

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

Molly L. Reid (Data)
Telephone: (703) 648-7942
Fax: (703) 648-7975
Email: mlreid@usgs.gov

Internet: <http://minerals.usgs.gov/minerals/>

SILICON IN OCTOBER 2018

Domestic production of silicon materials was 45,900 metric tons (t) in October 2018, a 9% increase from September 2018 production and slightly less than October 2017 production (fig. 1, table 1). Net shipments were 31,600 t, 11% more than shipments in September 2018 and 14% more than shipments in October 2017. Total production and net shipments during the first 10 months of 2018 were 6% more and slightly more, respectively, than those during the same period in 2017 (table 1).

Ending stocks were 26,500 t in October 2018, slightly less than stocks in September 2018 and slightly more than those in October 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.

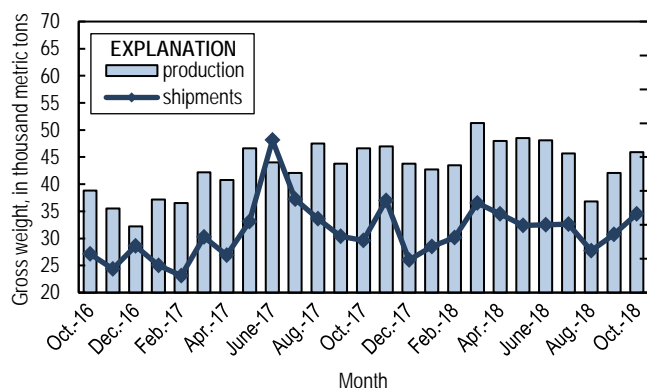


Figure 1. Monthly domestic production of total silicon materials and net shipments from October 2016 through October 2018 (may include revisions to previously published data).

Prices

The average U.S. spot price for silicon metal was 125.5 cents per pound in October 2018, slightly less than the average prices in September 2018 and October 2017. The average U.S. spot prices for ferrosilicon, 50% and 75% grades, were unchanged and slightly less than the average prices in September 2018 and were slightly greater and 7% greater, respectively, than their average prices in October 2017 (fig. 2).

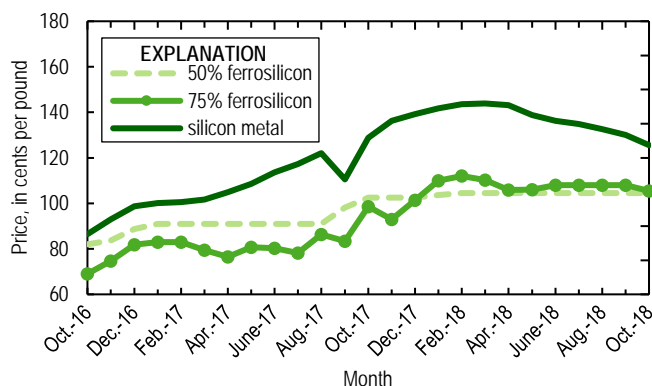


Figure 2. Average monthly spot prices for silicon metal and ferrosilicon 50% and 75% grades, contained silicon, from October 2016 through October 2018. Source: CRU Group and S&P Global Platts.

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 <http://minerals.usgs.gov/minerals/>.

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–October	427,000 ^r	294,000 ^r	25,900 ^r
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
October	45,900	31,600	26,500
January–October	452,000	296,000	26,500

