,500,000
Ireland	(3)	XX	41,900	86	XX	3,640,000
Italy	10	XX	1,030,000	81	XX	7,390,000
Japan	706	XX	52,600,000	4,830	XX	371,000,000
Korea, Republic of	40	XX	4,360,000	806	XX	69,200,000
Norway	190	XX	7,680,000	1,450	XX	67,400,000
Taiwan	74	XX	5,800,000	384	XX	26,400,000
United Kingdom	9	XX	1,100,000	85	XX	10,100,000
Other (47 countries)	44	XX	3,950,000	283	XX	25,400,000
Total	1,410	1,410 <sup>e</sup>	98,700,000	10,800	10,800 <sup>e</sup>	773,000,000
99.00% - 99.99% silicon:						
Belarus	--	--	--	34	34	37,700
Brazil	150	149	403,000	706	700	1,810,000
China	86	85	252,000	428	424	1,180,000
Germany	5	5	6,840	314	311	877,000
India	--	--	--	52	51	150,000
Italy	73	72	214,000	143	142	420,000
Japan	--	--	--	25	24	28,300
Mexico	--	--	--	21	21	33,000
Sweden	--	--	--	24	23	33,200
United Kingdom	7	7	9,870	30	30	42,000
Other (10 countries)	11	11	16,000	72	72	123,000
Total	331	328	901,000	1,850	1,830	4,730,000
Other silicon:						
Brazil	--	--	--	38	37	50,200
Canada	44	43	52,700	333	323	392,000
China	--	--	--	1,050	1,000	11,200,000
Germany	186	181	246,000	373	362	718,000
Hong Kong	(3)	(3)	5,430	68	65	659,000
Japan	223	216	564,000	1,150	1,100	4,880,000
Korea, Republic of	139	135	183,000	1,740	1,690	2,430,000
Mexico	2	2	23,600	69	67	253,000
Netherlands	22	22	263,000	127	121	1,340,000
Panama	--	--	--	20	20	24,100
Other (13 countries)	28	27	333,000	173	168	662,000
Total	645	625	1,670,000	5,140	4,960	22,600,000
Total silicon metal	2,390	2,360	101,000,000	17,800	17,600	800,000,000

<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>Less than ½ unit.

Source: U.S. Census Bureau.

TABLE 3  
U.S. IMPORTS FOR CONSUMPTION OF FERROSILICON AND SILICON METAL IN AUGUST 2006<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>						
<b>55% - 80% silicon, over 3% Ca:</b>						
Brazil	--	--	--	20	13	\$24,500
China	1,520	1,150	\$996,000	1,660	1,230	1,180,000
France	86	54	138,000	574	355	912,000
<b>Total</b>	<b>1,610</b>	<b>1,200</b>	<b>1,130,000</b>	<b>2,250</b>	<b>1,590</b>	<b>2,120,000</b>
<b>55% - 80% silicon, Other:</b>						
Brazil	536	405	456,000	3,540	2,640	2,840,000
Canada	1,280	964	1,150,000	7,660	5,770	6,940,000
China	12,300	9,060	8,370,000	84,400	63,600	55,900,000
France	269	184	412,000	2,900	1,980	5,240,000
Germany	33	24	154,000	354	263	1,640,000
Norway	844	634	1,070,000	5,970	4,430	7,510,000
Russia	--	--	--	34,400	25,500	22,900,000
South Africa	--	--	--	2,520	1,880	1,640,000
Ukraine	--	--	--	3,050	2,300	1,740,000
Venezuela	4,500	3,380	3,460,000	39,900	29,900	28,300,000
Other (4 countries)	39	29	68,000	171	115	407,000
<b>Total</b>	<b>19,800</b>	<b>14,700</b>	<b>15,100,000</b>	<b>185,000</b>	<b>138,000</b>	<b>135,000,000</b>
More than 90% silicon, China	--	--	--	21	19	6,300
<b>Magnesium ferrosilicon:</b>						
Argentina	394	176	362,000	1,630	725	1,530,000
Brazil	410	187	373,000	1,530	689	1,400,000
Canada	682	321	695,000	4,920	2,290	4,980,000
China	--	--	--	343	157	340,000
France	--	--	--	987	472	889,000
India	--	--	--	89	46	80,900
Japan	17	7	36,500	95	42	191,000
Netherlands	82	37	59,400	409	188	297,000
Norway	643	297	593,000	6,820	3,130	6,130,000
Russia	--	--	--	2,100	943	854,000
Other (4 countries)	10	5	18,900	159	66	234,000
<b>Total</b>	<b>2,240</b>	<b>1,030</b>	<b>2,140,000</b>	<b>19,100</b>	<b>8,750</b>	<b>16,900,000</b>
<b>Other ferrosilicon:</b>						
Argentina	60	27	54,200	60	27	54,200
Brazil	92	16	58,700	135	23	115,000
Canada	675	180	602,000	6,030	1,620	5,150,000
China	18,100	2,640	4,880,000	19,700	3,840	5,880,000
France	16	8	16,900	113	67	164,000
India	--	--	--	71	31	59,700
United Kingdom	--	--	--	5	2	8,840
<b>Total</b>	<b>18,900</b>	<b>2,870</b>	<b>5,610,000</b>	<b>26,100</b>	<b>5,610</b>	<b>11,400,000</b>
<b>Total ferrosilicon</b>	<b>42,500</b>	<b>19,800</b>	<b>24,000,000</b>	<b>232,000</b>	<b>154,000</b>	<b>165,000,000</b>

