

Mineral Industry Surveys

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SILICON IN APRIL 2018

Domestic production of silicon materials was 47,700 metric tons (t) in April 2018, a 7% decrease from March 2018 production and 17% more than April 2017 production (fig. 1, table 1). Net shipments were 32,400 t, a 4% decrease from shipments in March 2018 and a 27% increase from shipments in April 2017. Total production and net shipments during the first 4 months of 2018 were 18% and 24% more, respectively, than those during the same period in 2017 (table 1).

Ending stocks were 29,900 t in April 2018, slightly less than stocks in March 2018 and 34% less than those in April 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.

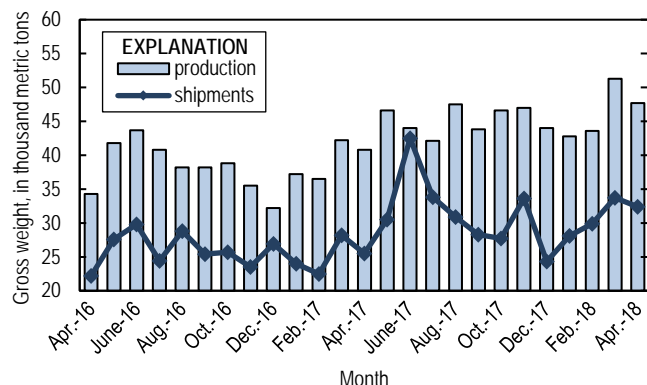


Figure 1. Monthly domestic production of total silicon materials and net shipments from April 2016 through April 2018 (may include revisions to previously published data). Source: U.S. Geological Survey.

Prices

The average U.S. spot price for silicon metal was 143.13 cents per pound in April 2018, essentially unchanged from the average price in March 2018, and a 36% increase from the April 2017 price. The average U.S. spot prices for ferrosilicon, 50% and 75% grades, were the same as and 4% less than the average prices in March 2018 and were 15% and 38% greater, respectively, than their average prices in April 2017 (fig. 2).

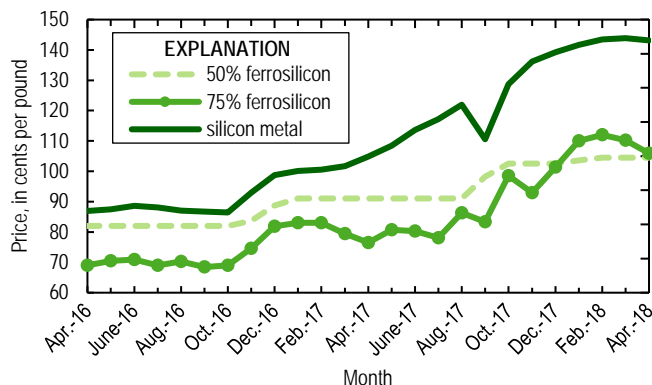


Figure 2. Average monthly spot prices for silicon metal and ferrosilicon 50% and 75% grades, contained silicon, from April 2016 through April 2018. Source: CRU Group and S&P Global Platts.

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TABLE 1
PRODUCTION, SHIPMENTS, AND STOCKS OF SILICON ALLOYS
AND METAL IN THE UNITED STATES^{1,2}

(Metric tons, gross weight)

	Gross production ³	Net shipments	Producers' stocks, end of period
2017:			
January–December	518,000	352,000	34,100 ^r
January–April	157,000 ^r	100,000 ^r	45,200 ^r
April	40,800	25,500	45,200
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	44,000	24,300	34,100 ^r
2018:			
January	42,800	28,100	29,500
February	43,600	29,900	30,500
March	51,300	33,700	30,300
April	47,700	32,400	29,900
January–April	186,000	124,000	29,900

^rRevised.

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

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

³Ferrosilicon production includes material consumed in the production of miscellaneous silicon alloys.

TABLE 2
PRICES FOR FERROSILICON AND SILICON METAL IN APRIL 2018

		Low	Average	High	Average low, mid, and high
Ferrosilicon:					
50% ferrosilicon ¹	cents per pound of contained silicon	102.00	XX	107.00	102.00–104.50–107.00
75% ferrosilicon ²	do.	105.00	105.88	107.00	XX
Silicon metal, 553 grade ³	cents per pound	140.00	143.13	145.00	XX

do. Ditto. XX Not applicable.

