

# Mineral Industry Surveys

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## SILICON IN JULY 2020

Domestic production of silicon materials was 26,200 metric tons (t) in July 2020, a 5% increase from June 2020 production and 21% less than July 2019 production (fig. 1, table 1). Net shipments were 19,500 t, 14% more than shipments in June 2020 and 24% less than shipments in July 2019. Total production and net shipments during the first 7 months of 2020 were 16% less and 19% less, respectively, than those during the same period in 2019 (table 1).

Ending stocks were 24,800 t in July 2020, 7% less than the stocks in June 2020 and 15% less than those in July 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.

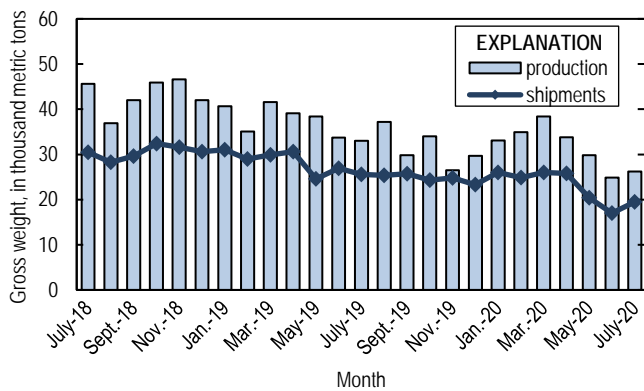


Figure 1. Monthly domestic production of total silicon materials and net shipments from July 2018 through July 2020 (may include revisions to previously published data).

### Prices

The average U.S. spot price for silicon metal was 93.60 cents per pound in July 2020, slightly less from the average price in June 2020 and 11% less than that in July 2019. The average U.S. spot price for ferrosilicon, 50% grade, was 104 cents per pound, unchanged since November 2019 and slightly more than the average price in July 2019. The average U.S. spot price for ferrosilicon, 75% grade, was 84.50 cents per pound, 7% less than the average price in June 2020 and 3% less than that in July 2019 (fig. 2).

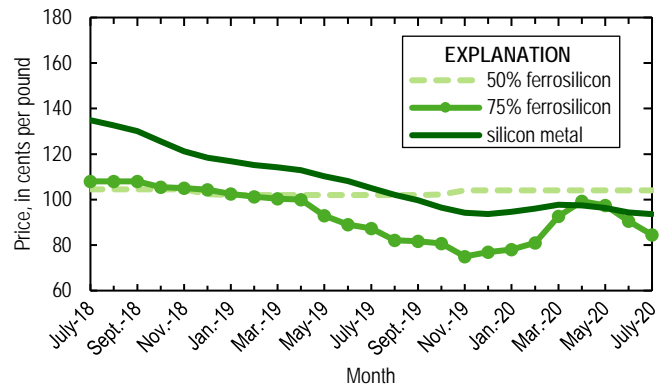


Figure 2. Average monthly spot prices for silicon metal and ferrosilicon 50% and 75% grades, contained silicon, July 2018 through July 2020. Source: CRU Group and S&P Global Platts.

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TABLE 1  
 PRODUCTION, SHIPMENTS, AND STOCKS OF SILICON ALLOYS  
 AND METAL IN THE UNITED STATES<sup>1,2,3</sup>

(Metric tons, gross weight)

	Gross production <sup>4</sup>	Net shipments	Producers' stocks, end of period
2019:			
January–December	419,000	321,000	18,900
January–July	262,000	197,000	29,000 <sup>f</sup>
July	33,000	25,600	29,000
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	33,100	26,000	16,700
February	34,900	24,900	18,300
March	38,400	26,000	21,800
April	33,800	25,800	21,900
May	29,800	20,400	25,400
June	24,900	17,000	26,800
July	26,200	19,500	24,800
January–July	221,000	160,000	24,800

<sup>f</sup>Revised.

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

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

<sup>3</sup>Includes USGS estimates.

<sup>4</sup>Ferrosilicon production includes material consumed in the production of miscellaneous silicon alloys.

TABLE 2  
PRICES FOR FERROSILICON AND SILICON METAL IN JULY 2020

		Low	Average	High	Average low, mid, and high
Ferrosilicon:					
50% ferrosilicon <sup>1</sup>	cents per pound of contained silicon	103.00	XX	105.00	103.00–104.00–105.00
75% ferrosilicon <sup>2</sup>	do.	82.00	84.50	87.00	XX
Silicon metal, 553 grade <sup>3</sup>	cents per pound	91.50	93.60	96.00	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 JULY 2020<sup>1,2</sup>

(Metric tons, unless otherwise specified)

