

Mineral Industry Surveys

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SILICON IN APRIL 2019

Domestic production of silicon materials was 38,500 metric tons (t) in April 2019, a 7% decrease from March 2019 production and 20% less than April 2018 production (fig. 1, table 1). Net shipments were 30,600 t, slightly more than shipments in March 2019 and 3% less than shipments in April 2018. Total production and net shipments during the first 4 months of 2019 were 16% less and slightly more, respectively, than those during the same period in 2018 (table 1).

Ending stocks were 22,300 t in April 2019, essentially unchanged from March 2019 and 29% less than those in April 2018 (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.

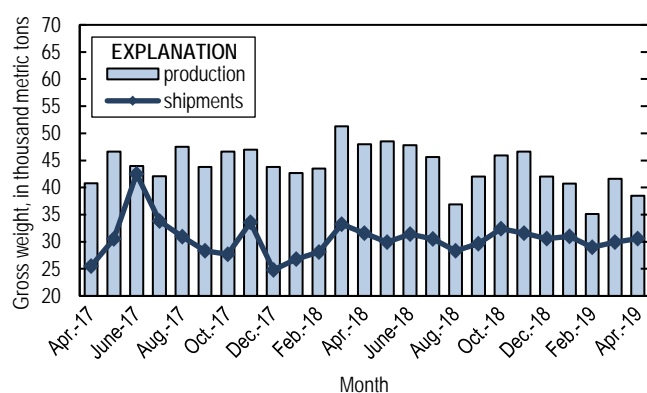


Figure 1. Monthly domestic production of total silicon materials and net shipments from April 2017 through April 2019 (may include revisions to previously published data).

Prices

The average U.S. spot price for silicon metal was 112.88 cents per pound in April 2019, slightly less than the average price in March 2019 and 21% less than that in April 2018. The average U.S. spot prices for ferrosilicon, 50% and 75% grades, were unchanged compared with the average prices in March 2019 and were slightly less and 6% less, respectively, than their average prices in April 2018 (fig. 2).

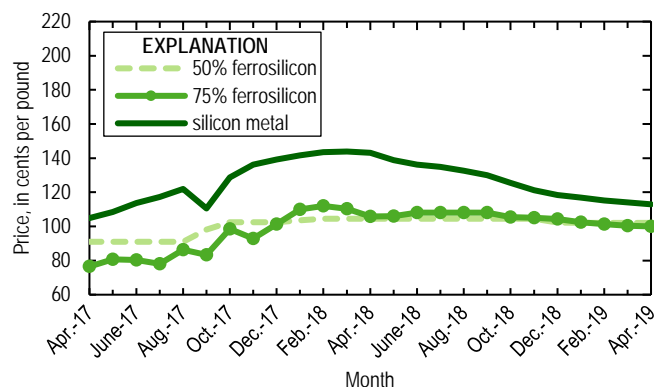


Figure 2. Average monthly spot prices for silicon metal and ferrosilicon 50% and 75% grades, contained silicon, from April 2017 through April 2019. Source: CRU Group and S&P Global Platts.

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TABLE 1
PRODUCTION, SHIPMENTS, AND STOCKS OF SILICON ALLOYS
AND METAL IN THE UNITED STATES^{1, 2, 3}

(Metric tons, gross weight)

	Gross production ⁴	Net shipments	Producers' stocks, end of period
2018:			
January–December	541,000	364,000	24,000
January–April	185,000 ^r	120,000 ^r	31,400 ^r
April	48,000	31,600	31,400
May	48,500	29,900	32,500
June	47,800	31,400	32,000
July	45,600	30,500	31,400
August	36,900	28,300	25,800
September	42,000	29,600	24,900
October	45,900	32,400	24,400
November	46,600	31,600	24,900
December	42,000	30,600	24,000
2019:			
January	40,700 ^r	31,000 ^r	22,900 ^r
February	35,100 ^r	29,000 ^r	19,400 ^r
March	41,600 ^r	29,900 ^r	22,300 ^r
April	38,500	30,600	22,300
January–April	156,000	120,000	22,300

^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.

³Includes USGS estimates.

⁴Ferrosilicon production includes material consumed in the production of miscellaneous silicon alloys.