^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 OCTOBER 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.	105.00	105.40	106.00	XX
Silicon metal, 553 grade ³	cents per pound	124.00	125.50	130.00	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	October			January–October ³		
	Gross weight	Contained weight	Value	Gross weight	Contained weight	Value
Ferrosilicon:						
More than 55% silicon:						
Brazil	--	--	--	110	66	\$158,000
Canada	421	252	\$563,000	4,350	2,610	7,190,000
France	5	3	7,500	45	27	56,000
Germany	--	--	--	305	183	303,000
India	--	--	--	320	233	380,000
Mexico	116	71	248,000	2,700	1,690	5,590,000
Netherlands	195	117	239,000	1,680	1,010	1,750,000
Russia	--	--	--	555	333	233,000
Spain	60	36	72,700	180	108	218,000
United Kingdom	100	60	121,000	552	359	724,000
Other [8 countries and (or) localities]	40	24	73,200	141	84	237,000
Total	936	564	1,320,000	10,900	6,700	16,800,000
Other ferrosilicon:						
Belgium	40	20	62,000	392	180	530,000
Brazil	59	29	114,000	459	209	830,000
Canada	58	29	23,900	930	465	460,000
France	40	18	69,800	398	182	568,000
Korea, Republic of	100	43	114,000	734	319	846,000
Mexico	230	113	478,000	2,190	997	4,490,000
Poland	--	--	--	80	40	158,000
Spain	--	--	--	320	160	320,000
Turkey	60	27	107,000	283	134	480,000
United Kingdom	139	63	228,000	1,300	589	2,060,000
Other [11 countries and (or) localities]	18	9	22,600	263	111	416,000
Total	744	351	1,220,000	7,340	3,390	11,200,000
Total ferrosilicon	1,680	915	2,540,000	18,300	10,100	28,000,000
Metal:						
More than 99.99% silicon:						
China	143	143	3,430,000	3,480	3,480	52,500,000
Germany	239	239	3,090,000	589	589	9,700,000
Hong Kong	--	--	--	1,360	1,360	10,800,000
Japan	472	472	18,800,000	9,270	9,270	350,000,000
Korea, Republic of	7	7	1,080,000	1,170	1,170	61,100,000
Malaysia	16	16	2,470,000	226	226	29,900,000
Norway	71	71	869,000	871	871	10,800,000
Taiwan	898	898	13,400,000	10,800	10,800	139,000,000
United Kingdom	333	333	1,070,000	650	650	8,960,000
Vietnam	367	367	6,490,000	1,090	1,090	21,900,000
Other [43 countries and (or) localities]	121	121	4,560,000	623	623	16,800,000
Total	2,670	2,670	55,300,000	30,100	30,100	712,000,000
99.00%–99.99% silicon:						
Belgium	--	--	--	275	273	312,000
France	--	--	--	9	9	12,500
Germany	3	3	4,310	463	459	472,000
India	--	--	--	34	34	92,900
Mexico	1	1	2,760	16	16	44,100
Netherlands	--	--	--	182	181	296,000
Oman	--	--	--	12	12	16,600
Peru	--	--	--	9	9	12,600
Spain	--	--	--	16	16	33,600
United Kingdom	103	102	170,000	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	October			January–October 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	107	106	\$177,000	1,610	1,590	2,190,000
Other silicon:						
Belgium	--	--	--	284	276	448,000
Canada	11	11	50,000	299	291	887,000
China	16	16	21,300	132	128	179,000
France	--	--	--	140	137	151,000
Germany	17	16	22,300	37	36	63,500
Korea, Republic of	17	16	52,300	131	127	386,000
Netherlands	115	111	95,600	748	726	734,000
South Africa	--	--	--	52	50	76,200
Sweden	--	--	--	221	215	325,000
United Kingdom	28	27	49,400	118	115	300,000
Other [13 countries and (or) localities]	5	5	17,200	80	78	579,000
Total	208	203	308,000	2,240	2,180	4,130,000
Total silicon metal	2,980	2,980	55,700,000	33,900	33,900	718,000,000

