

# 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)

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

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

## SILICON IN AUGUST 2017

Domestic production of silicon materials was 47,100 metric tons (t) in August 2017, a 12% increase from July 2017 production and 23% more than August 2016 production (fig. 1, table 1). Net shipments were 29,400 t, a 13% decrease from shipments in July 2017 and a slight increase from shipments in August 2016. Total production and net shipments during the first 8 months of 2017 were 3% and 9% more, respectively, than those during the same period in 2016 (table 1).

Ending stocks were 21,400 t in August 2017, essentially unchanged from those in July 2017 and 50% less than those in August 2016 (table 1). Adjustments in stocks included in-plant consumption of ferrosilicon to produce magnesium ferrosilicon and other alloys.

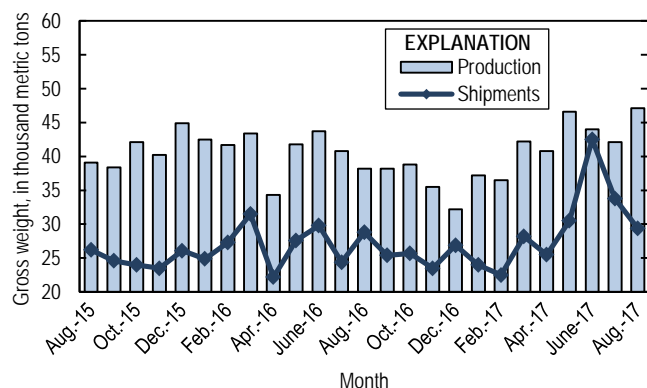


Figure 1. Monthly domestic production of total silicon materials and net shipments from August 2015 through August 2017 (may include revisions to previously published data). Source: U.S. Geological Survey.

The average U.S. spot price for silicon metal was 122 cents per pound in August 2017, a 4% increase from the average price

in July 2017, and a 39% increase from the August 2016 price. The average U.S. spot prices for ferrosilicon, 50% and 75% grades, were the same and 10% more, respectively, than the average prices in July 2017 and were 11% and 23% greater, respectively, than their average prices in August 2016 (fig. 2).

All comparative statistics were calculated based on unrounded, gross-weight figures.

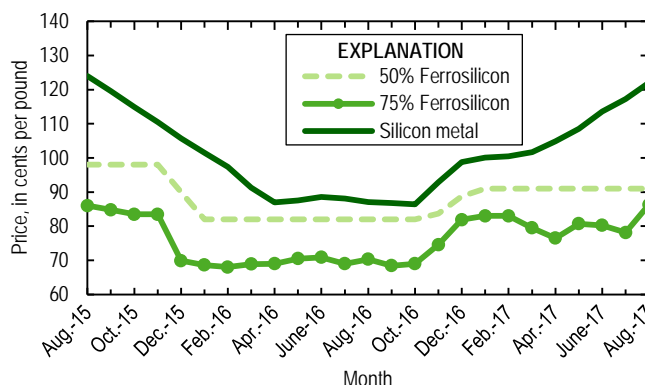


Figure 2. Average monthly spot prices for silicon metal and ferrosilicon 50% and 75% grades, contained silicon, from August 2015 through August 2017. Source: CRU Group and S&P Global Platts.

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<sup>1,2</sup>

(Metric tons, gross weight)

	Gross production <sup>3</sup>	Net shipments	Producers' stocks, end of period
2016:			
January–December	471,000	318,000	37,100
January–August	326,000 <sup>r</sup>	216,000 <sup>r</sup>	42,800 <sup>r</sup>
August	38,200	28,800	42,800
September	38,200	25,400	41,400
October	38,800	25,700	42,000
November	35,500	23,500	41,900
December	32,200	26,900	37,100
2017:			
January	37,200	24,000	38,400
February	36,500	22,500	40,800
March	42,200	28,200	41,800
April	40,800	25,500	45,200
May	46,600	30,500	45,400
June	44,000	42,500	28,900
July	42,100	33,800	21,400
August	47,100	29,400	21,400
January–August	336,000	236,000	21,400

<sup>r</sup>Revised.

<sup>1</sup>Data are rounded to no more than three significant digits; may not add to totals

<sup>2</sup>Includes ferrosilicon, miscellaneous silicon alloys, and silicon metal, excluding semiconductor and solar grades, except where noted.

<sup>3</sup>Ferrosilicon production includes material consumed in the production of miscellaneous silicon alloys.