Country or locality	Gross weight	Contained weight	Value	January–July <sup>3</sup>		
				Gross weight	Contained weight	Value
<b>Ferrosilicon:</b>						
<b>More than 55% silicon:</b>						
Belgium	--	--	--	95	63	\$93,800
Brazil	--	--	--	12	7	18,500
Canada	168	101	\$246,000	1,110	668	1,680,000
Dominican Republic	25	15	48,900	25	15	48,900
France	--	--	--	80	48	95,100
Mexico	207	126	412,000	953	584	1,950,000
Netherlands	--	--	--	9	5	18,700
Singapore	--	--	--	7	4	10,100
South Africa	--	--	--	19	13	14,200
United Kingdom	--	--	--	86	51	134,000
Other (1 country or locality)	--	--	--	1	(4)	2,780
<b>Total</b>	<b>400</b>	<b>242</b>	<b>707,000</b>	<b>2,400</b>	<b>1,460</b>	<b>4,070,000</b>
<b>Other ferrosilicon:</b>						
Belgium	54	23	40,500	292	130	242,000
Brazil	--	--	--	155	78	304,000
Canada	5	3	17,800	245	122	429,000
China	10	5	13,000	10	5	13,000
Finland	--	--	--	20	10	29,800
Mexico	104	43	219,000	781	295	1,510,000
Spain	20	10	31,300	119	60	188,000
Switzerland	20	9	36,500	120	55	213,000
Turkey	--	--	--	60	27	100,000
United Kingdom	--	--	--	80	36	144,000
Other (1 country or locality)	--	--	--	2	1	9,400
<b>Total</b>	<b>213</b>	<b>93</b>	<b>358,000</b>	<b>1,890</b>	<b>818</b>	<b>3,180,000</b>
<b>Total ferrosilicon</b>	<b>613</b>	<b>335</b>	<b>1,070,000</b>	<b>4,280</b>	<b>2,280</b>	<b>7,250,000</b>
<b>Metal:</b>						
<b>More than 99.99% silicon:</b>						
China	107	107	3,270,000	839	839	15,600,000
Germany	602	602	20,000,000	2,490	2,490	85,300,000
Hong Kong	103	103	299,000	104	104	391,000
Japan	835	835	31,000,000	5,500	5,500	230,000,000
Korea, Republic of	655	655	16,200,000	3,110	3,110	69,300,000
Malaysia	29	29	2,150,000	89	89	11,900,000
Norway	45	45	450,000	440	440	4,210,000
Singapore	73	73	1,420,000	498	498	9,910,000
Taiwan	378	378	1,350,000	1,060	1,060	7,590,000
Vietnam	519	519	3,990,000	2,490	2,490	22,900,000
Other [28 countries and (or) localities]	7	7	451,000	259	259	8,860,000
<b>Total</b>	<b>3,350</b>	<b>3,350</b>	<b>80,600,000</b>	<b>16,900</b>	<b>16,900</b>	<b>466,000,000</b>
<b>99.00%–99.99% silicon:</b>						
Chile	2	2	3,020	2	2	3,020
Costa Rica	5	5	6,670	5	5	6,670
Dominican Republic	--	--	--	5	5	6,800
Germany	--	--	--	21	20	22,200
Guatemala	--	--	--	4	4	5,860
Mexico	--	--	--	21	21	40,900
Netherlands	--	--	--	53	48	54,000
Pakistan	--	--	--	5	5	7,400
United Kingdom	--	--	--	117	117	137,000
<b>Total</b>	<b>7</b>	<b>7</b>	<b>9,690</b>	<b>234</b>	<b>228</b>	<b>283,000</b>
<b>Other silicon:</b>						
Belgium	--	--	--	186	181	217,000
Canada	1	1	12,100	59	57	182,000
China	13	13	20,300	70	68	98,300
France	4	4	5,000	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 JULY 2020<sup>1,2</sup>

(Metric tons, unless otherwise specified)

Country or locality	Gross weight	Contained weight	Value	January–July <sup>3</sup>		
				Gross weight	Contained weight	Value
Metal—Continued:						
Mexico	20	20	\$45,300	47	46	\$144,000
Netherlands	--	--	--	138	134	123,000
South Africa	1	1	9,070	18	18	50,800
Taiwan	61	58	80,900	62	59	88,700
United Kingdom	36	35	32,300	115	111	126,000
Other [8 countries and (or) localities]	3	3	3,980	41	40	97,900
Total	140	135	209,000	779	756	1,220,000
Total silicon metal	3,500	3,490	80,800,000	17,900	17,900	468,000,000

<sup>1</sup>Presentation of monthly data is based on the 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 JULY 2020<sup>1, 2</sup>

(Metric tons, unless otherwise specified)

