

# Mineral Industry Surveys

## For information, contact:

Emily K. Schnebele, Silicon Commodity Specialist  
National Minerals Information Center  
U.S. Geological Survey  
989 National Center  
Reston, VA 20192  
Telephone: (703) 648-4945, Fax: (703) 648-7757  
Email: [eschnebele@usgs.gov](mailto:eschnebele@usgs.gov)

Joshua Braunstein (Data)  
Telephone: (703) 648-7958  
Fax: (703) 648-7975  
Email: [jbrownstein@usgs.gov](mailto:jbrownstein@usgs.gov)

Internet: <https://www.usgs.gov/centers/nmic>

## SILICON IN JUNE 2019

Domestic production of silicon materials was 33,400 metric tons (t) in June 2019, a 12% decrease from May 2019 production and 30% less than June 2018 production (fig. 1, table 1). Net shipments were 26,400 t, 5% more than shipments in May 2019 and 16% less than shipments in June 2018. Total production and net shipments during the first 6 months of 2019 were 19% less and 5% less, respectively, than those during the same period in 2018 (table 1).

Ending stocks were 26,900 t in June 2019, slightly more than stocks in May 2019 and 16% less than those in June 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.

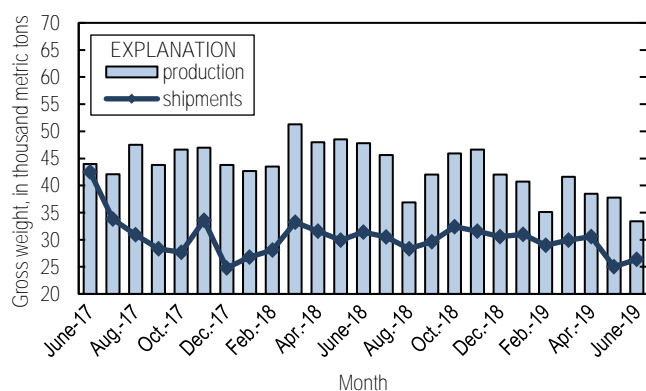


Figure 1. Monthly domestic production of total silicon materials and net shipments from June 2017 through June 2019 (may include revisions to previously published data).

## Prices

The average U.S. spot price for silicon metal was 108.13 cents per pound in June 2019, slightly less than the average price in May 2019 and 21% less than that in June 2018. The average U.S. spot prices for ferrosilicon, 50% and 75% grades, were unchanged and 4% less, respectively, when compared with the average prices in May 2019 and were slightly less and 18% less, respectively, than their average prices in June 2018 (fig. 2).

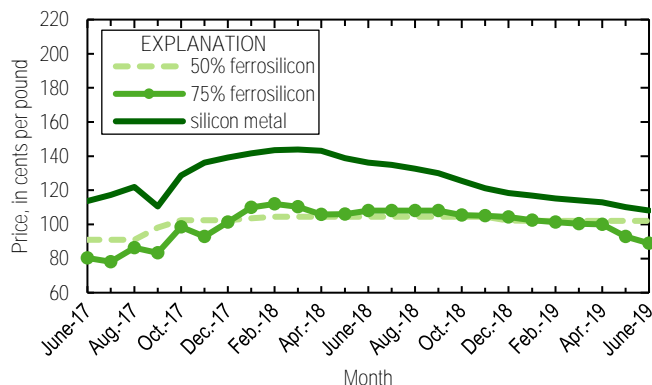


Figure 2. Average monthly spot prices for silicon metal and ferrosilicon 50% and 75% grades, contained silicon, from June 2017 through June 2019. Source: CRU Group and S&P Global Platts.

List services and web feed subscribers are the first to receive notification of USGS minerals information publications and data releases. For information on how to subscribe, go to

<https://www.usgs.gov/centers/nmic/minerals-information-publication-list-services>.

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
2018:			
January–December	541,000	364,000	24,000
January–June	282,000	181,000 <sup>r</sup>	32,000 <sup>r</sup>
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	31,000	22,900
February	35,100	29,000	19,400
March	41,600	29,900	22,300
April	38,500	30,600	22,300
May	37,800	25,000	26,700
June	33,400	26,400	26,900
January–June	227,000	172,000	26,900

<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>Includes USGS estimates.

