

Mineral Industry Surveys

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SILICON IN NOVEMBER 2018

Domestic production of silicon materials was 41,100 metric tons (t) in November 2018, an 11% decrease from October 2018 production and 13% less than November 2017 production (fig. 1, table 1). Net shipments were 26,000 t, 20% less than shipments in October 2018 and 23% less than shipments in November 2017. Total production and net shipments during the first 11 months of 2018 were 4% more and essentially unchanged, respectively, than those during the same period in 2017 (table 1).

Ending stocks were 24,900 t in November 2018, slightly more than stocks in October 2018 and 10% less than those in November 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.

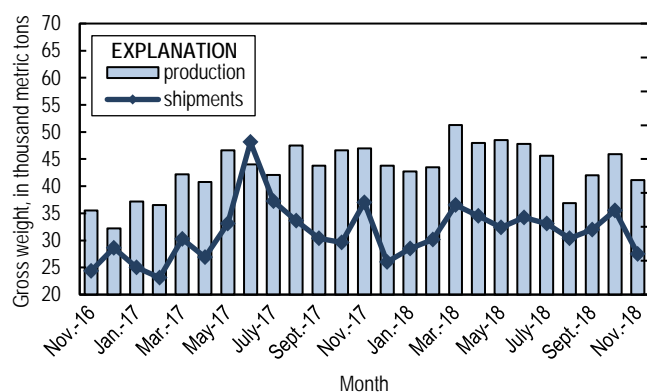


Figure 1. Monthly domestic production of total silicon materials and net shipments from November 2016 through November 2018 (may include revisions to previously published data).

Prices

The average U.S. spot price for silicon metal was 121.25 cents per pound in November 2018, 3% less than the average price in October 2018 and 11% less than that in November 2017. The average U.S. spot prices for ferrosilicon, 50% and 75% grades, were unchanged and essentially unchanged, respectively, from the average prices in October 2018 and were slightly greater and 13% greater, respectively, than their average prices in November 2017 (fig. 2).

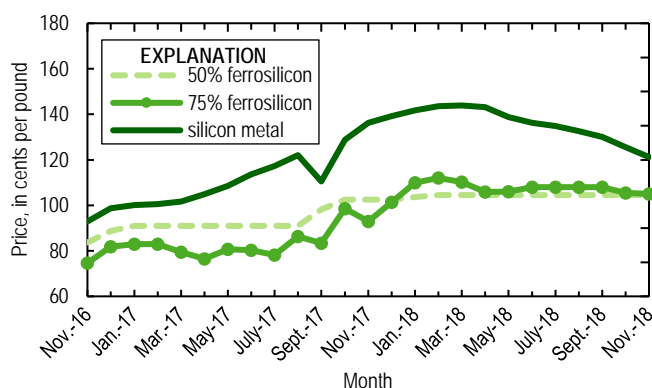


Figure 2. Average monthly spot prices for silicon metal and ferrosilicon 50% and 75% grades, contained silicon, from November 2016 through November 2018. Source: CRU Group and S&P Global Platts.

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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	33,500
January–November	474,000 ^r	328,000 ^r	27,600 ^r
November	47,000	33,600	27,600
December	43,800	24,800	33,500
2018:			
January	42,700	26,800	29,100
February	43,500	28,100	31,400
March	51,300	33,200	31,200
April	48,000	31,600	31,400
May	48,500	29,900	32,500
June	47,800 ^r	31,400 ^r	32,000 ^r
July	45,600 ^r	30,500 ^r	31,400 ^r
August	36,900 ^r	28,300 ^r	25,800 ^r
September	42,000 ^r	29,600 ^r	24,900 ^r
October	45,900	32,400 ^r	24,400 ^r
November	41,100	26,000	24,900
January–November	493,000	328,000	24,900

^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 NOVEMBER 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.	104.00	105.00	106.00	XX
Silicon metal, 553 grade ³	cents per pound	118.00	121.25	125.00	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 2018^{1,2}

(Metric tons, unless otherwise specified)

