

Mineral Industry Surveys

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SILICON IN SEPTEMBER 2019

Domestic production of silicon materials was 30,000 metric tons (t) in September 2019, a 20% decrease from August 2019 production and 28% less than September 2018 production (fig. 1, table 1). Net shipments were 25,000 t, 4% more than shipments in August 2019 and 16% less than shipments in September 2018. Total production and net shipments during the first 9 months of 2019 were 19% less and 9% less, respectively, than those during the same period in 2018 (table 1).

Ending stocks were 26,100 t in September 2019, 14% less than stocks in August 2019 and 5% more than those in September 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.

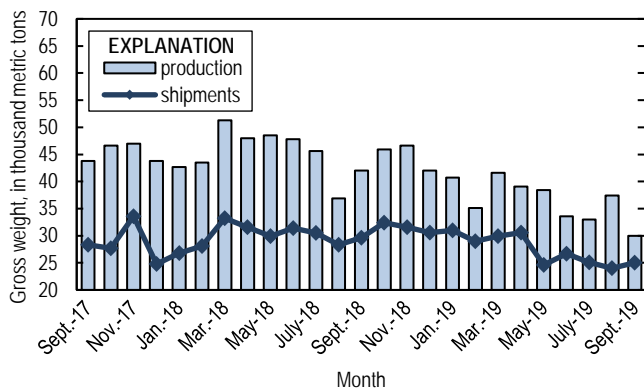


Figure 1. Monthly domestic production of total silicon materials and net shipments from September 2017 through September 2019 (may include revisions to previously published data).

Prices

The average U.S. spot price for silicon metal was 99.75 cents per pound in September 2019, slightly less than the average price in August 2019 and 23% less than that in September 2018. The average U.S. spot prices for ferrosilicon, 50% and 75% grades, were unchanged and essentially unchanged, respectively, when compared with the average prices in August 2019 and were slightly less and 24% less, respectively, than their average prices in September 2018 (fig. 2).

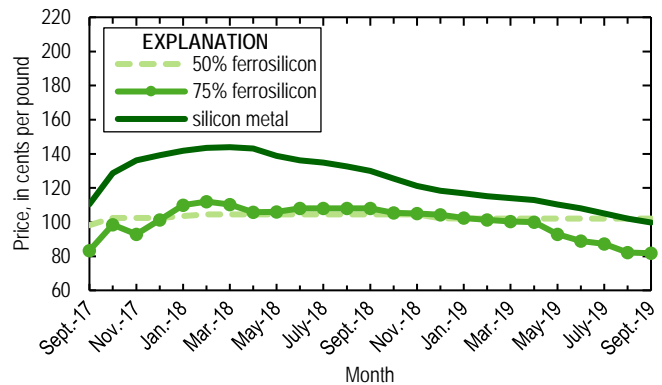


Figure 2. Average monthly spot prices for silicon metal and ferrosilicon 50% and 75% grades, contained silicon, from September 2017 through September 2019. Source: CRU Group and S&P Global Platts.

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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–September	406,000 ^r	269,000 ^r	24,900 ^r
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	39,100	30,600	23,000
May	38,400	24,600	28,400
June	33,600	26,700	28,200
July	33,000	25,100	27,700
August	37,400	24,000	30,500
September	30,000	25,000	26,100
January–September	329,000	246,000	26,100

^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 SEPTEMBER 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.	81.00	81.75	83.00	XX
Silicon metal, 553 grade ³	cents per pound	98.00	99.75	102.00	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 SEPTEMBER 2019^{1,2}

(Metric tons, unless otherwise specified)

