

Mineral Industry Surveys

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SILICON IN AUGUST 2020

Domestic production of silicon materials was 28,700 metric tons (t) in August 2020, an 8% increase from July 2020 production and 23% less than August 2019 production (fig. 1, table 1). Net shipments were 19,700 t, 5% less than shipments in July 2020 and 22% less than shipments in August 2019. Total production and net shipments during the first 8 months of 2020 were each 15% less, respectively, than those during the same period in 2019 (table 1).

Ending stocks were 24,700 t in August 2020, 3% more than ending stocks in July 2020 and 22% less than those in August 2019 (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.

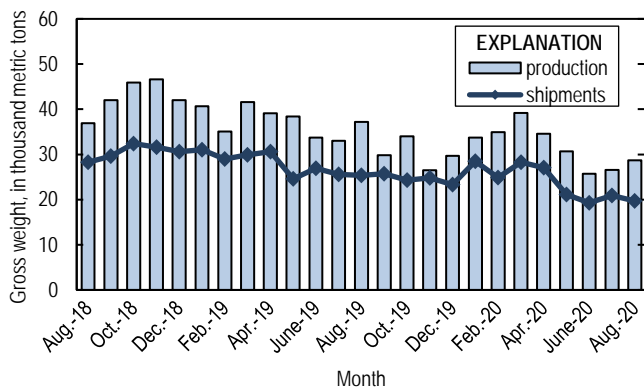


Figure 1. Monthly domestic production of total silicon materials and net shipments from August 2018 through August 2020 (may include revisions to previously published data).

Prices

The average U.S. spot price for silicon metal was 93.88 cents per pound in August 2020, essentially unchanged from the average price in July 2020 and 8% less than that in August 2019. The average U.S. spot price for ferrosilicon, 50% grade, was 102.5 cents per pound, slightly less than the average price in July 2020 and essentially unchanged from the average price in August 2019. The average U.S. spot price for ferrosilicon, 75% grade, was 83.75 cents per pound, slightly less than the average price in July 2020 and slightly more than that in August 2019 (fig. 2).

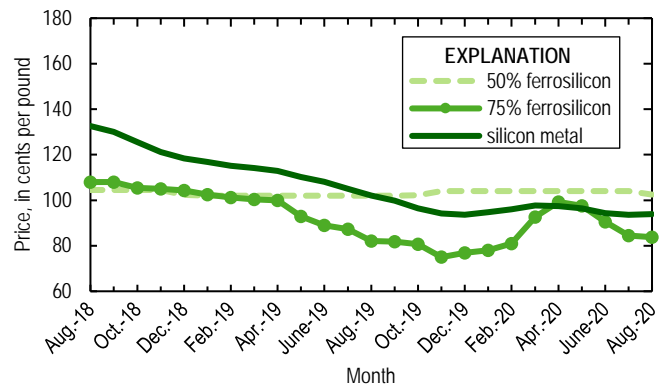


Figure 2. Average monthly spot prices for silicon metal and ferrosilicon 50% and 75% grades, contained silicon, from August 2018 through August 2020. Source: CRU Group and S&P Global Platts.

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TABLE 1
 PRODUCTION, SHIPMENTS, AND STOCKS OF SILICON ALLOYS
 AND METAL IN THE UNITED STATES^{1,2,3}

(Metric tons, gross weight)

	Gross production ⁴	Net shipments	Producers' stocks, end of period
2019:			
January–December	419,000	321,000	18,900
January–August	299,000	223,000 ^r	31,800 ^r
August	37,200	25,400	31,800
September	29,800	25,700	27,900
October	34,000	24,300	27,800
November	26,500	24,800	22,200
December	29,700	23,300	18,900
2020:			
January	33,700 ^r	28,500 ^r	15,600 ^r
February	34,900	24,900	18,300
March	39,200 ^r	28,300 ^r	20,500 ^r
April	34,600 ^r	27,100 ^r	21,800 ^r
May	30,700 ^r	21,100 ^r	25,600 ^r
June	25,700 ^r	19,300 ^r	26,000 ^r
July	26,600 ^r	20,900 ^r	23,900 ^r
August	28,700	19,700	24,700
January–August	254,000	190,000	24,700

^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.

³Includes USGS estimates.

⁴Ferrosilicon production includes material consumed in the production of miscellaneous silicon alloys.

