

Mineral Industry Surveys

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SILICON IN SEPTEMBER 2018

Domestic production of silicon materials was 42,100 metric tons (t) in September 2018, a 14% increase from August 2018 production and 4% less than September 2017 production (fig. 1, table 1). Net shipments were 28,600 t, 9% more than shipments in August 2018 and slightly more than shipments in September 2017. Total production and net shipments during the first 9 months of 2018 were 7% more and slightly less, respectively, than those during the same period in 2017 (table 1).

Ending stocks were 27,200 t in September 2018, slightly less than stocks in August 2018 and 22% more than those in September 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.

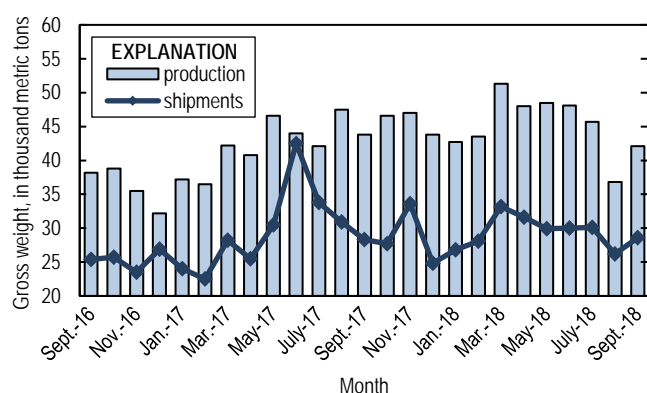


Figure 1. Monthly domestic production of total silicon materials and net shipments from September 2016 through September 2018 (may include revisions to previously published data).

Prices

The average U.S. spot price for silicon metal was 130 cents per pound in September 2018, slightly less than the average price in August 2018, and 18% more than the September 2017 price. The average U.S. spot prices for ferrosilicon, 50% and 75% grades were unchanged from the average prices in August 2018 and were 6% and 30% greater, respectively, than their average prices in September 2017 (fig. 2).

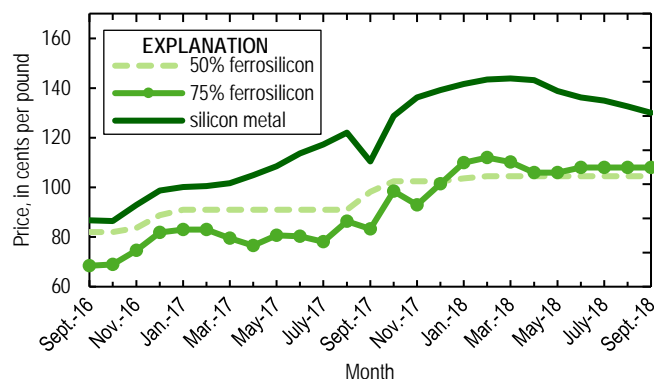


Figure 2. Average monthly spot prices for silicon metal and ferrosilicon 50% and 75% grades, contained silicon, from September 2016 through September 2018. Source: CRU Group and S&P Global Platts.

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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–September	381,000 ^r	266,000 ^r	22,200 ^r
September	43,800	28,300	22,200
October	46,600	27,700	25,900
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	48,100	30,000	33,000
July	45,700	30,100	32,000
August	36,800	26,200	27,700
September	42,100	28,600	27,200
January–September	407,000	264,000	27,200