-- 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	October			January–October ³		
	Gross weight	Contained weight	Value	Gross weight	Contained weight	Value
Ferrosilicon:						
55%–80% silicon, more than 3% Ca:						
Brazil	87	65	\$120,000	269	202	\$359,000
China	60	42	102,000	540	384	886,000
France	85	53	232,000	555	336	1,570,000
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	54	37	112,000	666	457	1,380,000
Total	286	197	565,000	13,900	10,500	21,100,000
55%–80% silicon, other:						
Brazil	1,530	1,150	2,180,000	6,620	5,000	9,880,000
Canada	997	718	2,460,000	11,000	7,940	25,400,000
China	46	35	75,700	12,100	9,130	16,900,000
France	210	152	507,000	1,760	1,240	4,740,000
Iceland	997	790	1,430,000	5,720	4,500	8,060,000
Kazakhstan	950	730	1,630,000	8,540	6,540	14,800,000
Malaysia	1,770	1,310	1,900,000	10,100	7,540	10,200,000
Russia	--	--	--	74,000	56,300	108,000,000
Slovakia	96	73	144,000	816	614	1,230,000
South Africa	177	115	410,000	2,460	1,790	5,390,000
Other [8 countries and (or) localities]	773	601	1,790,000	3,160	2,340	8,070,000
Total	7,540	5,670	12,500,000	136,000	103,000	212,000,000
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	1,040	481	1,890,000	11,300	5,190	20,800,000
China	--	--	--	99	50	174,000
France	18	8	17,000	18	8	17,000
Germany	22	7	73,900	89	27	271,000
Hong Kong	--	--	--	19	9	33,700
India	293	140	269,000	2,940	1,240	2,780,000
Norway	--	--	--	162	78	326,000
Thailand	25	11	43,000	25	11	43,000
Total	1,400	647	2,290,000	14,600	6,610	24,500,000
Other ferrosilicon:						
Argentina	--	--	--	40	18	39,900
Canada	960	299	1,220,000	8,080	2,750	10,200,000
China	106	45	255,000	766	344	1,380,000
France	--	--	--	55	26	147,000
Germany	5	2	19,400	21	10	95,400
Italy	--	--	--	20	3	32,500
Russia	20	10	40,000	265	130	490,000
Slovakia	--	--	--	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	1,090	355	1,540,000	9,710	3,440	13,100,000
Total ferrosilicon	10,300	6,870	16,900,000	177,000	126,000	273,000,000

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	October			January–October ³		
	Gross weight	Contained weight	Value	Gross weight	Contained weight	Value
Metal:						
More than 99.99% silicon:						
Brazil	555	555	\$1,760,000	3,380	3,380	\$10,800,000
China	2	2	290,000	104	104	11,200,000
Denmark	1	1	290,000	2	2	1,130,000
Finland	(4)	(4)	66,000	3	3	759,000
Germany	29	29	3,830,000	666	666	43,400,000
Japan	3	3	648,000	170	170	10,300,000
Korea, Republic of	--	--	--	2	2	280,000
Spain	--	--	--	2	2	19,700
Taiwan	50	50	1,980,000	505	505	18,200,000
Ukraine	8	8	2,350	7	7	453,000
Other [10 countries and (or) localities]	(4)	(4)	8,750	2	2	138,000
Total	639	639	8,870,000	4,840	4,840	96,700,000
99.00%–99.99% silicon:						
Australia	805	800	2,190,000	2,160	2,140	6,060,000
Bosnia and Herzegovina	640	637	1,520,000	6,790	6,760	17,400,000
Brazil	1,050	1,040	3,010,000	17,400	17,300	49,700,000
Canada	2,630	2,620	7,950,000	21,700	21,600	65,100,000
Germany	--	--	--	60	59	192,000
Iceland	--	--	--	395	393	743,000
Kazakhstan	68	67	123,000	1,540	1,530	3,330,000
Laos	44	44	101,000	2,180	2,160	5,380,000
Norway	662	658	1,970,000	12,100	12,000	35,100,000
Thailand	2,140	2,140	6,230,000	14,300	14,200	41,600,000
Other [2 countries and (or) localities]	--	--	--	58	57	144,000
Total	8,050	8,000	23,100,000	78,700	78,200	225,000,000
Other silicon:						
Australia	--	--	--	96	95	315,000
Brazil	480	470	1,260,000	6,960	6,850	18,800,000
Canada	20	19	16,000	186	181	500,000
Iceland	120	116	273,000	239	232	449,000
Japan	47	46	51,700	446	428	535,000
Kazakhstan	--	--	--	440	427	965,000
Laos	--	--	--	309	297	788,000
Norway	441	429	965,000	5,770	5,620	13,200,000
Sweden	--	--	--	135	129	147,000
Thailand	192	189	320,000	528	512	1,190,000
Other [11 countries and (or) localities]	38	38	139,000	396	383	732,000
Total	1,340	1,310	3,020,000	15,500	15,200	37,700,000
Total silicon metal	10,000	9,950	35,000,000	99,100	98,200	359,000,000

-- 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.