

# Mineral Industry Surveys

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## SILICON IN MAY 2018

Domestic production of silicon materials was 48,500 metric tons (t) in May 2018, a slight increase from April 2018 production and 4% more than May 2017 production (fig. 1, table 1). Net shipments were 29,900 t, a 5% decrease from shipments in April 2018 and a slight decrease from shipments in May 2017. Total production and net shipments during the first 5 months of 2018 were 15% and 14% more, respectively, than those during the same period in 2017 (table 1).

Ending stocks were 32,500 t in May 2018, 4% more than stocks in April 2018 and 28% less than those in May 2017 (table 1). Adjustments in stocks included in-plant consumption of ferrosilicon to produce magnesium ferrosilicon and other alloys. All comparative statistics were calculated based on unrounded, gross-weight figures.

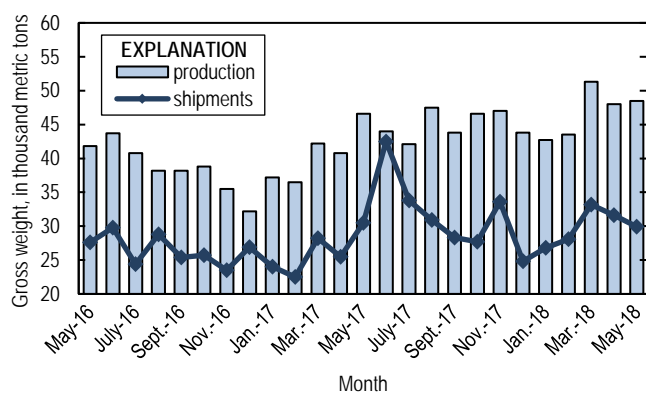


Figure 1. Monthly domestic production of total silicon materials and net shipments from May 2016 through May 2018 (may include revisions to previously published data).

## Prices

The average U.S. spot price for silicon metal was 138.8 cents per pound in May 2018, 3% less than the average price in April 2018, and 28% more than the May 2017 price. The average U.S. spot prices for ferrosilicon, 50% and 75% grades, were the same as and essentially unchanged from the average prices in April 2018 and were 15% and 31% greater, respectively, than their average prices in May 2017 (fig. 2).

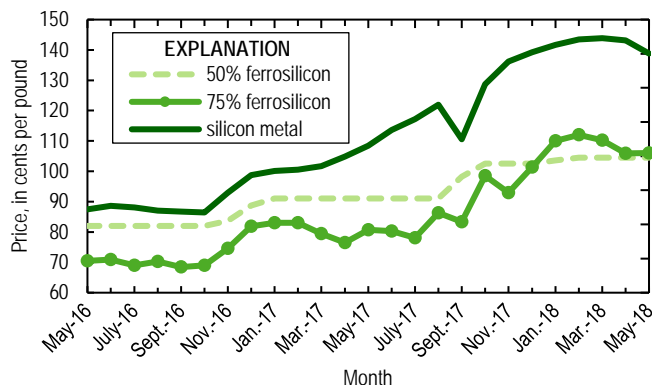


Figure 2. Average monthly spot prices for silicon metal and ferrosilicon 50% and 75% grades, contained silicon, from May 2016 through May 2018. Source: CRU Group and S&P Global Platts.

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

(Metric tons, gross weight)

	Gross production <sup>3</sup>	Net shipments	Producers' stocks, end of period
2017:			
January–December	518,000	352,000	33,500 <sup>r</sup>
January–May	203,000	131,000	45,400
May	46,600	30,500	45,400
June	44,000	42,500	28,900
July	42,100	33,800	21,400
August	47,500	30,900	21,000
September	43,800	28,300	22,200
October	46,600	27,700	25,900
November	47,000	33,600	27,600
December	43,800 <sup>r</sup>	24,800 <sup>r</sup>	33,500 <sup>r</sup>
2018:			
January	42,700 <sup>r</sup>	26,800 <sup>r</sup>	29,100 <sup>r</sup>
February	43,500 <sup>r</sup>	28,100 <sup>r</sup>	31,400 <sup>r</sup>
March	51,300	33,200 <sup>r</sup>	31,200 <sup>r</sup>
April	48,000 <sup>r</sup>	31,600 <sup>r</sup>	31,400 <sup>r</sup>
May	48,500	29,900	32,500
January–May	234,000	149,000	32,500

<sup>r</sup>Revised.

