

# Mineral Industry Surveys

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## SILICON IN MARCH 2012

Data for March 2012 indicate that domestic production and net shipments of total silicon materials (ferrosilicon plus silicon metal), on a gross-weight basis, were 8% higher and 10% higher, respectively, than those in February 2012. Ending stocks were 12% lower than those at the end of February. Stocks included adjustments in inventory and in-plant consumption of ferrosilicon to produce magnesium ferrosilicon and other miscellaneous alloys.

Production-related statistics for the individual categories of ferrosilicon and silicon metal were concealed to avoid disclosing company proprietary data. Totals for both categories are listed on table 1.

Included in this Mineral Industry Surveys are U.S. spot market prices and U.S. foreign trade data for selected silicon-containing materials in March 2012.

TABLE 1  
 PRODUCTION, SHIPMENTS, AND STOCKS OF SILICON ALLOYS  
 AND METAL IN THE UNITED STATES<sup>1,2,3</sup>

(Metric tons, gross weight)

	Gross production <sup>4</sup>	Net shipments	Producers' stocks, end of period
2011:			
January–December <sup>5</sup>	437,000	354,000	42,600
January–March <sup>5</sup>	96,400	78,600	31,900
March	39,000	32,600	31,900
April	39,500	33,000	31,200
May	38,900	28,900	33,900
June	38,600	32,700	34,000
July	39,100	29,600	36,100
August	39,000	29,700	39,400
September	36,900	29,900	38,800
October	36,900	29,900	38,800
November	32,500	27,400	24,600
December	39,200	25,800	42,600
2012:			
January <sup>f</sup>	40,600	23,800	45,400
February	43,300	32,900	45,300
March	46,800	36,100	40,000
January–March	131,000	92,800	40,000

<sup>f</sup>Revised.

<sup>1</sup>Data are rounded to no more than three significant digits; may not add to total shown.

<sup>2</sup>Includes ferrosilicon, miscellaneous silicon alloys, and silicon metal, excluding semiconductor and solar grades, except where noted.

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

<sup>4</sup>Ferrosilicon production includes material consumed in the production of miscellaneous silicon alloys.

<sup>5</sup>January 2011 data include ferrosilicon and miscellaneous silicon alloys only.

TABLE 2  
 PRICES FOR FERROSILICON AND SILICON METAL  
 IN MARCH 2012<sup>1</sup>

	High	Low	Average	Average low, mid, and high
Ferrosilicon:				
50% ferrosilicon <sup>2</sup>	108.00	105.00	XX	105.00–106.50–108.00
75% ferrosilicon <sup>3</sup>	97.00	94.00	95.63	XX
Silicon metal <sup>3</sup>	134.00	127.00	130.00	XX

XX Not applicable.

<sup>1</sup>Cents per pound of contained silicon.

<sup>2</sup>Ryan's Notes, North American transaction price. Average prices reported for the price range.

<sup>3</sup>Platts Metals Week, U.S. dealer import price. Average prices reported for all transactions during the month.

TABLE 3  
U.S. EXPORTS OF FERROSILICON AND SILICON METAL IN MARCH 2012<sup>1,2</sup>

(Metric tons, unless otherwise specified)

