

Mineral Industry Surveys

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SILICON IN OCTOBER 2017

Domestic production of silicon materials was 46,100 metric tons (t) in October 2017, a 6% increase from September 2017 production and 19% more than October 2016 production (fig. 1, table 1). Net shipments were 27,700 t, a slight increase from shipments in September 2017 and an 8% increase from shipments in October 2016. Total production and net shipments during the first 10 months of 2017 were 6% more and 9% more, respectively, than those during the same period in 2016 (table 1).

Ending stocks were 25,300 t in October 2017, 11% more than those in September 2017 and 40% less than those in October 2016 (table 1). Adjustments in stocks included in-plant consumption of ferrosilicon to produce magnesium ferrosilicon and other alloys.

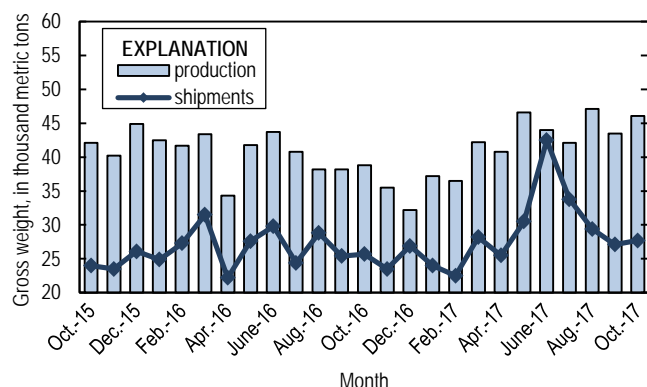


Figure 1. Monthly domestic production of total silicon materials and net shipments from October 2015 through October 2017 (may include revisions to previously published data). Source: U.S. Geological Survey.

The average U.S. spot price for silicon metal was 128.75 cents per pound in October 2017, a 17% increase from the

average price in September 2017, and a 49% increase from the October 2016 price. The average U.S. spot prices for ferrosilicon, 50% and 75% grades, were 4% more and 18% more, respectively, than the average prices in September 2017 and were 25% and 43% greater, respectively, than their average prices in October 2016 (fig. 2).

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

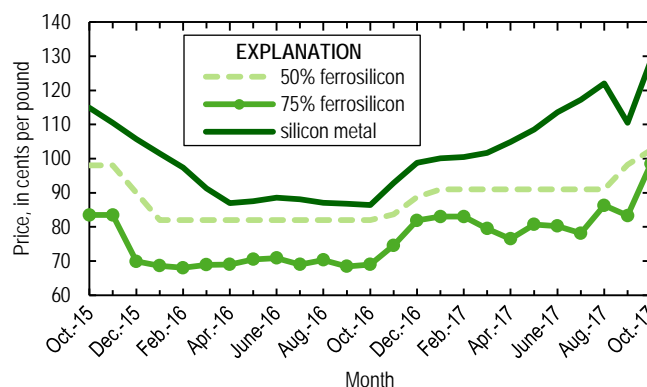


Figure 2. Average monthly spot prices for silicon metal and ferrosilicon 50% and 75% grades, contained silicon, from October 2015 through October 2017. Source: CRU Group and S&P Global Platts.

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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
2016:			
January–December	471,000	318,000	37,100
January–October	403,000 ^r	268,000 ^r	42,000 ^r
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
September	43,500	27,100	22,900
October	46,100	27,700	25,300
January–October	426,000	291,000	25,300

^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 2017

		Low	Average	High	Average low, mid, and high
Ferrosilicon:					
50% ferrosilicon ¹	cents per pound of contained silicon	100.00	XX	105.00	100.00–102.50–105.00
75% ferrosilicon ²	do.	98.00	98.50	99.00	XX
Silicon metal, 553 grade ³	cents per pound	126.00	128.75	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 OCTOBER 2017^{1,2}

(Metric tons, unless otherwise specified)