TABLE 2
PRICES FOR FERROSILICON AND SILICON METAL IN AUGUST 2020

		Low	Average	High	Average low, mid, and high
Ferrosilicon:					
50% ferrosilicon ¹	cents per pound of contained silicon	101.00	XX	104.00	101.00–102.50–104.00
75% ferrosilicon ²	do.	82.00	83.75	87.00	XX
Silicon metal, 553 grade ³	cents per pound	92.00	93.88	96.00	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 AUGUST 2020^{1,2}

(Metric tons, unless otherwise specified)

Country or locality	Gross weight	Contained weight	Value	January–August ³		
				Gross weight	Contained weight	Value
Ferrosilicon:						
More than 55% silicon:						
Belgium	--	--	--	95	63	\$93,800
Brazil	--	--	--	12	7	18,500
Canada	200	120	\$311,000	1,310	787	1,990,000
Dominican Republic	--	--	--	25	15	48,900
France	--	--	--	80	48	95,100
Mexico	190	114	313,000	1,140	698	2,260,000
Netherlands	--	--	--	9	5	18,700
Singapore	--	--	--	7	4	10,100
South Africa	57	40	42,600	76	53	56,800
United Kingdom	--	--	--	86	51	134,000
Other (1 country or locality)	--	--	--	1	(4)	2,780
Total	447	274	666,000	2,850	1,730	4,730,000
Other ferrosilicon:						
Belgium	76	34	86,400	368	164	328,000
Brazil	--	--	--	155	78	304,000
Canada	18	5	34,200	263	128	463,000
China	--	--	--	10	5	13,000
Finland	--	--	--	20	10	29,800
Mexico	243	55	352,000	1,030	349	1,860,000
Spain	20	10	31,300	139	70	219,000
Switzerland	--	--	--	120	55	213,000
Turkey	--	--	--	60	27	100,000
United Kingdom	--	--	--	80	36	144,000
Other (1 country or locality)	--	--	--	2	1	9,400
Total	357	104	504,000	2,240	922	3,690,000
Total ferrosilicon	804	378	1,170,000	5,090	2,650	8,420,000
Metal:						
More than 99.99% silicon:						
China	51	51	1,370,000	890	890	17,000,000
Germany	489	489	13,000,000	2,980	2,980	98,400,000
Hong Kong	34	34	161,000	138	138	552,000
Japan	589	589	20,100,000	6,090	6,090	250,000,000
Korea, Republic of	137	137	3,170,000	3,250	3,250	72,500,000
Malaysia	17	17	2,710,000	106	106	14,600,000
Norway	45	45	450,000	485	485	4,660,000
Singapore	85	85	1,660,000	583	583	11,600,000
Taiwan	403	403	2,070,000	1,460	1,460	9,660,000
Vietnam	586	586	5,440,000	3,080	3,080	28,300,000
Other [29 countries and (or) localities]	12	12	767,000	271	271	9,630,000
Total	2,450	2,450	50,900,000	19,300	19,300	517,000,000
99.00%–99.99% silicon:						
Chile	--	--	--	2	2	3,020
Costa Rica	2	2	3,340	7	7	10,000
Dominican Republic	--	--	--	5	5	6,800
Germany	--	--	--	21	20	22,200
Guatemala	--	--	--	4	4	5,860
Mexico	1	1	2,840	22	22	43,700
Netherlands	3	3	4,730	57	52	58,700
Pakistan	--	--	--	5	5	7,400
United Kingdom	--	--	--	117	117	137,000
Total	7	7	10,900	240	234	294,000
Other silicon:						
Belgium	37	36	48,300	223	217	266,000
Canada	21	20	44,700	79	77	227,000
China	--	--	--	70	68	98,300
France	--	--	--	15	15	19,700
Korea, Republic of	--	--	--	29	28	72,900

See footnotes at end of table.

TABLE 3—Continued
 U.S. EXPORTS OF FERROSILICON AND SILICON METAL IN AUGUST 2020^{1,2}

(Metric tons, unless otherwise specified)

Country or locality	Gross weight	Contained weight	Value	January–August ³		
				Gross weight	Contained weight	Value
Metal—Continued:						
Mexico	--	--	--	47	46	\$144,000
Netherlands	--	--	--	138	134	123,000
South Africa	10	10	\$13,800	29	28	64,600
Taiwan	--	--	--	62	59	88,700
United Kingdom	3	3	3,790	118	114	130,000
Other [9 countries and (or) localities]	8	8	23,100	49	47	121,000
Total	79	77	134,000	858	833	1,350,000
Total silicon metal	2,530	2,530	51,100,000	20,400	20,400	519,000,000

¹Presentation of monthly data is based on the 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 AUGUST 2020^{1,2}

(Metric tons, unless otherwise specified)