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

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

<sup>3</sup>Ferrosilicon production includes material consumed in the production of miscellaneous silicon alloys.

TABLE 2  
PRICES FOR FERROSILICON AND SILICON METAL IN MAY 2018

		Low	Average	High	Average low, mid, and high
Ferrosilicon:					
50% ferrosilicon <sup>1</sup>	cents per pound of contained silicon	102.00	XX	107.00	102.00–104.50–107.00
75% ferrosilicon <sup>2</sup>	do.	105.00	106.00	107.00	XX
Silicon metal, 553 grade <sup>3</sup>	cents per pound	137.00	138.80	143.00	XX

do. Ditto. XX Not applicable.

<sup>1</sup>CRU Group transaction price, duty paid, f.o.b. Pittsburgh, producing plant or Chicago/Pittsburgh warehouse. Average price reported for price range.

<sup>2</sup>S&P Global Platts, in U.S. warehouse, U.S. origin and imported material. Average price reported for all transactions during the month.

<sup>3</sup>S&P Global Platts, duty paid, delivered Midwest, U.S. spot and imported 553 grade silicon metal (minimum 98.50% silicon). Average price reported for all transactions during the month.

TABLE 3  
U.S. EXPORTS OF FERROSILICON AND SILICON METAL IN MAY 2018<sup>1,2</sup>

(Metric tons, unless otherwise specified)

Country or locality	Gross weight	Contained weight	Value	January–May <sup>3</sup>		
				Gross weight	Contained weight	Value
Ferrosilicon:						
More than 55% silicon:						
Brazil	12	7	\$18,500	12	7	\$18,500
Canada	276	165	464,000	1,720	1,030	2,860,000
Iceland	--	--	--	43	26	62,400
India	--	--	--	320	233	380,000
Malaysia	--	--	--	6	4	10,000
Mexico	517	360	984,000	1,610	1,020	3,340,000
Netherlands	531	318	698,000	964	578	1,160,000
Russia	555	333	233,000	555	333	233,000
Total	1,890	1,180	2,400,000	5,220	3,230	8,060,000
Other ferrosilicon:						
Belgium	20	9	31,000	272	122	344,000
Brazil	39	20	76,000	234	97	456,000
Canada	22	11	9,940	612	306	325,000
Finland	--	--	--	41	21	65,400
France	40	19	72,200	100	46	178,000
Korea, Republic of	--	--	--	258	112	294,000
Mexico	198	96	424,000	893	428	1,930,000
Switzerland	--	--	--	40	9	70,000
Turkey	--	--	--	203	97	339,000
United Kingdom	100	45	165,000	617	278	1,020,000
Other (10 countries)	72	30	128,000	177	80	304,000
Total	489	229	906,000	3,450	1,600	5,320,000
Total ferrosilicon	2,380	1,410	3,300,000	8,670	4,830	13,400,000
Metal:						
More than 99.99% silicon:						
China	211	211	3,190,000	1,610	1,610	23,200,000
Germany	46	46	1,220,000	174	174	3,790,000
Hong Kong	144	144	1,360,000	706	706	5,890,000
Japan	756	756	25,400,000	5,380	5,380	181,000,000
Malaysia	15	15	2,320,000	109	109	16,400,000
Norway	88	88	222,000	527	527	5,670,000
Singapore	--	--	--	204	204	2,850,000
Taiwan	1,380	1,380	17,000,000	7,700	7,700	86,800,000
United Kingdom	98	98	1,580,000	161	161	4,690,000
Vietnam	270	270	5,120,000	395	395	9,220,000
Other (35 countries)	16	16	3,600,000	190	190	14,200,000
Total	3,030	3,030	61,000,000	17,200	17,200	354,000,000
99.00%–99.99% silicon:						
Belgium	4	4	6,280	155	154	179,000
France	--	--	--	9	9	12,500
Germany	--	--	--	413	410	402,000
India	--	--	--	16	16	44,600
Korea, Republic of	--	--	--	1	1	3,460
Mexico	1	1	2,750	9	8	24,200
Netherlands	21	21	50,000	81	80	127,000
Peru	--	--	--	9	9	12,600
Spain	16	16	33,600	16	16	33,600
United Kingdom	2	2	2,890	385	376	553,000
Total	44	44	95,500	1,090	1,080	1,390,000
Other silicon:						
Belgium	17	16	26,700	224	217	307,000