Country	Gross weight	Contained weight	Value	January–March		
				Gross weight	Contained weight	Value
<b>Ferrosilicon:</b>						
More than 55% silicon:						
Canada	1,320	793	\$1,110,000	2,470	1,480	\$2,850,000
Colombia	11	8	27,800	14	10	34,800
Hong Kong	--	--	--	3	2	4,700
Japan	432	337	870,000	1,090	835	2,170,000
Mexico	133	80	306,000	428	260	998,000
Spain	--	--	--	120	97	297,000
Total	1,900	1,220	2,310,000	4,130	2,690	6,360,000
Other ferrosilicon:						
Brazil	--	--	--	39	20	95,000
Canada	142	71	240,000	371	185	768,000
Colombia	8	4	25,200	44	20	134,000
Italy	--	--	--	33	17	87,700
Korea, Republic of	--	--	--	144	65	192,000
Mexico	198	99	531,000	422	211	1,080,000
Poland	--	--	--	20	9	51,000
Taiwan	--	--	--	42	21	52,400
Turkey	80	37	185,000	260	119	607,000
United Kingdom	19	9	52,800	57	28	158,000
Total	448	220	1,030,000	1,430	694	3,230,000
Total ferrosilicon	2,350	1,440	3,350,000	5,560	3,380	9,580,000
<b>Metal:</b>						
More than 99.99% silicon:						
China	3,000	XX	76,200,000	9,280	9,280	219,000,000
Germany	1,000	XX	14,000,000	1,830	1,830	37,100,000
Hong Kong	10	XX	161,000	141	141	2,720,000
Italy	25	XX	1,270,000	53	53	3,420,000
Japan	750	XX	31,000,000	1,600	1,600	81,000,000
Korea, Republic of	240	XX	12,500,000	749	749	40,700,000
Malaysia	45	XX	3,120,000	82	82	6,850,000
Norway	75	XX	3,220,000	166	166	6,340,000
Singapore	268	XX	6,450,000	517	517	13,500,000
Taiwan	675	XX	18,300,000	2,000	2,000	55,300,000
Others (28 countries)	25	XX	3,290,000	103	103	10,500,000
Total	6,110	6,110 <sup>e</sup>	170,000,000	16,500	16,500	476,000,000
99.00%–99.99% silicon:						
Belgium	6	6	7,970	15	14	20,500
China	--	--	--	752	752	808,000
India	4	4	6,080	4	4	6,080
Japan	220	220	772,000	480	478	1,690,000
Korea, Republic of	1,110	1,100	3,270,000	1,440	1,380	4,230,000
Mexico	--	--	--	4	4	11,700
Netherlands	--	--	--	20	20	26,500
Norway	36	36	98,100	36	36	98,100
United Kingdom	--	--	--	38	38	90,700
Total	1,370	1,370	4,150,000	2,780	2,730	6,980,000

See footnotes end of table.

TABLE 3—Continued  
 U.S. EXPORTS OF FERROSILICON AND SILICON METAL IN MARCH 2012<sup>1,2</sup>

(Metric tons, unless otherwise specified)

Country	Gross weight	Contained weight	Value	January–March		
				Gross weight	Contained weight	Value
Metal—continued:						
Other silicon:						
Canada	442	429	\$1,410,000	1,300	1,260	\$4,120,000
China	259	209	2,310,000	2,330	2,120	6,980,000
Finland	11	10	14,100	11	10	14,100
Hong Kong	--	--	--	16	16	21,600
Japan	41	(3)	1,840,000	280	233	2,150,000
Korea, Republic of	3	3	10,400	41	40	220,000
Malaysia	623	605	822,000	1,050	1,020	1,390,000
Mexico	258	251	687,000	270	263	709,000
Switzerland	5	5	6,220	5	5	6,220
United Kingdom	5	5	6,180	24	23	51,500
Others (7 countries)	2	2	31,500	4	3	59,800
Total	1,650	1,520	7,130,000	5,330	4,990	15,700,000
Total silicon metal	9,130	9,000	181,000,000	24,600	24,200	499,000,000

<sup>6</sup>Estimated. XX Not applicable. -- Zero.

<sup>1</sup>Countries listed are the leading exporters in terms of January–March quantities (gross weight).

<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 4  
U.S. IMPORTS OF FERROSILICON AND SILICON METAL IN MARCH 2012<sup>1,2</sup>

(Metric tons, unless otherwise specified)

Country	Gross weight	Contained weight	Value	January–March		
				Gross weight	Contained weight	Value
<b>Ferrosilicon:</b>						
55%–80% silicon, more than 3% Ca:						
Brazil	200	157	\$327,000	769	567	\$1,400,000
China	139	102	269,000	483	356	855,000
France	35	22	97,000	70	44	194,000
Germany	--	--	--	19	12	48,400
India	--	--	--	18	14	43,900
South Africa	40	31	29,400	43	34	34,800
Total	414	313	722,000	1,400	1,030	2,570,000
55-80% silicon, Other:						
Brazil	52	38	96,900	344	260	669,000
Canada	990	724	2,590,000	2,810	2,060	7,770,000
China	1,770	1,330	2,300,000	7,970	5,990	11,500,000
France	162	113	499,000	432	305	1,340,000
Germany	72	53	292,000	274	205	1,250,000
Iceland	1,980	1,490	2,690,000	4,880	3,670	6,700,000
Norway	1,490	1,130	1,960,000	1,500	1,140	1,970,000
Russia	24,300	18,400	34,600,000	50,800	38,500	70,500,000
South Africa	335	252	682,000	1,200	925	2,980,000
Venezuela	5,570	4,180	8,050,000	5,570	4,180	8,050,000
Others (3 countries)	31	22	147,000	234	173	455,000
Total	36,700	27,700	53,900,000	76,000	57,400	113,000,000
<b>Magnesium ferrosilicon:</b>						
Argentina	93	22	221,000	179	67	396,000
Brazil	43	21	112,000	43	21	112,000
Canada	1,080	490	2,330,000	3,230	1,460	7,220,000
China	175	80	336,000	629	285	1,350,000
France	90	43	141,000	288	139	435,000
Germany	--	--	--	25	12	27,800
Total	1,490	656	3,140,000	4,390	1,980	9,540,000
<b>Other ferrosilicon:</b>						
Brazil	--	--	--	24	13	116,000
Canada	543	117	796,000	1,970	460	2,810,000
China	40	20	55,700	80	38	228,000
Germany	77	34	156,000	77	34	156,000
Total	660	171	1,010,000	2,150	545	3,310,000
Total ferrosilicon	39,300	28,900	58,800,000	83,900	61,000	129,000,000