TABLE 2  
PRICES FOR FERROSILICON AND SILICON METAL IN AUGUST 2017

		Low	Average	High	Average low, mid, and high
Ferrosilicon:					
50% ferrosilicon <sup>1</sup>	cents per pound of contained silicon	89.00	XX	93.00	89.00–91.00–93.00
75% ferrosilicon <sup>2</sup>	do.	79.00	86.30	96.00	XX
Silicon metal, 553 grade <sup>3</sup>	cents per pound	118.00	122.00	126.00	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 AUGUST 2017<sup>1,2</sup>

(Metric tons, unless otherwise specified)

Country or locality	Gross weight	Contained weight	Value	January–August <sup>3</sup>		
				Gross weight	Contained weight	Value
Ferrosilicon:						
More than 55% silicon:						
Belgium	--	--	--	289	160	\$128,000
Brazil	15	9	\$25,600	57	34	109,000
Canada	953	572	1,410,000	2,960	1,780	4,180,000
Colombia	--	--	--	10	6	25,500
Japan	--	--	--	20	12	33,200
Mexico	164	98	394,000	2,180	1,310	4,470,000
Netherlands	--	--	--	567	408	461,000
South Africa	--	--	--	237	142	104,000
Turkey	--	--	--	12	7	18,500
United Kingdom	--	--	--	20	13	18,000
Other (2 countries)	--	--	--	9	6	19,800
Total	1,130	679	1,830,000	6,370	3,880	9,560,000
Other ferrosilicon:						
Belgium	54	25	56,000	602	274	635,000
Brazil	38	19	76,000	260	127	494,000
Canada	99	49	40,900	922	461	474,000
France	--	--	--	100	46	159,000
Japan	--	--	--	98	49	163,000
Korea, Republic of	80	36	86,400	385	170	414,000
Mexico	404	201	828,000	3,190	1,440	5,990,000
Poland	--	--	--	75	37	158,000
Turkey	20	10	30,600	102	51	152,000
United Kingdom	140	63	221,000	585	269	926,000
Other (4 countries)	--	--	--	111	45	179,000
Total	835	403	1,340,000	6,430	2,970	9,750,000
Total ferrosilicon	1,970	1,080	3,160,000	12,800	6,850	19,300,000
Metal:						
More than 99.99% silicon:						
China	539	539	5,080,000	3,520	3,520	46,800,000
Germany	143	143	3,170,000	2,490	2,490	67,900,000
Hong Kong	105	105	968,000	1,290	1,290	10,500,000
Japan	951	951	33,000,000	11,100	11,100	353,000,000
Korea, Republic of	806	806	24,900,000	4,230	4,230	141,000,000
Malaysia	14	14	2,260,000	432	432	27,600,000
Philippines	83	83	1,320,000	483	483	15,900,000
Singapore	(4)	(4)	23,700	1,040	1,040	26,300,000
Taiwan	1,800	1,800	18,300,000	13,000	13,000	177,000,000
United Kingdom	183	183	1,090,000	216	216	6,070,000
Other (37 countries)	19	19	227,000	382	382	7,200,000
Total	4,640	4,640	90,300,000	38,100	38,100	879,000,000
99.00%–99.99% silicon:						
Belgium	--	--	--	79	79	85,500
China	--	--	--	203	203	206,000
Dominican Republic	--	--	--	8	8	11,500
Israel	--	--	--	26	26	37,200
Japan	--	--	--	12	12	17,000
Mexico	8	8	13,800	17	17	40,700
Netherlands	--	--	--	461	457	348,000
Peru	--	--	--	10	10	14,400
Thailand	--	--	--	15	15	21,700
United Kingdom	17	17	13,200	420	416	446,000

See footnotes at end of table.

TABLE 3—Continued  
U.S. EXPORTS OF FERROSILICON AND SILICON METAL IN AUGUST 2017<sup>1,2</sup>

(Metric tons, unless otherwise specified)

Country or locality	Gross weight	Contained weight	Value	January–August <sup>3</sup>		
				Gross weight	Contained weight	Value
Metal—Continued:						
99.00%–99.99% silicon:						
Other (4 countries)	--	--	--	10	10	\$17,000
Total	25	25	\$27,000	1,260	1,250	1,250,000
Other silicon:						
Belgium	--	--	--	628	613	712,000
Canada	25	24	34,500	390	378	874,000
China	102	99	135,000	161	156	217,000
France	20	19	14,400	20	19	14,400
Germany	19	18	24,600	32	31	51,300
Hong Kong	--	--	--	10	9	98,900
Mexico	--	--	--	38	37	101,000
Netherlands	--	--	--	157	154	119,000
South Africa	1	(4)	8,000	72	70	138,000
United Kingdom	(4)	(4)	4,630	152	148	309,000
Other (8 countries)	1	1	11,000	16	16	81,600
Total	167	162	232,000	1,680	1,630	2,720,000
Total silicon metal	4,830	4,820	90,600,000	41,100	41,000	883,000,000

-- Zero.

<sup>1</sup>Presentation of monthly data is based on the "January–August" 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 AUGUST 2017<sup>1,2</sup>

(Metric tons, unless otherwise specified)