See footnotes at end of table.

TABLE 3—Continued  
U.S. EXPORTS OF FERROSILICON AND SILICON METAL IN MAY 2018<sup>1,2</sup>

(Metric tons, unless otherwise specified)

Country or locality	Gross weight	Contained weight	Value	January–May <sup>3</sup>		
				Gross weight	Contained weight	Value
Metal—Continued:						
Other silicon:						
Canada	19	18	\$78,000	156	152	\$498,000
China	30	29	39,300	90	88	119,000
France	--	--	--	140	137	151,000
Germany	--	--	--	17	16	36,500
Hong Kong	15	14	143,000	15	14	143,000
Korea, Republic of	48	47	157,000	80	78	229,000
Netherlands	284	276	236,000	284	276	236,000
Sweden	--	--	--	221	215	325,000
United Kingdom	(4)	(4)	3,390	26	25	93,100
Other (10 countries)	12	11	121,000	51	50	360,000
Total	424	412	804,000	1,300	1,270	2,500,000
Total silicon metal	3,500	3,480	61,900,000	19,500	19,500	358,000,000

-- Zero.

<sup>1</sup>Presentation of monthly data is based on the 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>May include revisions to previously published data.

<sup>4</sup>Less than ½ unit.

Source: U.S. Census Bureau.

TABLE 4  
U.S. IMPORTS OF FERROSILICON AND SILICON METAL IN MAY 2018<sup>1,2</sup>

(Metric tons, unless otherwise specified)

Country or locality	Gross weight	Contained weight	Value	January–May <sup>3</sup>		
				Gross weight	Contained weight	Value
Ferrosilicon:						
55%–80% silicon, more than 3% Ca:						
Brazil	--	--	--	135	101	\$179,000
China	153	108	\$302,000	153	108	302,000
France	54	32	161,000	298	178	860,000
Hong Kong	--	--	--	60	45	94,400
Russia	--	--	--	10,000	7,620	14,400,000
South Africa	54	38	113,000	288	203	596,000
Total	261	178	576,000	10,900	8,250	16,400,000
55%–80% silicon, other:						
Brazil	408	306	714,000	3,370	2,550	5,230,000
Canada	1,090	777	2,520,000	6,090	4,420	13,600,000
China	1,700	1,290	2,420,000	3,880	2,910	5,390,000
Egypt	--	--	--	500	372	679,000
France	142	104	378,000	744	532	2,040,000
Iceland	416	328	572,000	3,320	2,620	4,620,000
Kazakhstan	--	--	--	4,030	3,080	7,180,000
Malaysia	--	--	--	1,540	1,140	2,290,000
Russia	--	--	--	25,500	19,400	38,700,000
South Africa	166	119	439,000	1,100	798	2,390,000
Other (8 countries)	276	201	736,000	1,320	969	3,310,000
Total	4,200	3,130	7,770,000	51,300	38,800	85,400,000
80%–90% ferrosilicon:						
Argentina	--	--	--	22	18	34,500
Canada	--	--	--	1	1	2,700
Germany	--	--	--	137	114	160,000
Total	--	--	--	160	133	198,000
More than 90% ferrosilicon, Brazil	--	--	--	2,280	2,100	1,130,000
Magnesium ferrosilicon:						
Canada	1,210	556	2,240,000	5,940	2,720	10,900,000
China	4	2	9,160	48	24	98,200
Germany	4	1	10,400	32	10	103,000
India	233	102	308,000	1,150	400	1,380,000
Norway	--	--	--	108	52	217,000
Total	1,450	662	2,560,000	7,280	3,200	12,700,000
Other ferrosilicon:						
Argentina	--	--	--	40	18	39,900
Canada	949	327	1,170,000	4,170	1,430	5,200,000
China	165	76	279,000	527	237	862,000
France	16	7	27,900	16	7	27,900
Germany	2	1	5,220	9	4	44,700
Russia	49	24	85,900	158	78	284,000
Slovakia	39	11	65,400	77	25	126,000
Spain	--	--	--	206	91	354,000
United Kingdom	--	--	--	9	4	25,400
Total	1,220	446	1,640,000	5,210	1,900	6,970,000
Total ferrosilicon	7,130	4,410	12,500,000	77,200	54,400	123,000,000
Metal:						
More than 99.99% silicon:						
China	14	14	1,560,000	42	42	6,760,000
Denmark	(4)	(4)	114,000	1	1	398,000
Finland	1	1	167,000	2	2	377,000
Germany	68	68	4,770,000	347	347	22,500,000
Japan	8	8	756,000	74	74	4,610,000