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

TABLE 2  
PRICES FOR FERROSILICON AND SILICON METAL IN JUNE 2019

		Low	Average	High	Average low, mid, and high
Ferrosilicon:					
50% ferrosilicon <sup>1</sup>	cents per pound of contained silicon	101.00	XX	103.00	101.00–102.00–103.00
75% ferrosilicon <sup>2</sup>	do.	88.00	89.00	90.00	XX
Silicon metal, 553 grade <sup>3</sup>	cents per pound	105.00	108.13	111.00	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 JUNE 2019<sup>1,2</sup>

(Metric tons, unless otherwise specified)

Country or locality	Gross weight	Contained weight	Value	January–June <sup>3</sup>		
				Gross weight	Contained weight	Value
Ferrosilicon:						
More than 55% silicon:						
Brazil	--	--	--	12	7	\$18,500
Canada	478	287	\$758,000	3,360	2,020	4,600,000
Dominican Republic	--	--	--	39	23	86,200
Germany	--	--	--	62	37	63,000
Japan	3	2	4,000	3	2	4,000
Mexico	76	47	156,000	951	582	2,030,000
Pakistan	--	--	--	7	4	10,800
Singapore	--	--	--	1	1	4,860
Sweden	--	--	--	200	120	242,000
United Kingdom	--	--	--	21	12	30,900
Total	557	336	918,000	4,660	2,810	7,090,000
Other ferrosilicon:						
Belgium	36	15	25,200	322	150	361,000
Brazil	20	10	38,000	195	98	380,000
Canada	8	4	24,800	211	106	260,000
France	--	--	--	100	45	166,000
Korea, Republic of	80	34	91,200	500	219	570,000
Luxembourg	41	20	62,000	121	60	186,000
Mexico	203	97	365,000	1,060	440	1,920,000
Spain	40	20	70,400	119	60	211,000
Turkey	20	9	35,600	279	131	490,000
United Kingdom	--	--	--	636	286	1,050,000
Other [3 countries and (or) localities]	--	--	--	135	63	250,000
Total	447	210	712,000	3,680	1,660	5,840,000
Total ferrosilicon	1,000	545	1,630,000	8,330	4,460	12,900,000
Metal:						
More than 99.99% silicon:						
China	249	249	1,810,000	3,600	3,600	33,300,000
Germany	330	330	8,850,000	3,330	3,330	59,000,000
Hong Kong	105	105	591,000	459	459	2,720,000
Japan	998	998	42,300,000	4,460	4,460	177,000,000
Korea, Republic of	545	545	13,100,000	3,810	3,810	74,300,000
Malaysia	17	17	2,750,000	308	308	17,600,000
Norway	98	98	900,000	669	669	5,410,000
Taiwan	85	85	724,000	2,340	2,340	31,300,000
United Kingdom	3	3	478,000	168	168	3,620,000
Vietnam	--	--	--	1,000	1,000	15,200,000
Other [35 countries and (or) localities]	41	41	1,390,000	276	276	6,340,000
Total	2,470	2,470	72,900,000	20,400	20,400	426,000,000
99.00%–99.99% silicon:						
Dominican Republic	--	--	--	5	5	6,800
France	3	3	3,790	3	3	3,790
Japan	--	--	--	2	2	2,660
Mexico	--	--	--	10	10	27,600
Taiwan	2	2	2,780	2	2	2,780
United Kingdom	--	--	--	91	73	145,000
Total	5	5	6,560	113	95	188,000
Other silicon:						
Australia	2	2	15,500	5	4	44,300

See footnotes at end of table.

TABLE 3—Continued  
U.S. EXPORTS OF FERROSILICON AND SILICON METAL IN JUNE 2019<sup>1,2</sup>

(Metric tons, unless otherwise specified)

Country or locality	Gross weight	Contained weight	Value	January–June <sup>3</sup>		
				Gross weight	Contained weight	Value
Metal—Continued:						
Other silicon:						
Belgium	17	16	\$21,600	249	242	\$328,000
Canada	13	12	18,900	101	98	214,000
China	14	14	18,700	46	44	63,300
Japan	3	3	4,230	9	8	11,300
Korea, Republic of	--	--	--	23	22	30,400
Mexico	1	1	3,440	33	32	92,300
Netherlands	80	77	63,700	324	315	350,000
South Africa	23	22	30,500	34	33	67,100
United Kingdom	--	--	--	4	4	40,800
Other [4 countries and (or) localities]	(4)	(4)	2,720	7	7	56,800
Total	152	147	179,000	834	810	1,300,000
Total silicon metal	2,630	2,620	73,000,000	21,400	21,300	428,000,000

-- 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 JUNE 2019<sup>1, 2</sup>

(Metric tons, unless otherwise specified)