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

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

³S&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 APRIL 2018^{1,2}

(Metric tons, unless otherwise specified)

Country or locality	Gross weight	Contained weight	Value	January–April ³		
				Gross weight	Contained weight	Value
Ferrosilicon:						
More than 55% silicon:						
Canada	470	282	\$782,000	1,440	865	\$2,390,000
Iceland	--	--	--	43	26	62,400
India	--	--	--	320	233	380,000
Malaysia	--	--	--	6	4	10,000
Mexico	295	179	605,000	1,090	662	2,360,000
Netherlands	75	45	123,000	434	260	460,000
Total	839	506	1,510,000	3,330	2,050	5,660,000
Other ferrosilicon:						
Belgium	40	19	62,000	252	113	313,000
Brazil	--	--	--	195	77	380,000
Canada	202	101	83,000	590	295	315,000
Finland	--	--	--	41	21	65,400
France	20	9	34,900	60	27	106,000
Korea, Republic of	60	26	66,000	258	112	294,000
Mexico	173	83	376,000	695	332	1,500,000
Switzerland	--	--	--	40	9	70,000
Turkey	60	28	104,000	203	97	339,000
United Kingdom	60	27	96,100	518	233	850,000
Other (7 countries)	--	--	--	106	50	176,000
Total	615	293	821,000	2,960	1,370	4,410,000
Total ferrosilicon	1,450	799	2,330,000	6,290	3,420	10,100,000
Metal:						
More than 99.99% silicon:						
China	183	183	3,680,000	1,400	1,400	20,000,000
Germany	(4)	(4)	11,300	128	128	2,570,000
Hong Kong	229	229	1,530,000	562	562	4,530,000
Japan	859	859	34,300,000	4,620	4,620	156,000,000
Korea, Republic of	8	8	1,080,000	74	74	6,610,000
Malaysia	22	22	3,440,000	94	94	14,100,000
Norway	122	122	380,000	439	439	5,440,000
Singapore	--	--	--	204	204	2,850,000
Taiwan	2,240	2,240	32,500,000	6,320	6,320	69,800,000
Vietnam	--	--	--	125	125	4,100,000
Other (31 countries)	45	45	1,580,000	163	163	7,090,000
Total	3,710	3,710	78,600,000	14,100	14,100	293,000,000
99.00%–99.99% silicon:						
Belgium	71	70	73,100	151	149	173,000
France	--	--	--	9	9	12,500
Germany	--	--	--	413	410	402,000
India	--	--	--	16	16	44,600
Korea, Republic of	--	--	--	1	1	3,460
Mexico	3	3	10,200	7	7	21,500
Netherlands	--	--	--	60	60	76,700
Peru	9	9	12,600	9	9	12,600
United Kingdom	--	--	--	383	374	550,000
Total	83	82	96,000	1,050	1,040	1,300,000
Other silicon:						
Belgium	25	24	38,600	207	201	281,000
Canada	8	8	63,100	138	134	420,000
China	--	--	--	61	59	79,900
France	--	--	--	140	137	151,000

See footnotes at end of table.

TABLE 3—Continued
U.S. EXPORTS OF FERROSILICON AND SILICON METAL IN APRIL 2018^{1, 2}

(Metric tons, unless otherwise specified)

Country or locality	Gross weight	Contained weight	Value	January–April ³		
				Gross weight	Contained weight	Value
Metal—Continued:						
Other silicon:						
Germany	1	1	\$9,030	17	16	\$36,500
Japan	--	--	--	13	13	135,000
Korea, Republic of	--	--	--	32	31	72,300
Mexico	2	2	14,000	12	11	56,800
Sweden	221	215	325,000	221	215	325,000
United Kingdom	21	20	46,600	25	25	89,800
Other (6 countries)	11	10	29,200	15	15	47,000
Total	288	280	526,000	880	856	1,690,000
Total silicon metal	4,080	4,070	79,200,000	16,100	16,000	296,000,000

-- Zero.

¹Presentation of monthly data is based on the quantities (gross weight) of the leading countries.

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

³May include revisions to previously published data.

⁴Less than ½ unit.

Source: U.S. Census Bureau.

TABLE 4
U.S. IMPORTS OF FERROSILICON AND SILICON METAL IN APRIL 2018^{1,2}

(Metric tons, unless otherwise specified)