Country or locality	Gross weight	Contained weight	Value	January–August ³		
				Gross weight	Contained weight	Value
Ferrosilicon:						
55%–80% silicon, more than 3% Ca:						
China	--	--	--	139	76	\$303,000
France	54	34	\$142,000	304	189	824,000
Kazakhstan	42	42	54,200	80	66	88,300
South Africa	--	--	--	72	48	142,000
Total	96	76	196,000	596	380	1,360,000
55%–80% silicon, other:						
Brazil	2,070	1,560	1,950,000	15,900	12,000	16,700,000
Canada	2,040	1,490	3,130,000	9,830	7,240	17,500,000
Iceland	582	460	636,000	6,970	5,510	7,800,000
Kazakhstan	946	739	1,160,000	9,100	6,980	12,300,000
Malaysia	2,160	1,690	2,190,000	10,000	7,780	9,880,000
Netherlands	--	--	--	3,400	2,590	3,760,000
Norway	1,800	1,420	2,140,000	3,360	2,650	4,350,000
Paraguay	300	230	296,000	3,680	2,850	4,410,000
Russia	--	--	--	33,400	25,400	36,500,000
South Africa	251	175	532,000	1,460	1,040	2,390,000
Other [6 countries and (or) localities]	342	246	1,430,000	1,360	966	4,800,000
Total	10,500	8,010	13,500,000	98,500	75,000	120,000,000
80%–90% ferrosilicon, Brazil	--	--	--	326	269	556,000
More than 90% ferrosilicon, Bosnia and Herzegovina	37	34	67,100	37	34	67,100
Magnesium ferrosilicon:						
Argentina	--	--	--	342	155	319,000
Brazil	136	60	173,000	476	217	586,000
Canada	926	426	1,620,000	5,910	2,720	10,400,000
Germany	46	6	122,000	79	18	213,000
India	82	38	95,700	375	169	527,000
Norway	--	--	--	73	35	141,000
Total	1,190	530	2,010,000	7,260	3,310	12,200,000
Other ferrosilicon:						
Brazil	--	--	--	216	93	248,000
Canada	702	238	821,000	5,460	1,900	6,520,000
China	4	2	7,410	158	69	264,000
France	--	--	--	18	8	44,400
Germany	5	2	26,100	14	5	62,100
India	--	--	--	73	32	103,000
Russia	10	5	17,100	121	58	240,000
Slovakia	58	15	98,300	291	78	414,000
South Africa	53	8	141,000	53	8	141,000
United Kingdom	--	--	--	5	2	39,100
Other (1 country or locality)	--	--	--	1	1	4,910
Total	832	269	1,110,000	6,410	2,250	8,080,000
Total ferrosilicon	12,600	8,920	16,800,000	113,000	81,200	143,000,000
Metal:						
More than 99.99% silicon:						
Brazil	79	79	189,000	710	710	1,820,000
Canada	9	9	25,700	9	9	25,700
China	4	4	512,000	57	57	6,570,000
Germany	22	22	2,060,000	172	172	18,500,000
Japan	2	2	389,000	100	100	7,130,000
Laos	--	--	--	36	36	792,000
Malaysia	4	4	37,600	4	4	37,600
Norway	--	--	--	31	31	314,000
Taiwan	26	26	2,370,000	179	179	19,100,000

See footnotes at end of table.

TABLE 4—Continued
U.S. IMPORTS OF FERROSILICON AND SILICON METAL IN AUGUST 2020^{1,2}

(Metric tons, unless otherwise specified)

Country or locality	Gross weight	Contained weight	Value	January–August ³		
				Gross weight	Contained weight	Value
Metal—Continued:						
More than 99.99% silicon:						
United Kingdom	(4)	(4)	\$2,300	3	3	\$21,100
Other [10 countries and (or) localities]	1	1	102,000	6	6	718,000
Total	147	147	5,690,000	1,310	1,310	55,000,000
99.00%–99.99% silicon:						
Australia	263	261	529,000	1,280	1,270	2,730,000
Bosnia and Herzegovina	--	--	--	4,910	4,880	8,830,000
Brazil	1,150	1,140	2,120,000	9,730	9,650	21,600,000
Canada	2,120	2,100	4,990,000	13,700	13,600	32,400,000
Iceland	234	233	360,000	3,130	3,110	4,900,000
Kazakhstan	--	--	--	1,150	1,150	1,770,000
Laos	--	--	--	720	713	1,580,000
Malaysia	216	214	396,000	5,480	5,440	8,820,000
Norway	1,210	1,200	2,860,000	6,090	6,050	15,700,000
South Africa	--	--	--	441	436	561,000
Other [3 countries and (or) localities]	--	--	--	56	56	103,000
Total	5,190	5,150	11,300,000	46,700	46,300	99,000,000
Other silicon:						
Australia	982	945	1,910,000	3,790	3,670	7,520,000
Brazil	1,210	1,200	2,360,000	7,320	7,060	15,100,000
Canada	--	--	--	216	208	515,000
China	46	44	50,000	176	169	192,000
Iceland	--	--	--	261	257	389,000
Japan	50	48	63,500	167	160	242,000
Malaysia	38	37	70,300	182	179	331,000
Netherlands	--	--	--	140	135	445,000
Norway	481	472	640,000	3,520	3,440	4,830,000
Sweden	--	--	--	141	136	154,000
Other [8 countries and (or) localities]	28	28	560,000	327	318	1,150,000
Total	2,840	2,770	5,650,000	16,200	15,700	30,800,000
Total silicon metal	8,180	8,070	22,600,000	64,200	63,400	185,000,000

¹Presentation of monthly data is based on the 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.