Country or locality	Gross weight	Contained weight	Value	January–August <sup>3</sup>		
				Gross weight	Contained weight	Value
Ferrosilicon:						
55%–80% silicon, more than 3% Ca:						
Brazil	400	306	\$631,000	1,880	1,310	\$2,470,000
China	--	--	--	725	544	789,000
France	36	22	93,300	360	216	973,000
South Africa	--	--	--	213	148	409,000
Total	436	328	724,000	3,170	2,220	4,640,000
55%–80% silicon, other:						
Brazil	1,430	1,070	1,680,000	4,280	3,210	4,830,000
Canada	1,080	786	2,440,000	8,620	6,270	18,400,000
China	3,630	2,750	4,230,000	13,800	10,400	15,400,000
France	231	165	640,000	971	664	2,740,000
Iceland	2,280	1,800	2,450,000	12,600	9,760	13,900,000
Kazakhstan	732	553	806,000	13,300	10,100	15,000,000
Malaysia	68	51	86,400	4,770	3,530	4,950,000
Norway	--	--	--	1,010	763	1,120,000
Russia	270	203	379,000	47,100	36,100	53,300,000
South Africa	309	201	777,000	1,060	718	2,620,000
Other (10 countries)	521	373	930,000	2,230	1,620	4,960,000
Total	10,600	7,950	14,400,000	110,000	83,100	137,000,000
80%–90% ferrosilicon, Germany	--	--	--	27	22	68,500
More than 90% ferrosilicon:						
Brazil	--	--	--	1,440	1,330	453,000
China	--	--	--	52	47	15,800
Total	--	--	--	1,490	1,370	468,000
Magnesium ferrosilicon:						
Argentina	99	26	133,000	503	191	585,000
Canada	1,220	557	1,850,000	8,560	3,900	15,000,000
China	57	26	83,900	198	92	268,000
France	--	--	--	10	5	42,500
Germany	2	1	2,470	79	32	212,000
India	208	72	280,000	1,520	505	1,830,000
Norway	27	13	48,400	82	39	145,000
Total	1,620	695	2,400,000	11,000	4,760	18,000,000
Other ferrosilicon:						
Brazil	4	2	6,960	4	2	6,960
Canada	1,200	439	1,080,000	11,500	4,010	9,450,000
China	136	60	60,000	5,630	1,040	1,890,000
Germany	8	3	36,500	50	19	173,000
India	50	23	66,400	74	33	79,900
Japan	--	--	--	7	3	11,600
Russia	18	8	27,400	96	46	149,000
Slovakia	20	3	30,900	136	27	193,000
South Africa	--	--	--	11	5	15,500
Trinidad and Tobago	--	--	--	89	14	34,800
Total	1,430	537	1,310,000	17,600	5,200	12,000,000
Total ferrosilicon	14,000	9,510	18,900,000	143,000	96,700	172,000,000
Metal:						
More than 99.99% silicon:						
Brazil	474	474	1,140,000	6,260	6,260	15,000,000
China	5	5	891,000	58	58	6,950,000
Denmark	3	3	1,200,000	4	4	1,600,000
Germany	72	72	4,450,000	511	511	28,000,000

See footnotes at end of table.

TABLE 4—Continued  
U.S. IMPORTS OF FERROSILICON AND SILICON METAL IN AUGUST 2017<sup>1,2</sup>

(Metric tons, unless otherwise specified)

Country or locality	Gross weight	Contained weight	Value	January–August <sup>3</sup>		
				Gross weight	Contained weight	Value
Metal—Continued:						
More than 99.99% silicon:						
Japan	15	15	\$768,000	161	161	\$7,550,000
Norway	19	19	82,000	76	76	318,000
Spain	--	--	--	2	2	18,000
Sweden	(4)	(4)	17,600	2	2	54,700
Taiwan	42	42	1,430,000	332	332	9,430,000
Ukraine	(4)	(4)	5,890	3	3	197,000
Other (6 countries)	(4)	(4)	14,000	(4)	(4)	173,000
Total	629	629	9,990,000	7,410	7,410	69,300,000
99.00%–99.99% silicon:						
Australia	2,080	2,060	4,550,000	15,900	15,800	34,000,000
Bosnia and Herzegovina	280	278	613,000	1,410	1,400	2,550,000
Brazil	7,260	7,200	19,200,000	17,000	16,900	42,000,000
Canada	1,610	1,600	3,840,000	16,200	16,100	42,100,000
France	--	--	--	626	620	985,000
Kazakhstan	400	396	734,000	7,960	7,900	14,400,000
Malaysia	--	--	--	114	113	177,000
Norway	408	405	901,000	3,750	3,720	8,410,000
South Africa	--	--	--	550	545	1,040,000
Thailand	408	406	806,000	2,990	2,960	5,780,000
Other (5 countries)	40	40	92,600	199	197	379,000
Total	12,500	12,400	30,700,000	66,800	66,300	152,000,000
Other silicon:						
Australia	--	--	--	1,450	1,410	2,780,000
Brazil	829	819	2,150,000	7,520	7,380	17,200,000
Canada	118	115	258,000	980	955	2,330,000
France	--	--	--	160	156	281,000
Iceland	--	--	--	703	690	1,140,000
Japan	45	43	60,100	281	270	382,000
Kazakhstan	--	--	--	1,240	1,210	2,100,000
Norway	135	132	230,000	4,690	4,570	7,590,000
South Africa	--	--	--	423	412	624,000
United Kingdom	19	19	43,700	141	138	305,000
Other (7 countries)	96	92	209,000	301	289	517,000
Total	1,240	1,220	2,960,000	17,900	17,500	35,200,000
Total silicon metal	14,400	14,200	43,700,000	92,100	91,200	256,000,000

-- Zero.

<sup>1</sup>Presentation of monthly data is based on the "January–August" 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.