Country or locality	Gross weight	Contained weight	Value	January–September ³		
				Gross weight	Contained weight	Value
Ferrosilicon:						
More than 55% silicon:						
Brazil	--	--	--	24	14	\$37,000
Canada	144	87	\$210,000	4,280	2,570	5,890,000
Dominican Republic	--	--	--	39	23	86,200
Germany	--	--	--	62	37	63,000
Hong Kong	892	535	487,000	2,460	1,480	1,370,000
Jamaica	9	6	14,400	9	6	14,400
Mexico	86	52	195,000	1,390	850	2,980,000
South Africa	--	--	--	95	67	108,000
Sweden	--	--	--	200	120	242,000
United Kingdom	--	--	--	21	12	30,900
Other [4 countries and (or) localities]	--	--	--	17	10	28,600
Total	1,130	679	906,000	8,600	5,190	10,800,000
Other ferrosilicon:						
Belgium	18	8	12,600	446	205	466,000
Brazil	--	--	--	293	147	570,000
Canada	29	14	68,900	297	149	439,000
France	--	--	--	160	73	247,000
Korea, Republic of	--	--	--	580	253	661,000
Luxembourg	40	20	62,000	179	82	279,000
Mexico	76	11	102,000	1,490	582	2,720,000
Spain	20	10	35,200	179	90	317,000
Turkey	--	--	--	299	140	522,000
United Kingdom	19	9	30,400	755	341	1,240,000
Other [5 countries and (or) localities]	64	29	103,000	294	137	399,000
Total	266	102	415,000	4,970	2,200	7,870,000
Total ferrosilicon	1,400	781	1,320,000	13,600	7,390	18,700,000
Metal:						
More than 99.99% silicon:						
China	259	259	1,770,000	4,550	4,550	38,400,000
Germany	478	478	6,720,000	4,590	4,590	77,200,000
Hong Kong	152	152	653,000	699	699	3,730,000
Japan	1,000	1,000	44,200,000	6,650	6,650	268,000,000
Korea, Republic of	499	499	12,900,000	5,150	5,150	106,000,000
Malaysia	13	13	2,070,000	345	345	23,400,000
Norway	54	54	112,000	724	724	5,520,000
Taiwan	196	196	2,220,000	2,740	2,740	34,700,000
United Kingdom	2	2	372,000	229	229	4,860,000
Vietnam	778	778	13,100,000	2,140	2,140	33,700,000
Other [37 countries and (or) localities]	34	34	1,220,000	376	376	9,260,000
Total	3,470	3,470	85,300,000	28,200	28,200	605,000,000
99.00%–99.99% silicon:						
China	--	--	--	5	5	7,640
Dominican Republic	--	--	--	5	5	6,800
France	2	2	3,100	8	8	11,300
Japan	--	--	--	2	2	2,660
Mexico	5	4	8,990	18	18	44,600
Taiwan	--	--	--	2	2	2,780
United Kingdom	19	19	19,700	168	131	264,000
Total	26	26	31,800	208	171	340,000
Other silicon:						
Australia	1	1	10,100	6	6	57,300

See footnotes at end of table.

TABLE 3—Continued
U.S. EXPORTS OF FERROSILICON AND SILICON METAL IN SEPTEMBER 2019^{1,2}

(Metric tons, unless otherwise specified)

Country or locality	Gross weight	Contained weight	Value	January–September ³		
				Gross weight	Contained weight	Value
Metal—Continued:						
Other silicon:						
Belgium	100	97	\$104,000	382	371	\$472,000
Canada	37	36	85,900	191	185	394,000
China	13	13	17,500	73	71	99,500
France	--	--	--	19	18	16,600
Japan	--	--	--	9	8	11,300
Korea, Republic of	--	--	--	23	22	30,400
Mexico	1	1	4,150	35	34	101,000
Netherlands	1	1	3,180	369	359	412,000
South Africa	3	3	4,230	61	59	103,000
Other [9 countries and (or) localities]	1	1	12,700	16	15	150,000
Total	157	152	242,000	1,180	1,150	1,850,000
Total silicon metal	3,650	3,650	85,600,000	29,600	29,500	607,000,000

-- 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 SEPTEMBER 2019^{1,2}

(Metric tons, unless otherwise specified)