^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 SEPTEMBER 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.	107.00	108.00	109.00	XX
Silicon metal, 553 grade ³	cents per pound	125.00	130.00	133.00	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	September			January–September ³		
	Gross weight	Contained weight	Value	Gross weight	Contained weight	Value
Ferrosilicon:						
More than 55% silicon:						
Brazil	12	7	\$18,500	110	66	\$158,000
Canada	569	341	992,000	3,930	2,360	6,630,000
Germany	86	52	121,000	305	183	303,000
Iceland	--	--	--	43	26	62,400
India	--	--	--	320	233	380,000
Mexico	181	108	352,000	2,580	1,610	5,340,000
Netherlands	78	47	96,900	1,480	890	1,510,000
Russia	--	--	--	555	333	233,000
Spain	120	72	145,000	120	72	145,000
United Kingdom	375	243	505,000	452	299	603,000
Other [7 countries and (or) localities]	64	39	86,200	98	59	150,000
Total	1,490	909	2,320,000	10,000	6,130	15,500,000
Other ferrosilicon:						
Belgium	--	--	--	352	160	468,000
Brazil	--	--	--	401	180	716,000
Canada	--	--	--	872	436	436,000
France	110	50	134,000	358	164	498,000
Korea, Republic of	120	52	137,000	634	276	732,000
Mexico	281	137	574,000	1,960	884	4,010,000
Poland	--	--	--	80	40	158,000
Spain	320	160	320,000	320	160	320,000
Turkey	--	--	--	223	107	373,000
United Kingdom	220	106	290,000	1,160	526	1,830,000
Other [11 countries and (or) localities]	20	9	17,900	245	102	393,000
Total	1,070	514	1,470,000	6,600	3,040	9,940,000
Total ferrosilicon	2,560	1,420	3,790,000	16,600	9,170	25,500,000
Metal:						
More than 99.99% silicon:						
China	752	752	10,100,000	3,330	3,330	49,100,000
Germany	83	83	1,370,000	350	350	6,620,000
Hong Kong	159	159	1,000,000	1,360	1,360	10,800,000
Japan	920	920	44,000,000	8,800	8,800	331,000,000
Korea, Republic of	138	138	2,930,000	1,170	1,170	60,000,000
Malaysia	18	18	2,810,000	211	211	27,500,000
Norway	60	60	840,000	800	800	9,940,000
Taiwan	939	939	15,600,000	9,870	9,870	126,000,000
United Kingdom	42	42	721,000	317	317	7,900,000
Vietnam	324	324	6,150,000	719	719	15,400,000
Other [41 countries and (or) localities]	71	71	1,470,000	502	502	12,200,000
Total	3,510	3,510	87,000,000	27,400	27,400	657,000,000
99.00%–99.99% silicon:						
Belgium	--	--	--	275	273	312,000
France	--	--	--	9	9	12,500
Germany	22	22	30,800	460	456	468,000
India	--	--	--	34	34	92,900
Mexico	2	2	5,710	15	15	41,300
Netherlands	101	101	170,000	182	181	296,000
Oman	--	--	--	12	12	16,600
Peru	--	--	--	9	9	12,600
Spain	--	--	--	16	16	33,600
United Kingdom	--	--	--	488	479	726,000

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	September			January–September ³		
	Gross weight	Contained weight	Value	Gross weight	Contained weight	Value
Metal—Continued:						
99.00%–99.99% silicon:						
Other [1 country and (or) locality]	--	--	--	1	1	\$3,460
Total	125	124	206,000	1,500	1,480	2,020,000
Other silicon:						
Belgium	39	38	86,900	284	276	448,000
Canada	42	41	102,000	288	280	837,000
China	15	14	19,700	116	113	158,000
France	--	--	--	140	137	151,000
Germany	--	--	--	20	20	41,100
Korea, Republic of	--	--	--	114	111	334,000
Netherlands	--	--	--	633	615	639,000
South Africa	13	13	18,000	52	50	76,200
Sweden	--	--	--	221	215	325,000
United Kingdom	(4)	(4)	4,280	90	88	251,000
Other [13 countries and (or) localities]	5	5	21,100	75	73	562,000
Total	116	113	252,000	2,030	1,980	3,820,000
Total silicon metal	3,750	3,740	87,400,000	31,000	30,900	663,000,000