Country or locality	Gross weight	Contained weight	Value	January–June <sup>3</sup>		
				Gross weight	Contained weight	Value
Ferrosilicon:						
55%–80% silicon, more than 3% Ca:						
Azerbaijan	--	--	--	48	37	\$50,600
Brazil	300	225	\$327,000	691	517	773,000
China	--	--	--	229	147	545,000
France	18	11	56,500	324	204	916,000
India	--	--	--	19	12	51,000
South Africa	--	--	--	58	36	145,000
Total	318	236	384,000	1,370	954	2,480,000
55%–80% silicon, other:						
Brazil	2,640	2,000	2,930,000	10,800	8,120	13,600,000
Canada	926	672	2,260,000	6,880	5,010	15,300,000
France	72	48	207,000	1,090	772	5,120,000
Iceland	1,250	966	1,640,000	5,980	4,690	8,030,000
Kazakhstan	--	--	--	4,450	3,430	7,050,000
Kuwait	--	--	--	500	384	549,000
Malaysia	2,900	2,270	3,520,000	15,100	11,700	19,300,000
Paraguay	652	506	858,000	4,280	3,370	5,580,000
Russia	16,600	12,600	20,000,000	49,500	37,600	64,200,000
South Africa	166	114	341,000	904	607	2,120,000
Other [7 countries and (or) localities]	327	247	756,000	1,490	1,090	4,160,000
Total	25,500	19,500	32,500,000	101,000	76,700	145,000,000
80%–90% ferrosilicon, Brazil	--	--	--	232	209	268,000
More than 90% ferrosilicon, Brazil	40	38	84,000	55	52	116,000
Magnesium ferrosilicon:						
Argentina	76	35	70,800	128	58	197,000
Canada	984	452	1,790,000	5,560	2,560	10,300,000
China	--	--	--	24	12	54,100
Germany	20	6	64,400	39	10	113,000
India	41	18	71,800	809	328	1,030,000
Norway	--	--	--	74	35	145,000
Thailand	--	--	--	75	34	130,000
Total	1,120	511	2,000,000	6,710	3,030	12,000,000
Other ferrosilicon:						
Canada	929	332	1,090,000	5,150	1,820	6,170,000
China	--	--	--	34	12	86,200
France	48	22	118,000	62	28	142,000
Germany	1	(4)	5,220	4	2	22,500
India	84	38	123,000	256	107	383,000
Mexico	--	--	--	14	6	23,200
Russia	3	1	5,330	131	64	257,000
Slovakia	19	9	29,100	118	35	196,000
Turkey	--	--	--	22	10	15,500
United Kingdom	--	--	--	3	1	23,300
Other [1 country and locality]	2	1	3,130	2	1	3,130
Total	1,090	403	1,380,000	5,790	2,090	7,320,000
Total ferrosilicon	28,100	20,600	36,400,000	115,000	83,100	167,000,000
Metal:						
More than 99.99% silicon:						
Brazil	114	114	323,000	2,910	2,910	8,840,000
China	2	2	225,000	20	20	2,050,000
Denmark	(4)	(4)	78,200	2	2	838,000
Germany	36	36	1,800,000	262	262	16,900,000
Iceland	--	--	--	7	7	451,000

See footnotes at end of table.

TABLE 4—Continued  
U.S. IMPORTS OF FERROSILICON AND SILICON METAL IN JUNE 2019<sup>1, 2</sup>

(Metric tons, unless otherwise specified)

Country or locality	Gross weight	Contained weight	Value	January–June <sup>3</sup>		
				Gross weight	Contained weight	Value
Metal—Continued:						
More than 99.99% silicon:						
Japan	36	36	\$1,820,000	543	543	\$25,200,000
Korea, Republic of	--	--	--	4	4	148,000
Norway	26	26	318,000	52	52	490,000
Taiwan	14	14	1,770,000	151	151	10,000,000
Ukraine	(4)	(4)	2,820	1	1	71,200
Other [6 countries and (or) localities]	1	1	222,000	2	2	582,000
Total	228	228	6,560,000	3,960	3,960	65,600,000
99.00%–99.99% silicon:						
Australia	124	123	263,000	2,320	2,300	5,900,000
Bosnia and Herzegovina	834	828	1,770,000	5,270	5,240	11,400,000
Brazil	567	562	1,240,000	13,200	13,100	35,100,000
Canada	3,420	3,390	9,340,000	15,600	15,500	43,700,000
Iceland	420	417	806,000	2,930	2,910	5,880,000
Kazakhstan	500	495	952,000	5,320	5,280	10,300,000
Laos	--	--	--	1,840	1,820	4,500,000
Malaysia	480	475	928,000	1,020	1,010	1,990,000
Norway	624	620	1,840,000	4,160	4,130	12,100,000
Thailand	1,000	995	2,480,000	3,050	3,030	7,440,000
Other [6 countries and (or) localities]	71	71	182,000	321	319	778,000
Total	8,040	7,980	19,800,000	55,000	54,600	139,000,000
Other silicon:						
Australia	--	--	--	1,340	1,260	3,580,000
Bosnia and Herzegovina	--	--	--	341	324	771,000
Brazil	645	625	1,500,000	4,440	4,350	11,300,000
Canada	--	--	--	233	226	656,000
France	95	91	153,000	285	273	459,000
Iceland	32	32	53,400	480	473	792,000
Japan	(4)	(4)	2,100	183	176	225,000
Netherlands	--	--	--	209	203	533,000
Norway	554	542	886,000	3,590	3,520	5,930,000
Slovakia	--	--	--	148	144	260,000
Other [8 countries and (or) localities]	25	24	60,800	523	504	1,730,000
Total	1,350	1,310	2,650,000	11,800	11,400	26,200,000
Total silicon metal	9,620	9,520	29,000,000	70,700	70,000	231,000,000

-- 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.