TABLE 2
PRICES FOR FERROSILICON AND SILICON METAL IN APRIL 2019

		Low	Average	High	Average low, mid, and high
Ferrosilicon:					
50% ferrosilicon ¹	cents per pound of contained silicon	101.00	XX	103.00	101.00–102.00–103.00
75% ferrosilicon ²	do.	99.00	100.00	101.00	XX
Silicon metal, 553 grade ³	cents per pound	111.00	112.88	115.00	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 2019^{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:						
Brazil	12	7	\$18,500	12	7	\$18,500
Canada	691	414	1,100,000	2,200	1,320	3,050,000
Dominican Republic	--	--	--	39	23	86,200
Germany	--	--	--	62	37	63,000
Mexico	82	52	192,000	543	333	1,230,000
Singapore	--	--	--	1	1	4,860
Sweden	--	--	--	200	120	242,000
United Kingdom	--	--	--	21	12	30,900
Total	785	473	1,310,000	3,080	1,860	4,720,000
Other ferrosilicon:						
Belgium	94	43	99,800	268	127	324,000
Brazil	59	29	114,000	117	59	228,000
Canada	4	2	3,560	181	91	166,000
France	20	9	33,200	80	36	133,000
Korea, Republic of	80	35	91,200	320	140	365,000
Mexico	112	53	223,000	761	305	1,380,000
Spain	80	40	141,000	80	40	141,000
Sweden	--	--	--	60	27	101,000
Turkey	80	37	138,000	219	103	387,000
United Kingdom	100	44	166,000	577	259	949,000
Other [3 countries and (or) localities]	--	--	--	113	55	211,000
Total	627	293	1,010,000	2,780	1,240	4,380,000
Total ferrosilicon	1,410	766	2,320,000	5,850	3,100	9,100,000
Metal:						
More than 99.99% silicon:						
China	815	815	8,910,000	2,420	2,420	21,700,000
Germany	521	521	9,230,000	2,480	2,480	37,900,000
Hong Kong	143	143	851,000	287	287	1,730,000
Japan	599	599	26,100,000	2,830	2,830	115,000,000
Korea, Republic of	825	825	21,500,000	2,640	2,640	53,300,000
Malaysia	14	14	2,300,000	273	273	12,200,000
Norway	98	98	900,000	441	441	3,310,000
Taiwan	629	629	9,770,000	1,770	1,770	24,800,000
United Kingdom	40	40	508,000	127	127	2,800,000
Vietnam	434	434	5,960,000	831	831	12,500,000
Other [30 countries and (or) localities]	98	98	1,780,000	230	230	4,160,000
Total	4,220	4,220	87,700,000	14,300	14,300	289,000,000
99.00%–99.99% silicon:						
Dominican Republic	--	--	--	5	5	6,800
Mexico	1	1	2,780	6	6	16,700
United Kingdom	39	21	85,000	72	54	125,000
Total	40	22	87,800	83	65	148,000
Other silicon:						
Australia	--	--	--	3	3	28,800
Belgium	--	--	--	129	125	169,000
Canada	22	22	40,200	84	81	182,000
China	14	13	17,900	23	23	33,700

See footnotes at end of table.

TABLE 3—Continued
U.S. EXPORTS OF FERROSILICON AND SILICON METAL IN APRIL 2019^{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:						
Japan	--	--	--	3	3	4,290
Korea, Republic of	--	--	--	23	22	30,400
Mexico	1	1	3,000	29	29	63,000
Netherlands	68	66	53,300	184	179	207,000
South Africa	--	--	--	11	10	36,600
United Kingdom	4	4	32,500	4	4	36,900
Other [3 countries and (or) localities]	3	3	32,100	5	5	35,200
Total	111	108	179,000	499	484	827,000
Total silicon metal	4,370	4,350	88,000,000	14,900	14,900	290,000,000

-- 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.

Source: U.S. Census Bureau.