See footnotes at end of table.

TABLE 4—Continued  
U.S. IMPORTS OF FERROSILICON AND SILICON METAL IN MAY 2018<sup>1,2</sup>

(Metric tons, unless otherwise specified)

Country or locality	Gross weight	Contained weight	Value	January–May <sup>3</sup>		
				Gross weight	Contained weight	Value
Metal—Continued:						
More than 99.99% silicon:						
Korea, Republic of	(4)	(4)	\$15,000	(4)	(4)	\$168,000
Spain	(4)	(4)	2,060	1	1	8,200
Sweden	--	--	--	1	1	31,000
Taiwan	59	59	2,230,000	253	253	8,870,000
Ukraine	1	1	25,600	4	4	248,000
Other (7 countries)	(4)	(4)	2,770	(4)	(4)	51,500
Total	152	152	9,640,000	724	724	44,000,000
99.00%–99.99% silicon:						
Bosnia and Herzegovina	1,320	1,310	3,460,000	3,910	3,890	10,100,000
Brazil	2,920	2,890	8,490,000	11,000	10,900	31,300,000
Canada	1,710	1,700	5,050,000	10,300	10,300	30,900,000
Germany	20	20	56,800	40	40	127,000
Kazakhstan	117	116	233,000	117	116	233,000
Laos	405	403	1,040,000	1,830	1,810	4,460,000
Norway	771	766	2,200,000	7,170	7,130	21,000,000
Thailand	7,740	7,700	22,700,000	9,400	9,350	27,400,000
United Kingdom	--	--	--	19	19	45,100
Total	15,000	14,900	43,200,000	43,900	43,600	126,000,000
Other silicon:						
Brazil	1,250	1,230	3,430,000	2,780	2,750	7,820,000
Canada	--	--	--	39	39	82,600
China	--	--	--	46	44	57,000
Germany	58	55	67,700	67	65	97,700
Iceland	--	--	--	119	116	175,000
Japan	48	46	59,300	314	302	383,000
Laos	--	--	--	176	169	449,000
Norway	319	311	746,000	3,740	3,650	8,710,000
Sweden	67	65	73,400	135	129	147,000
Thailand	24	23	20,600	336	323	868,000
Other (5 countries)	22	21	70,100	64	62	116,000
Total	1,780	1,750	4,470,000	7,820	7,650	18,900,000
Total silicon metal	16,900	16,800	57,300,000	52,400	51,900	189,000,000

-- Zero.

<sup>1</sup>Presentation of monthly data is based on the 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>May include revisions to previously published data.

<sup>4</sup>Less than ½ unit.

Source: U.S. Census Bureau.