See footnotes at end of table.

TABLE 3--Continued  
 U.S. IMPORTS FOR CONSUMPTION OF FERROSILICON AND SILICON METAL IN AUGUST 2006<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>						
<b>More than 99.99% silicon:</b>						
Canada	--	XX	--	19	XX	\$30,700
China	6	XX	\$485,000	45	XX	2,430,000
France	3	XX	242,000	32	XX	2,710,000
Germany	68	XX	6,300,000	575	XX	44,700,000
Italy	25	XX	2,900,000	196	XX	19,800,000
Japan	23	XX	2,250,000	212	XX	18,500,000
Korea, Republic of	6	XX	1,580,000	33	XX	6,680,000
Spain	2	XX	12,300	8	XX	61,300
Sweden	--	XX	--	8	XX	54,300
Taiwan	2	XX	222,000	8	XX	984,000
Other (13 countries)	10	XX	362,000	36	XX	1,770,000
<b>Total</b>	<b>145</b>	<b>145<sup>e</sup></b>	<b>14,400,000</b>	<b>1,170</b>	<b>1,170<sup>e</sup></b>	<b>97,800,000</b>
<b>99.00% - 99.99% silicon:</b>						
Australia	963	957	1,480,000	8,850	8,790	13,300,000
Brazil	5,400	5,360	8,110,000	30,800	30,600	46,200,000
Canada	1,900	1,890	3,020,000	11,900	11,800	19,200,000
China	--	--	--	79	74	113,000
Germany	--	--	--	(3)	(3)	2,250
Norway	318	312	567,000	4,690	4,640	9,160,000
Philippines	167	149	213,000	901	842	1,070,000
South Africa	2,540	2,520	5,800,000	24,000	23,900	38,100,000
Sweden	--	--	--	25	25	159,000
United Kingdom	13	(3)	16,300	296	30	528,000
<b>Total</b>	<b>11,300</b>	<b>11,200</b>	<b>19,200,000</b>	<b>81,500</b>	<b>80,700</b>	<b>128,000,000</b>
<b>Other silicon:</b>						
Australia	24	24	38,100	168	166	265,000
Belgium	--	--	--	14	13	41,500
Brazil	764	755	1,070,000	5,350	5,290	7,530,000
Canada	961	943	1,480,000	5,600	5,350	7,910,000
Japan	--	--	--	101	10	134,000
Norway	58	56	105,000	1,060	1,040	1,660,000
Philippines	10	10	12,900	46	45	55,000
Sweden	79	18	105,000	204	36	257,000
Ukraine	--	--	--	1,870	1,840	2,240,000
United Kingdom	59	58	98,900	394	383	541,000
Other (4 countries)	10	5	20,700	32	25	63,600
<b>Total</b>	<b>1,970</b>	<b>1,870</b>	<b>2,930,000</b>	<b>14,800</b>	<b>14,200</b>	<b>20,700,000</b>
<b>Total silicon metal</b>	<b>13,400</b>	<b>13,200</b>	<b>36,500,000</b>	<b>97,600</b>	<b>96,100</b>	<b>246,000,000</b>

<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>Less than ½ unit.

Source: U.S. Census Bureau.