TABLE 4
U.S. IMPORTS OF FERROSILICON AND SILICON METAL IN APRIL 2019^{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	48	35	\$63,400	91	67	\$127,000
China	--	--	--	144	96	345,000
France	54	34	152,000	216	138	600,000
India	19	12	51,000	19	12	51,000
South Africa	18	11	40,100	54	34	136,000
Total	139	92	306,000	524	348	1,260,000
55%–80% silicon, other:						
Brazil	1,380	1,040	1,800,000	5,680	4,280	7,760,000
Canada	875	631	2,110,000	5,070	3,700	10,900,000
China	21	16	29,500	247	183	363,000
France	108	73	398,000	820	581	3,310,000
Iceland	249	197	350,000	4,240	3,330	5,730,000
Kazakhstan	--	--	--	4,250	3,280	6,730,000
Malaysia	1,210	913	1,570,000	9,230	7,030	12,000,000
Paraguay	902	712	1,170,000	2,980	2,350	3,870,000
Russia	--	--	--	32,900	24,900	44,100,000
South Africa	254	167	624,000	560	375	1,340,000
Other [6 countries and (or) localities]	233	170	843,000	696	502	2,360,000
Total	5,230	3,920	8,890,000	66,700	50,600	98,500,000
More than 90% ferrosilicon, Brazil	15	14	31,500	15	14	31,500
Magnesium ferrosilicon:						
Argentina	22	10	35,800	49	22	108,000
Canada	1,010	460	1,880,000	3,750	1,730	6,920,000
China	--	--	--	24	12	54,100
Germany	3	1	15,700	19	4	48,600
India	29	13	43,600	658	256	755,000
Norway	--	--	--	74	35	145,000
Thailand	--	--	--	75	34	130,000
Total	1,060	484	1,970,000	4,650	2,090	8,160,000
Other ferrosilicon:						
Canada	862	297	1,050,000	3,400	1,220	4,090,000
China	--	--	--	9	1	43,900
France	14	6	24,200	14	6	24,200
Germany	--	--	--	3	1	17,200
India	58	26	86,400	172	70	260,000
Mexico	--	--	--	14	6	23,200
Russia	3	1	4,910	89	43	174,000
Slovakia	58	14	97,200	99	27	167,000
Turkey	--	--	--	22	10	15,500
Total	995	344	1,260,000	3,820	1,380	4,810,000
Total ferrosilicon	7,440	4,850	12,500,000	75,700	54,400	113,000,000
Metal:						
More than 99.99% silicon:						
Brazil	1,100	1,100	3,390,000	2,400	2,400	7,390,000
China	4	4	114,000	12	12	1,270,000
Denmark	1	1	139,000	2	2	651,000
Germany	43	43	1,450,000	187	187	12,900,000
Iceland	--	--	--	7	7	451,000
Japan	41	41	1,880,000	479	479	22,200,000
Korea, Republic of	--	--	--	4	4	130,000

See footnotes at end of table.

TABLE 4—Continued
U.S. IMPORTS OF FERROSILICON AND SILICON METAL IN APRIL 2019^{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:						
Norway	2	2	\$14,500	26	26	\$172,000
Taiwan	20	20	1,450,000	117	117	6,470,000
United Kingdom	--	--	--	1	1	10,900
Other [4 countries and (or) localities]	(4)	(4)	30,400	1	1	376,000
Total	1,210	1,210	8,460,000	3,230	3,230	52,000,000
99.00%–99.99% silicon:						
Australia	80	80	211,000	1,530	1,520	4,140,000
Bosnia and Herzegovina	1,350	1,340	2,890,000	4,000	3,970	8,690,000
Brazil	2,800	2,770	7,390,000	10,800	10,700	29,500,000
Canada	3,470	3,450	9,520,000	10,400	10,300	29,500,000
Iceland	920	913	1,870,000	1,900	1,890	3,910,000
Kazakhstan	1,070	1,060	2,010,000	3,230	3,200	6,380,000
Laos	20	20	45,000	1,120	1,110	2,790,000
Malaysia	211	209	421,000	211	209	421,000
Norway	690	685	1,970,000	2,910	2,890	8,400,000
Thailand	48	48	110,000	2,050	2,040	4,960,000
Other [3 countries and (or) localities]	76	75	173,000	209	208	504,000
Total	10,700	10,600	26,600,000	38,400	38,100	99,200,000
Other silicon:						
Australia	96	92	241,000	1,340	1,260	3,580,000
Bosnia and Herzegovina	22	21	47,200	341	324	771,000
Brazil	785	764	2,060,000	3,360	3,290	8,790,000
Canada	--	--	--	233	226	656,000
China	32	30	34,600	55	53	60,500
Iceland	--	--	--	448	442	739,000
Japan	72	69	78,300	131	126	161,000
Kazakhstan	100	96	206,000	118	114	233,000
Netherlands	58	56	172,000	177	172	428,000
Norway	469	460	771,000	2,180	2,140	3,670,000
Slovakia	38	37	87,600	76	74	152,000
Other [5 countries and (or) localities]	37	36	856,000	136	131	1,070,000
Total	1,710	1,660	4,550,000	8,600	8,350	20,300,000
Total silicon metal	13,600	13,500	39,600,000	50,200	49,700	172,000,000

-- 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.