Country or locality	Gross weight	Contained weight	Value	January–July <sup>3</sup>		
				Gross weight	Contained weight	Value
<b>Ferrosilicon:</b>						
55%–80% silicon, more than 3% Ca:						
China	60	34	\$124,000	139	76	\$303,000
France	72	44	207,000	250	155	681,000
Kazakhstan	38	24	34,000	38	24	34,000
South Africa	--	--	--	72	48	142,000
Total	170	102	365,000	499	304	1,160,000
55%–80% silicon, other:						
Brazil	4,140	3,130	4,270,000	13,900	10,400	14,700,000
Canada	1,730	1,290	2,790,000	7,790	5,750	14,400,000
Iceland	853	674	1,170,000	6,390	5,050	7,160,000
Kazakhstan	610	460	957,000	8,150	6,240	11,100,000
Malaysia	826	616	803,000	7,890	6,090	7,690,000
Netherlands	--	--	--	3,400	2,590	3,760,000
Norway	411	325	543,000	1,560	1,230	2,210,000
Paraguay	606	475	594,000	3,380	2,620	4,120,000
Russia	14,500	11,000	15,900,000	33,400	25,400	36,500,000
South Africa	162	115	288,000	1,210	868	1,860,000
Other [6 countries and (or) localities]	231	167	771,000	1,020	720	3,370,000
Total	24,100	18,300	28,100,000	88,000	66,900	107,000,000
80%–90% ferrosilicon, Brazil	--	--	--	326	269	556,000
<b>Magnesium ferrosilicon:</b>						
Argentina	--	--	--	342	155	319,000
Brazil	136	62	179,000	340	157	413,000
Canada	569	263	1,000,000	4,980	2,290	8,830,000
Germany	2	1	4,990	34	12	91,200
India	140	62	199,000	293	131	432,000
Norway	--	--	--	73	35	141,000
Total	847	388	1,380,000	6,070	2,780	10,200,000
<b>Other ferrosilicon:</b>						
Brazil	--	--	--	216	93	248,000
Canada	521	177	604,000	4,760	1,660	5,700,000
China	18	8	24,500	153	68	257,000
France	--	--	--	18	8	44,400
Germany	--	--	--	9	3	36,000
India	--	--	--	73	32	103,000
Russia	10	5	17,100	112	53	223,000
Slovakia	20	3	33,100	233	63	316,000
Spain	--	--	--	1	1	4,910
United Kingdom	--	--	--	5	2	39,100
Total	569	193	679,000	5,580	1,980	6,970,000
Total ferrosilicon	25,700	19,000	30,500,000	100,000	72,300	126,000,000
<b>Metal:</b>						
More than 99.99% silicon:						
Brazil	109	109	262,000	631	631	1,630,000
China	14	14	1,470,000	53	53	6,060,000
Denmark	(4)	(4)	35,900	1	1	291,000
Germany	21	21	2,390,000	150	150	16,400,000
Japan	1	1	288,000	98	98	6,750,000
Korea, Republic of	(4)	(4)	45,100	1	1	143,000
Laos	--	--	--	36	36	792,000
Norway	--	--	--	31	31	314,000
Taiwan	33	33	3,060,000	153	153	16,700,000

See footnotes at end of table.

TABLE 4—Continued  
U.S. IMPORTS OF FERROSILICON AND SILICON METAL IN JULY 2020<sup>1, 2</sup>

(Metric tons, unless otherwise specified)

Country or locality	Gross weight	Contained weight	Value	January–July <sup>3</sup>		
				Gross weight	Contained weight	Value
<b>Metal—Continued:</b>						
More than 99.99% silicon:						
United Kingdom	--	--	--	3	3	\$18,800
Other [8 countries and (or) localities]	1	1	\$54,300	3	3	182,000
<b>Total</b>	<b>180</b>	<b>180</b>	<b>7,610,000</b>	<b>1,160</b>	<b>1,160</b>	<b>49,300,000</b>
99.00%–99.99% silicon:						
Australia	--	--	--	1,010	1,010	2,200,000
Bosnia and Herzegovina	298	296	629,000	4,910	4,880	8,830,000
Brazil	2,330	2,310	4,990,000	8,580	8,510	19,500,000
Canada	2,690	2,670	6,390,000	11,600	11,500	27,500,000
Iceland	1,250	1,240	1,900,000	2,890	2,870	4,540,000
Kazakhstan	348	346	508,000	1,150	1,150	1,770,000
Laos	--	--	--	720	713	1,580,000
Malaysia	1,060	1,050	1,860,000	5,270	5,220	8,430,000
Norway	984	977	2,390,000	4,880	4,850	12,800,000
South Africa	61	60	73,600	441	436	561,000
Other [3 countries and (or) localities]	--	--	--	56	56	103,000
<b>Total</b>	<b>9,010</b>	<b>8,950</b>	<b>18,700,000</b>	<b>41,500</b>	<b>41,200</b>	<b>87,800,000</b>
Other silicon:						
Australia	466	454	961,000	2,810	2,720	5,610,000
Brazil	965	953	1,880,000	6,110	5,870	12,700,000
Canada	--	--	--	216	208	515,000
China	32	30	34,600	130	125	142,000
Iceland	78	76	117,000	261	257	389,000
Malaysia	24	24	43,500	144	142	261,000
Netherlands	19	19	63,800	141	135	445,000
Norway	336	325	452,000	3,040	2,970	4,190,000
South Africa	--	--	--	140	138	241,000
Sweden	--	--	--	141	136	154,000
Other [7 countries and (or) localities]	39	38	101,000	275	265	523,000
<b>Total</b>	<b>1,960</b>	<b>1,920</b>	<b>3,650,000</b>	<b>13,400</b>	<b>13,000</b>	<b>25,200,000</b>
<b>Total silicon metal</b>	<b>11,200</b>	<b>11,000</b>	<b>30,000,000</b>	<b>56,100</b>	<b>55,300</b>	<b>162,000,000</b>

<sup>1</sup>Presentation of monthly data is based on the 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.