Country or locality	November			January–November ³		
	Gross weight	Contained weight	Value	Gross weight	Contained weight	Value
Ferrosilicon:						
More than 55% silicon:						
Brazil	--	--	--	110	66	\$158,000
Canada	567	340	\$647,000	4,920	2,950	7,840,000
France	65	39	80,200	110	66	136,000
Germany	--	--	--	305	183	303,000
India	--	--	--	320	233	380,000
Mexico	116	71	276,000	2,810	1,760	5,860,000
Netherlands	--	--	--	1,680	1,010	1,750,000
Russia	--	--	--	555	333	233,000
Spain	--	--	--	180	108	218,000
United Kingdom	--	--	--	552	359	724,000
Other [8 countries and (or) localities]	3	2	4,860	144	86	242,000
Total	750	451	1,010,000	11,700	7,150	17,800,000
Other ferrosilicon:						
Belgium	40	20	62,000	432	200	592,000
Brazil	59	29	114,000	518	238	944,000
Canada	119	59	49,200	1,050	525	509,000
France	--	--	--	398	182	568,000
Korea, Republic of	80	35	91,200	814	354	937,000
Mexico	343	166	767,000	2,530	1,160	5,260,000
Poland	--	--	--	80	40	158,000
Spain	9	5	30,600	329	165	351,000
Turkey	--	--	--	283	134	480,000
United Kingdom	40	18	64,100	1,340	607	2,120,000
Other [11 countries and (or) localities]	20	10	32,000	283	121	448,000
Total	709	342	1,210,000	8,050	3,730	12,400,000
Total ferrosilicon	1,460	793	2,220,000	19,700	10,900	30,200,000
Metal:						
More than 99.99% silicon:						
China	833	833	8,700,000	4,310	4,310	61,200,000
Germany	318	318	4,490,000	906	906	14,200,000
Hong Kong	--	--	--	1,360	1,360	10,800,000
Japan	2,100	2,100	87,000,000	11,400	11,400	437,000,000
Korea, Republic of	380	380	4,790,000	1,550	1,550	65,900,000
Malaysia	14	14	1,940,000	240	240	31,900,000
Norway	90	90	1,100,000	961	961	11,900,000
Taiwan	515	515	7,700,000	11,300	11,300	147,000,000
United Kingdom	156	156	650,000	806	806	9,610,000
Vietnam	38	38	683,000	1,120	1,120	22,500,000
Other [44 countries and (or) localities]	41	41	1,360,000	664	664	18,200,000
Total	4,490	4,490	118,000,000	34,600	34,600	831,000,000
99.00%–99.99% silicon:						
Belgium	--	--	--	275	273	312,000
France	--	--	--	9	9	12,500
Germany	--	--	--	463	459	472,000
India	--	--	--	34	34	92,900
Mexico	2	2	5,520	18	18	49,600
Netherlands	--	--	--	182	181	296,000
Oman	--	--	--	12	12	16,600
Peru	--	--	--	9	9	12,600
Spain	--	--	--	16	16	33,600
United Kingdom	--	--	--	590	580	896,000

See footnotes at end of table.

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

(Metric tons, unless otherwise specified)

Country or locality	November			January–November ³		
	Gross weight	Contained weight	Value	Gross weight	Contained weight	Value
Metal—Continued:						
99.00%–99.99% silicon:						
Other [2 countries and (or) localities]	3	3	\$3,700	4	4	\$7,160
Total	5	5	9,220	1,610	1,590	2,200,000
Other silicon:						
Belgium	--	--	--	284	276	448,000
Canada	21	20	73,200	320	311	960,000
China	(4)	(4)	3,920	133	129	183,000
France	--	--	--	140	137	151,000
Germany	38	37	40,500	75	73	104,000
Korea, Republic of	15	15	20,200	146	142	406,000
Netherlands	115	112	81,400	863	838	816,000
South Africa	23	22	29,700	74	72	106,000
Sweden	--	--	--	221	215	325,000
United Kingdom	19	19	45,300	137	133	345,000
Other [13 countries and (or) localities]	(4)	(4)	5,450	80	78	584,000
Total	232	225	300,000	2,470	2,410	4,430,000
Total silicon metal	4,730	4,720	119,000,000	38,700	38,600	837,000,000

-- Zero.

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

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 2018^{1,2}

(Metric tons, unless otherwise specified)