Country or locality	Gross weight	Contained weight	Value	January–October ³		
				Gross weight	Contained weight	Value
Ferrosilicon:						
More than 55% silicon:						
Belgium	--	--	--	293	162	\$133,000
Brazil	--	--	--	57	34	109,000
Canada	663	398	\$964,000	4,010	2,400	5,690,000
India	172	103	214,000	172	103	214,000
Japan	--	--	--	20	12	33,200
Mexico	229	137	475,000	2,550	1,530	5,270,000
Netherlands	621	373	649,000	1,190	781	1,110,000
South Africa	--	--	--	237	142	104,000
Turkey	--	--	--	12	7	18,500
United Kingdom	--	--	--	80	56	49,100
Other (3 countries)	--	--	--	20	12	45,300
Total	1,690	1,010	2,300,000	8,630	5,240	12,800,000
Other ferrosilicon:						
Belgium	20	9	27,600	698	315	741,000
Brazil	133	64	190,000	393	191	684,000
Canada	72	36	33,000	1,080	542	546,000
France	100	45	165,000	220	100	358,000
Indonesia	--	--	--	81	32	122,000
Japan	--	--	--	98	49	163,000
Korea, Republic of	60	28	77,400	486	215	534,000
Mexico	148	71	329,000	3,650	1,670	7,000,000
Turkey	--	--	--	123	61	183,000
United Kingdom	40	18	60,700	645	295	1,020,000
Other (7 countries)	46	23	188,000	292	138	648,000
Total	620	293	1,070,000	7,760	3,610	12,000,000
Total ferrosilicon	2,310	1,300	3,370,000	16,400	8,850	24,800,000
Metal:						
More than 99.99% silicon:						
China	162	162	1,860,000	4,190	4,190	56,400,000
Germany	82	82	1,150,000	2,730	2,730	72,500,000
Hong Kong	296	296	3,440,000	1,910	1,910	17,400,000
Japan	2,560	2,560	87,000,000	14,900	14,900	481,000,000
Korea, Republic of	139	139	8,100,000	5,210	5,210	179,000,000
Malaysia	42	42	2,780,000	489	489	33,100,000
Philippines	638	638	28,000,000	1,550	1,550	55,000,000
Singapore	(4)	(4)	7,870	1,120	1,120	27,100,000
Taiwan	1,610	1,610	18,100,000	16,100	16,100	209,000,000
United Kingdom	6	6	995,000	287	287	7,840,000
Other (40 countries)	73	73	1,550,000	634	634	10,900,000
Total	5,610	5,610	153,000,000	49,100	49,100	1,150,000,000
99.00%–99.99% silicon:						
Belgium	--	--	--	79	79	85,500
China	--	--	--	203	203	206,000
Germany	--	--	--	15	15	21,600
Israel	--	--	--	26	26	37,200
Japan	--	--	--	12	12	17,000
Mexico	2	2	5,950	21	20	49,600
Netherlands	--	--	--	461	457	348,000
Peru	--	--	--	10	10	14,400
Thailand	--	--	--	15	15	21,700
United Kingdom	141	140	179,000	560	556	625,000

See footnotes at end of table.

TABLE 3—Continued
U.S. EXPORTS OF FERROSILICON AND SILICON METAL IN OCTOBER 2017^{1, 2}

(Metric tons, unless otherwise specified)

Country or locality	Gross weight	Contained weight	Value	January–October ³		
				Gross weight	Contained weight	Value
Metal—Continued:						
99.00%–99.99% silicon:						
Other (6 countries)	--	--	--	29	28	\$45,800
Total	143	142	185,000	1,430	1,420	1,470,000
Other silicon:						
Belgium	11	11	14,800	678	662	773,000
Canada	18	17	78,900	458	445	1,100,000
China	11	10	14,200	182	177	245,000
Germany	(4)	(4)	2,730	33	32	58,000
Japan	24	23	234,000	24	23	234,000
Korea, Republic of	16	16	21,400	24	23	36,600
Mexico	296	288	851,000	346	336	1,010,000
Netherlands	--	--	--	157	154	119,000
South Africa	3	3	15,900	88	86	171,000
United Kingdom	3	3	26,300	168	163	377,000
Other (10 countries)	24	24	132,000	63	61	314,000
Total	407	395	1,390,000	2,220	2,160	4,430,000
Total silicon metal	6,160	6,140	155,000,000	52,800	52,700	1,160,000,000

-- Zero.

¹Presentation of monthly data is based on the "January–October" 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.

TABLE 4
U.S. IMPORTS OF FERROSILICON AND SILICON METAL IN OCTOBER 2017^{1,2}

(Metric tons, unless otherwise specified)