Country or locality	Gross weight	Contained weight	Value	January–April ³		
				Gross weight	Contained weight	Value
Ferrosilicon:						
55%–80% silicon, more than 3% Ca:						
Brazil	--	--	--	135	101	\$179,000
France	46	28	\$118,000	244	146	699,000
Hong Kong	--	--	--	60	45	94,400
Russia	10,000	7,620	14,400,000	10,000	7,620	14,400,000
South Africa	18	14	39,300	234	165	483,000
Total	10,100	7,660	14,500,000	10,700	8,070	15,800,000
55%–80% silicon, other:						
Brazil	--	--	--	2,960	2,240	4,520,000
Canada	1,270	919	2,930,000	5,000	3,640	11,100,000
China	144	109	238,000	2,170	1,620	2,970,000
Egypt	--	--	--	500	372	679,000
France	126	92	323,000	602	428	1,660,000
Iceland	748	591	1,090,000	2,900	2,290	4,040,000
Kazakhstan	1,540	1,180	2,790,000	4,030	3,080	7,180,000
Malaysia	270	202	520,000	1,540	1,140	2,290,000
Russia	8,100	6,160	11,700,000	25,500	19,400	38,700,000
South Africa	254	198	366,000	938	678	1,950,000
Other (8 countries)	309	227	829,000	1,050	768	2,580,000
Total	12,800	9,680	20,700,000	47,100	35,700	77,600,000
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	1,110	507	2,070,000	4,720	2,160	8,690,000
China	19	9	37,000	44	22	89,100
Germany	--	--	--	30	9	92,100
India	343	138	327,000	919	298	1,070,000
Norway	54	26	110,000	108	52	217,000
Total	1,530	680	2,540,000	5,820	2,540	10,200,000
Other ferrosilicon:						
Argentina	40	18	39,900	40	18	39,900
Canada	774	260	1,000,000	3,220	1,110	4,030,000
China	9	4	16,000	362	160	584,000
Germany	--	--	--	7	4	39,500
Russia	31	15	54,800	110	54	199,000
Slovakia	--	--	--	39	13	60,600
Spain	--	--	--	206	91	354,000
United Kingdom	--	--	--	9	4	25,400
Total	854	297	1,110,000	3,990	1,450	5,330,000
Total ferrosilicon	25,200	18,300	38,900,000	70,100	50,000	110,000,000
Metal:						
More than 99.99% silicon:						
China	5	5	1,450,000	28	28	5,200,000
Denmark	(4)	(4)	49,200	1	1	284,000
Finland	(4)	(4)	59,700	1	1	209,000
Germany	38	38	3,400,000	279	279	17,700,000
Japan	14	14	853,000	66	66	3,860,000
Korea, Republic of	(4)	(4)	70,300	(4)	(4)	153,000
Spain	(4)	(4)	2,050	1	1	6,140

See footnotes at end of table.

TABLE 4—Continued
U.S. IMPORTS OF FERROSILICON AND SILICON METAL IN APRIL 2018^{1,2}

(Metric tons, unless otherwise specified)

Country or locality	Gross weight	Contained weight	Value	January–April ³		
				Gross weight	Contained weight	Value
Metal—Continued:						
More than 99.99% silicon:						
Sweden	--	--	--	1	1	\$31,000
Taiwan	45	45	\$1,640,000	193	193	6,640,000
Ukraine	2	2	101,000	3	3	222,000
Other (6 countries)	(4)	(4)	3,570	(4)	(4)	48,700
Total	104	104	7,630,000	573	573	34,400,000
99.00%–99.99% silicon:						
Bosnia and Herzegovina	1,700	1,690	4,530,000	2,590	2,580	6,670,000
Brazil	1,830	1,810	5,210,000	8,120	8,050	22,900,000
Canada	1,500	1,490	4,410,000	8,630	8,570	25,800,000
Germany	--	--	--	20	20	70,700
Laos	140	139	370,000	1,420	1,410	3,410,000
Norway	1,830	1,820	5,640,000	6,400	6,360	18,800,000
Thailand	1,340	1,340	3,910,000	1,670	1,660	4,720,000
United Kingdom	19	19	45,100	19	19	45,100
Total	8,350	8,300	24,100,000	28,900	28,700	82,400,000
Other silicon:						
Brazil	607	600	1,730,000	1,540	1,520	4,380,000
Canada	--	--	--	39	39	82,600
China	--	--	--	46	44	57,000
Iceland	--	--	--	119	116	175,000
India	--	--	--	19	18	20,600
Japan	(4)	(4)	5,840	267	256	324,000
Laos	176	169	449,000	176	169	449,000
Norway	320	313	647,000	3,420	3,340	7,970,000
Sweden	--	--	--	67	65	73,400
Thailand	--	--	--	312	300	847,000
Other (3 countries)	(4)	(4)	6,270	33	32	55,200
Total	1,100	1,080	2,840,000	6,040	5,900	14,400,000
Total silicon metal	9,560	9,480	34,600,000	35,500	35,100	131,000,000

-- Zero.

¹Presentation of monthly data is based on the quantities (gross weight) of the leading countries.

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

³May include revisions to previously published data.

⁴Less than ½ unit.

Source: U.S. Census Bureau.