See footnotes at end of table.

TABLE 4—Continued  
U.S. IMPORTS OF FERROSILICON AND SILICON METAL IN MARCH 2012<sup>1,2</sup>

(Metric tons, unless otherwise specified)

Country	Gross weight	Contained weight	Value	January–March		
				Gross weight	Contained weight	Value
<b>Metal:</b>						
<b>More than 99.99% silicon:</b>						
Canada	--	--	--	4	XX	\$134,000
China	8	XX	\$344,000	34	XX	1,490,000
Finland	4	XX	295,000	10	XX	710,000
Germany	101	XX	9,230,000	315	XX	25,300,000
Italy	2	XX	85,800	4	XX	148,000
Japan	30	XX	2,090,000	87	XX	5,910,000
Korea, Republic of	11	XX	1,580,000	18	XX	2,600,000
Malaysia	5	XX	71,700	7	XX	142,000
Spain	1	XX	5,770	3	XX	18,400
Taiwan	10	XX	393,000	19	XX	900,000
Others (5 countries)	1	XX	197,000	1	XX	417,000
<b>Total</b>	<b>173</b>	<b>173<sup>e</sup></b>	<b>14,300,000</b>	<b>503</b>	<b>503<sup>e</sup></b>	<b>37,800,000</b>
<b>99.00%–99.99% silicon:</b>						
Australia	995	990	2,960,000	2,700	2,680	8,380,000
Brazil	1,690	1,680	5,050,000	10,200	10,200	31,500,000
Canada	1,160	1,150	3,200,000	4,100	4,080	11,200,000
Japan	--	--	--	27	(3)	38,700
Kazakhstan	120	119	289,000	360	357	917,000
Netherlands	--	--	--	360	358	1,700,000
Norway	717	713	3,310,000	1,710	1,690	7,930,000
South Africa	4,260	4,230	13,900,000	11,500	11,400	38,100,000
Spain	100	99	322,000	480	476	1,550,000
Thailand	432	432	1,110,000	3,690	3,670	9,770,000
Other (1 country)	1	1	7,730	4	4	28,700
<b>Total</b>	<b>9,480</b>	<b>9,410</b>	<b>30,100,000</b>	<b>35,200</b>	<b>34,900</b>	<b>111,000,000</b>
<b>Other silicon:</b>						
Australia	312	307	1,000,000	1,100	1,090	3,630,000
Belgium	--	--	--	20	20	44,400
Brazil	1,270	1,260	3,840,000	2,490	2,460	7,520,000
Canada	1,140	1,120	2,900,000	2,290	2,260	5,760,000
China	20	20	49,200	20	20	49,200
Japan	59	56	162,000	72	61	307,000
Norway	57	56	174,000	228	221	500,000
United Kingdom	12	11	29,200	12	11	29,200
<b>Total</b>	<b>2,870</b>	<b>2,830</b>	<b>8,150,000</b>	<b>6,240</b>	<b>6,140</b>	<b>17,800,000</b>
<b>Total silicon metal</b>	<b>12,500</b>	<b>12,400</b>	<b>52,600,000</b>	<b>41,900</b>	<b>41,600</b>	<b>167,000,000</b>

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

<sup>1</sup>Presentation of monthly data is based on the January–March quantities (gross weight) of the leading 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.