-- 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	September			January–September ³		
	Gross weight	Contained weight	Value	Gross weight	Contained weight	Value
Ferrosilicon:						
55%–80% silicon, more than 3% Ca:						
Brazil	--	--	--	183	137	\$239,000
China	60	32	\$86,600	481	341	785,000
France	64	39	178,000	470	283	1,330,000
Germany	4	3	19,400	4	3	19,400
Hong Kong	--	--	--	60	45	94,400
Russia	1,770	1,410	2,410,000	11,800	9,030	16,800,000
Slovakia	--	--	--	1	(4)	6,560
South Africa	18	12	33,000	612	421	1,270,000
Total	1,920	1,500	2,720,000	13,600	10,300	20,500,000
55%–80% silicon, other:						
Brazil	405	301	588,000	5,100	3,850	7,700,000
Canada	919	662	2,280,000	9,970	7,230	22,900,000
China	1,250	942	1,690,000	12,100	9,100	16,900,000
France	218	151	613,000	1,550	1,090	4,240,000
Iceland	748	574	1,070,000	4,730	3,710	6,640,000
Kazakhstan	2,050	1,580	3,510,000	7,590	5,810	13,200,000
Malaysia	168	125	238,000	8,340	6,230	8,310,000
Russia	16,000	12,200	21,700,000	74,000	56,300	108,000,000
Slovakia	96	72	143,000	720	541	1,090,000
South Africa	198	153	529,000	2,280	1,680	4,980,000
Other [8 countries and (or) localities]	245	180	720,000	2,390	1,730	6,280,000
Total	22,300	16,900	33,000,000	129,000	97,200	200,000,000
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
Magnesium ferrosilicon:						
Canada	1,110	511	2,050,000	10,300	4,710	18,900,000
China	20	11	45,100	99	50	174,000
Germany	18	6	56,600	67	20	197,000
Hong Kong	--	--	--	19	9	33,700
India	408	191	323,000	2,640	1,100	2,510,000
Norway	--	--	--	162	78	326,000
Total	1,560	718	2,480,000	13,300	5,960	22,200,000
Other ferrosilicon:						
Argentina	--	--	--	40	18	39,900
Canada	556	196	752,000	7,130	2,450	8,930,000
China	--	--	--	660	299	1,130,000
France	--	--	--	55	26	147,000
Germany	--	--	--	16	8	76,000
Italy	--	--	--	20	3	32,500
Russia	20	10	37,000	245	121	450,000
Slovakia	58	15	95,300	236	62	389,000
Spain	--	--	--	206	91	354,000
United Kingdom	--	--	--	9	4	25,400
Other [1 country and (or) locality]	--	--	--	5	2	7,880
Total	635	221	885,000	8,620	3,080	11,600,000
Total ferrosilicon	26,400	19,300	39,100,000	167,000	119,000	256,000,000

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	September			January–September ³		
	Gross weight	Contained weight	Value	Gross weight	Contained weight	Value
Metal:						
More than 99.99% silicon:						
Brazil	599	599	\$1,930,000	2,820	2,820	\$9,000,000
China	8	8	938,000	102	102	10,900,000
Denmark	--	--	--	1	1	837,000
Finland	(4)	(4)	210,000	3	3	693,000
Germany	39	39	4,290,000	637	637	39,600,000
Japan	64	64	2,480,000	168	168	9,630,000
Korea, Republic of	(4)	(4)	11,800	2	2	280,000
Spain	--	--	--	2	2	19,700
Taiwan	49	49	1,720,000	455	455	16,200,000
Ukraine	3	3	134,000	7	7	451,000
Other [10 countries and (or) localities]	(4)	(4)	8,750	2	2	129,000
Total	761	761	11,700,000	4,200	4,200	87,800,000
99.00%–99.99% silicon:						
Australia	733	728	1,940,000	1,350	1,340	3,870,000
Bosnia and Herzegovina	140	139	345,000	6,150	6,120	15,900,000
Brazil	1,250	1,240	3,560,000	16,400	16,200	46,700,000
Canada	3,090	3,070	9,150,000	19,100	18,900	57,100,000
Germany	--	--	--	60	59	192,000
Iceland	296	294	553,000	395	393	743,000
Kazakhstan	235	234	513,000	1,470	1,460	3,210,000
Laos	--	--	--	2,140	2,120	5,270,000
Norway	594	590	1,590,000	11,500	11,400	33,200,000
Thailand	96	95	230,000	12,100	12,100	35,300,000
Other [2 countries and (or) localities]	39	39	98,600	58	57	144,000
Total	6,480	6,430	18,000,000	70,700	70,200	202,000,000
Other silicon:						
Australia	--	--	--	96	95	315,000
Brazil	1,420	1,390	3,500,000	6,480	6,380	17,600,000
Canada	19	19	67,300	166	162	484,000
Iceland	--	--	--	119	116	175,000
Japan	32	30	34,600	398	382	483,000
Kazakhstan	20	19	49,000	440	427	965,000
Laos	--	--	--	309	297	788,000
Norway	270	264	586,000	5,330	5,200	12,200,000
Sweden	--	--	--	135	129	147,000
Thailand	--	--	--	336	323	868,000
Other [10 countries and (or) localities]	40	39	66,600	358	345	593,000
Total	1,800	1,760	4,300,000	14,200	13,800	34,600,000
Total silicon metal	9,030	8,950	34,000,000	89,000	88,200	324,000,000

-- 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.