Country or locality	Gross weight	Contained weight	Value	January–October ³		
				Gross weight	Contained weight	Value
Ferrosilicon:						
55%–80% silicon, more than 3% Ca:						
Brazil	553	415	\$790,000	2,430	1,730	\$3,260,000
China	--	--	--	725	544	789,000
France	72	43	196,000	500	301	1,360,000
Germany	--	--	--	2	1	6,070
South Africa	--	--	--	231	161	436,000
Total	625	458	986,000	3,890	2,730	5,850,000
55%–80% silicon, other:						
Brazil	108	79	118,000	4,780	3,590	5,380,000
Canada	1,090	782	2,500,000	10,600	7,710	22,800,000
China	600	456	744,000	14,700	11,100	16,500,000
France	150	102	394,000	1,350	918	3,750,000
Iceland	1,580	1,250	1,820,000	15,700	12,200	17,400,000
Kazakhstan	--	--	--	14,500	11,000	16,400,000
Malaysia	67	50	94,200	5,000	3,700	5,250,000
Norway	--	--	--	1,010	763	1,120,000
Russia	--	--	--	61,200	46,900	74,700,000
South Africa	324	229	725,000	1,550	1,060	3,780,000
Other (10 countries)	133	97	531,000	2,580	1,880	6,050,000
Total	4,050	3,040	6,930,000	133,000	101,000	173,000,000
80%–90% ferrosilicon, Germany	--	--	--	27	22	68,500
More than 90% ferrosilicon:						
Brazil	--	--	--	1,440	1,330	453,000
China	--	--	--	52	47	15,800
France	140	129	42,700	140	129	42,700
Total	140	129	42,700	1,630	1,500	511,000
Magnesium ferrosilicon:						
Argentina	--	--	--	560	206	641,000
Canada	1,080	494	1,950,000	10,700	4,880	18,800,000
China	38	18	52,000	236	110	320,000
France	--	--	--	10	5	42,500
Germany	--	--	--	83	34	218,000
India	190	43	277,000	1,920	612	2,390,000
Norway	27	13	45,700	109	52	191,000
Total	1,340	567	2,330,000	13,600	5,900	22,600,000
Other ferrosilicon:						
Brazil	843	293	1,010,000	13,500	4,690	11,400,000
Canada	6,240	1,030	1,860,000	11,900	2,090	3,870,000
China	12	6	43,400	12	6	43,400
Germany	--	--	--	50	19	173,000
India	--	--	--	74	33	79,900
Japan	--	--	--	9	4	15,000
Russia	21	10	33,700	120	58	187,000
Slovakia	--	--	--	199	49	254,000
South Africa	--	--	--	11	5	15,500
Trinidad and Tobago	--	--	--	89	14	34,800
Other (2 countries)	--	--	--	5	2	9,020
Total	7,110	1,340	2,950,000	26,000	6,970	16,100,000
Total ferrosilicon	13,300	5,530	13,200,000	178,000	118,000	218,000,000
Metal:						
More than 99.99% silicon:						
Brazil	2,650	2,650	6,370,000	9,040	9,040	21,700,000

See footnotes at end of table.

TABLE 4—Continued
U.S. IMPORTS OF FERROSILICON AND SILICON METAL IN OCTOBER 2017^{1,2}

(Metric tons, unless otherwise specified)

Country or locality	Gross weight	Contained weight	Value	January–October ³		
				Gross weight	Contained weight	Value
Metal—Continued:						
More than 99.99% silicon:						
China	3	3	\$216,000	68	68	\$8,260,000
Denmark	(4)	(4)	68,500	4	4	1,700,000
Germany	57	57	4,300,000	615	615	36,100,000
Japan	1	1	395,000	176	176	8,530,000
Norway	--	--	--	96	96	602,000
Singapore	7	7	51,100	7	7	51,100
Spain	--	--	--	3	3	21,800
Taiwan	43	43	1,470,000	437	437	12,800,000
Ukraine	(4)	(4)	41,200	3	3	238,000
Other (7 countries)	1	1	85,100	3	3	449,000
Total	2,760	2,760	13,000,000	10,500	10,500	90,400,000
99.00%–99.99% silicon:						
Australia	557	553	1,250,000	17,500	17,300	37,400,000
Bosnia and Herzegovina	1,100	1,100	2,570,000	2,650	2,630	5,400,000
Brazil	1,830	1,810	4,760,000	22,200	22,000	55,400,000
Canada	956	949	2,470,000	19,200	19,100	50,000,000
France	--	--	--	626	620	985,000
Iceland	288	285	559,000	288	285	559,000
Kazakhstan	--	--	--	7,960	7,900	14,400,000
Norway	486	483	1,080,000	4,850	4,820	10,900,000
South Africa	--	--	--	975	966	2,070,000
Thailand	995	987	2,380,000	4,800	4,760	9,980,000
Other (6 countries)	20	20	61,900	350	347	650,000
Total	6,230	6,190	15,100,000	81,400	80,700	188,000,000
Other silicon:						
Australia	108	104	245,000	1,560	1,520	3,030,000
Brazil	180	178	468,000	8,140	7,990	18,800,000
Canada	20	20	14,000	1,000	975	2,350,000
China	46	44	50,000	179	172	236,000
Iceland	--	--	--	914	898	1,530,000
Japan	78	75	87,800	369	354	517,000
Kazakhstan	--	--	--	1,240	1,210	2,100,000
Norway	480	471	978,000	5,700	5,560	9,480,000
South Africa	--	--	--	522	508	847,000
Thailand	--	--	--	274	264	576,000
Other (7 countries)	--	--	--	422	410	814,000
Total	912	892	1,840,000	20,300	19,900	40,300,000
Total silicon metal	9,910	9,840	30,000,000	112,000	111,000	318,000,000

-- Zero.

¹Presentation of monthly data is based on the "January–October" 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.