Country or locality	Gross weight	Contained weight	Value	January–September ³		
				Gross weight	Contained weight	Value
Ferrosilicon:						
55%–80% silicon, more than 3% Ca:						
Azerbaijan	--	--	--	48	37	\$50,600
Brazil	--	--	--	691	517	773,000
China	--	--	--	229	147	545,000
France	36	23	\$113,000	504	314	1,450,000
India	--	--	--	19	12	51,000
South Africa	--	--	--	94	58	223,000
Total	36	23	113,000	1,590	1,090	3,090,000
55%–80% silicon, other:						
Brazil	1,280	966	1,290,000	13,900	10,400	16,800,000
Canada	1,090	782	2,690,000	9,660	7,000	21,900,000
France	71	48	199,000	1,350	957	6,420,000
Iceland	499	394	374,000	8,810	6,860	11,100,000
Kazakhstan	--	--	--	5,970	4,580	9,050,000
Kuwait	304	230	301,000	804	614	849,000
Malaysia	820	614	857,000	19,200	14,700	23,700,000
Paraguay	576	453	669,000	6,300	4,930	8,100,000
Russia	270	204	287,000	61,900	46,900	78,100,000
South Africa	164	114	306,000	1,330	913	2,930,000
Other [7 countries and (or) localities]	140	101	477,000	1,850	1,350	5,310,000
Total	5,210	3,910	7,450,000	131,000	99,300	184,000,000
80%–90% ferrosilicon, Brazil	65	53	70,600	348	304	396,000
More than 90% ferrosilicon, Brazil	--	--	--	105	100	221,000
Magnesium ferrosilicon:						
Argentina	57	26	54,300	318	145	379,000
Canada	1,080	493	1,960,000	8,410	3,860	15,500,000
China	7	3	12,400	31	16	66,500
Germany	14	7	34,400	55	18	158,000
India	26	12	47,500	962	401	1,240,000
Norway	26	12	50,700	127	59	249,000
Thailand	--	--	--	75	34	130,000
Total	1,210	553	2,160,000	9,980	4,530	17,700,000
Other ferrosilicon:						
Canada	784	238	929,000	7,360	2,520	8,900,000
China	74	29	151,000	112	43	244,000
France	--	--	--	62	28	142,000
India	--	--	--	310	131	462,000
Mexico	--	--	--	14	6	23,200
Russia	--	--	--	175	86	341,000
Slovakia	39	6	65,900	235	53	396,000
South Africa	7	3	13,100	7	3	13,100
Turkey	--	--	--	22	10	15,500
United Kingdom	(4)	(4)	2,900	5	2	54,200
Other [2 countries and (or) localities]	--	--	--	6	2	25,600
Total	904	276	1,160,000	8,310	2,890	10,600,000
Total ferrosilicon	7,420	4,810	11,000,000	151,000	108,000	216,000,000
Metal:						
More than 99.99% silicon:						
Brazil	110	110	300,000	3,300	3,300	9,900,000
China	9	9	1,330,000	33	33	4,090,000
Denmark	(4)	(4)	203,000	3	3	1,420,000
Germany	61	61	2,200,000	414	414	23,800,000
Iceland	--	--	--	7	7	451,000

See footnotes at end of table.

TABLE 4—Continued
U.S. IMPORTS OF FERROSILICON AND SILICON METAL IN SEPTEMBER 2019^{1,2}

(Metric tons, unless otherwise specified)

Country or locality	Gross weight	Contained weight	Value	January–September ³		
				Gross weight	Contained weight	Value
Metal—Continued:						
More than 99.99% silicon:						
Japan	66	66	\$3,110,000	667	667	\$31,200,000
Korea, Republic of	3	3	23,200	7	7	261,000
Norway	--	--	--	52	52	490,000
Taiwan	12	12	1,470,000	194	194	15,300,000
Ukraine	(4)	(4)	2,090	1	1	78,600
Other [10 countries and (or) localities]	(4)	(4)	8,500	3	3	674,000
Total	261	261	8,650,000	4,680	4,680	87,600,000
99.00%–99.99% silicon:						
Australia	178	177	383,000	3,040	3,020	7,590,000
Bosnia and Herzegovina	410	407	674,000	7,400	7,350	15,600,000
Brazil	1,450	1,440	3,140,000	17,000	16,900	44,200,000
Canada	2,280	2,260	5,880,000	23,500	23,400	64,700,000
Iceland	340	338	596,000	3,830	3,800	7,500,000
Kazakhstan	400	396	777,000	7,350	7,280	14,100,000
Laos	360	356	828,000	2,200	2,180	5,330,000
Malaysia	--	--	--	1,660	1,650	3,220,000
Norway	698	694	2,050,000	6,120	6,080	17,900,000
Thailand	1,500	1,490	3,720,000	4,550	4,520	11,200,000
Other [7 countries and (or) localities]	74	73	171,000	433	430	1,030,000
Total	7,690	7,640	18,200,000	77,200	76,600	192,000,000
Other silicon:						
Australia	486	466	1,050,000	1,930	1,820	4,870,000
Bosnia and Herzegovina	--	--	--	341	324	771,000
Brazil	1,100	1,070	2,590,000	7,440	7,260	18,400,000
Canada	100	99	252,000	353	344	925,000
France	--	--	--	285	273	459,000
Iceland	100	98	120,000	580	571	912,000
Japan	47	45	55,200	268	258	349,000
Kazakhstan	46	46	84,300	326	315	494,000
Netherlands	--	--	--	247	240	660,000
Norway	67	64	81,000	5,200	5,090	8,510,000
Other [9 countries and (or) localities]	59	57	128,000	775	752	2,210,000
Total	2,000	1,950	4,370,000	17,700	17,300	38,500,000
Total silicon metal	9,950	9,850	31,200,000	99,600	98,500	318,000,000

-- 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.