Country or locality	November			January–November ³		
	Gross weight	Contained weight	Value	Gross weight	Contained weight	Value
Ferrosilicon:						
55%–80% silicon, more than 3% Ca:						
Brazil	--	--	--	269	202	\$359,000
China	--	--	--	540	384	886,000
France	36	24	\$104,000	591	360	1,670,000
Germany	--	--	--	4	3	19,400
Hong Kong	--	--	--	60	45	94,400
Russia	--	--	--	11,800	9,030	16,800,000
Slovakia	--	--	--	1	(4)	6,560
South Africa	18	14	32,800	684	472	1,410,000
Total	54	38	137,000	13,900	10,500	21,200,000
55%–80% silicon, other:						
Brazil	1,070	803	1,550,000	7,700	5,800	11,400,000
Canada	975	705	2,270,000	11,900	8,650	27,700,000
China	120	91	179,000	12,200	9,220	17,100,000
France	343	249	834,000	2,110	1,490	5,580,000
Iceland	2,330	1,840	3,250,000	8,050	6,340	11,300,000
Kazakhstan	648	497	1,080,000	9,190	7,030	15,900,000
Malaysia	2,870	2,160	4,110,000	13,000	9,700	14,300,000
Russia	311	230	455,000	74,300	56,500	108,000,000
Slovakia	--	--	--	816	614	1,230,000
South Africa	201	138	433,000	2,660	1,930	5,820,000
Other [8 countries and (or) localities]	129	92	427,000	3,290	2,430	8,490,000
Total	8,990	6,800	14,600,000	145,000	110,000	227,000,000
80%–90% ferrosilicon:						
Argentina	--	--	--	22	18	34,500
Canada	--	--	--	1	1	2,700
Germany	--	--	--	214	177	240,000
Total	--	--	--	237	196	278,000
More than 90% ferrosilicon:						
Brazil	--	--	--	2,330	2,150	1,240,000
China	13	13	64,300	13	13	64,300
Total	13	13	64,300	2,340	2,160	1,300,000
Magnesium ferrosilicon:						
Canada	1,190	551	2,220,000	12,500	5,740	23,000,000
China	--	--	--	99	50	174,000
France	--	--	--	18	8	17,000
Germany	16	5	32,700	105	32	304,000
Hong Kong	--	--	--	19	9	33,700
India	472	221	368,000	3,410	1,460	3,150,000
Norway	--	--	--	162	78	326,000
Thailand	--	--	--	25	11	43,000
Total	1,680	777	2,620,000	16,300	7,380	27,100,000
Other ferrosilicon:						
Argentina	--	--	--	40	18	39,900
Canada	919	317	1,100,000	9,000	3,060	11,300,000
China	117	46	249,000	883	390	1,630,000
France	--	--	--	55	26	147,000
Germany	3	1	15,700	24	11	111,000
Italy	--	--	--	20	3	32,500
Russia	8	4	13,700	272	134	504,000
Slovakia	--	--	--	236	62	389,000
Spain	--	--	--	206	91	354,000
United Kingdom	--	--	--	9	4	25,400

See footnotes at end of table.

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

(Metric tons, unless otherwise specified)

Country or locality	November			January–November ³		
	Gross weight	Contained weight	Value	Gross weight	Contained weight	Value
Ferrosilicon—Continued:						
Other ferrosilicon:						
Other [1 country and (or) locality]	--	--	--	5	2	\$7,880
Total	1,050	368	\$1,380,000	10,800	3,800	14,500,000
Total ferrosilicon	11,800	8,000	18,800,000	189,000	134,000	291,000,000
Metal:						
More than 99.99% silicon:						
Brazil	460	460	1,490,000	3,840	3,840	12,300,000
China	3	3	414,000	106	106	11,600,000
Denmark	(4)	(4)	126,000	2	2	1,250,000
Finland	(4)	(4)	256,000	3	3	1,020,000
Germany	43	43	3,980,000	708	708	47,400,000
Japan	30	30	1,440,000	200	200	11,700,000
Korea, Republic of	3	3	49,100	5	5	329,000
Sweden	(4)	(4)	54,600	2	2	121,000
Taiwan	61	61	2,100,000	565	565	20,300,000
Ukraine	1	1	26,200	8	8	479,000
Other [10 countries and (or) localities]	(4)	(4)	21,700	2	2	113,000
Total	600	600	9,970,000	5,440	5,440	107,000,000
99.00%–99.99% silicon:						
Australia	738	733	1,950,000	2,890	2,870	8,010,000
Bosnia and Herzegovina	132	131	251,000	6,930	6,890	17,600,000
Brazil	1,290	1,280	3,200,000	18,700	18,600	52,900,000
Canada	2,510	2,490	7,700,000	24,200	24,000	72,800,000
Germany	--	--	--	60	59	192,000
Iceland	220	219	499,000	615	612	1,240,000
Kazakhstan	320	318	651,000	1,860	1,840	3,980,000
Laos	--	--	--	2,180	2,160	5,380,000
Norway	624	620	1,870,000	12,700	12,700	37,000,000
Thailand	--	--	--	14,300	14,200	41,600,000
Other [3 countries and (or) localities]	(4)	(4)	3,360	58	57	147,000
Total	5,840	5,800	16,100,000	84,600	84,000	241,000,000
Other silicon:						
Brazil	420	413	941,000	7,380	7,260	19,800,000
Canada	--	--	--	186	181	500,000
China	16	15	17,300	108	104	132,000
Iceland	--	--	--	239	232	449,000
Japan	29	28	36,000	475	456	571,000
Kazakhstan	100	95	177,000	540	522	1,140,000
Laos	--	--	--	309	297	788,000
Norway	480	471	1,050,000	6,250	6,100	14,300,000
Sweden	67	65	73,400	202	194	220,000
Thailand	--	--	--	528	512	1,190,000
Other [12 countries and (or) localities]	27	26	56,100	427	415	988,000
Total	1,140	1,110	2,350,000	16,600	16,300	40,000,000
Total silicon metal	7,580	7,510	28,400,000	107,000	106,000	387,000,000

-- Zero.

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

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.