

# Mineral Industry Surveys

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## SILICON IN MAY 2020

Domestic production of silicon materials was 29,800 metric tons (t) in May 2020, a 12% decrease from April 2020 production and 23% less than May 2019 production (fig. 1, table 1). Net shipments were 20,400 t, 21% less than shipments in April 2020 and 17% less than shipments in May 2019. Total production and net shipments during the first 5 months of 2020 were 13% less and 15% less, respectively, than those during the same period in 2019 (table 1).

Ending stocks were 25,400 t in May 2020, 16% more than the stocks in April 2020 and 11% less than those in May 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.

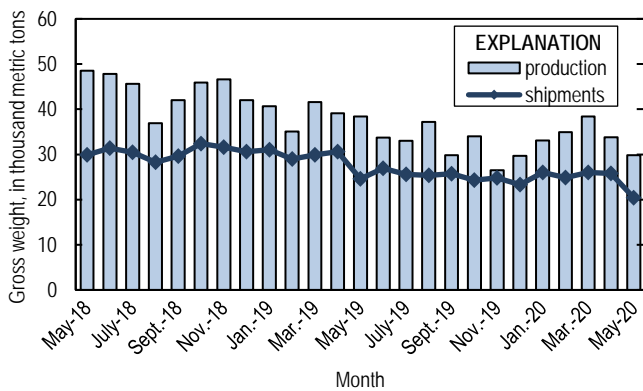


Figure 1. Monthly domestic production of total silicon materials and net shipments from May 2018 through May 2020 (may include revisions to previously published data).

### Prices

The average U.S. spot price for silicon metal was 96.38 cents per pound in May 2020, slightly less from the average price in April 2020 and 13% less than that in May 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 May 2019. The average U.S. spot price for ferrosilicon, 75% grade, was 97.50 cents per pound, slightly less than the average price in April 2020 and 5% more than that in May 2019 (fig. 2).

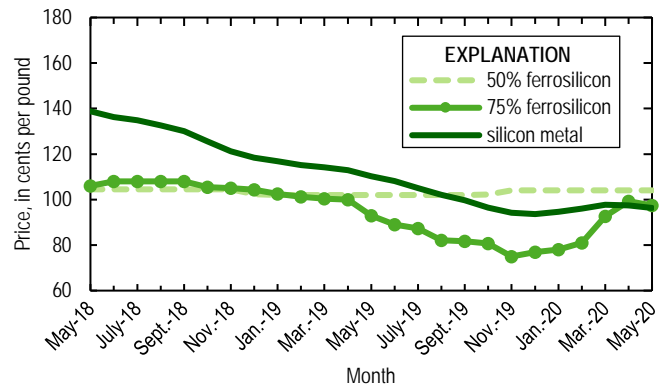


Figure 2. Average monthly spot prices for silicon metal and ferrosilicon 50% and 75% grades, contained silicon, May 2018 through May 2020. Source: CRU Group and S&P Global Platts.

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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–May	195,000 <sup>r</sup>	145,000	28,400 <sup>r</sup>
May	38,400	24,600	28,400
June	33,700	26,900	29,000
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
January–May	170,000	123,000	25,400

<sup>r</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 MAY 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.	95.00	97.50	100.00	XX
Silicon metal, 553 grade <sup>3</sup>	cents per pound	95.00	96.38	98.00	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 MAY 2020<sup>1,2</sup>

(Metric tons, unless otherwise specified)

Country or locality	Gross weight	Contained weight	Value	January–May <sup>3</sup>		
				Gross weight	Contained weight	Value
<b>Ferrosilicon:</b>						
<b>More than 55% silicon:</b>						
Bahamas	--	--	--	1	(4)	\$2,780
Belgium	--	--	--	95	63	93,800
Brazil	--	--	--	12	7	18,500
Canada	203	122	\$315,000	894	537	1,350,000
France	--	--	--	80	48	95,100
Mexico	73	45	124,000	686	422	1,430,000
South Africa	--	--	--	19	13	14,200
United Kingdom	--	--	--	86	51	134,000
<b>Total</b>	<b>276</b>	<b>167</b>	<b>439,000</b>	<b>1,870</b>	<b>1,140</b>	<b>3,130,000</b>
<b>Other ferrosilicon:</b>						
Belgium	18	8	13,500	162	72	115,000
Brazil	39	20	76,000	155	78	304,000
Canada	40	20	49,800	229	115	376,000
Finland	--	--	--	20	10	29,800
Japan	--	--	--	2	1	9,400
Mexico	85	41	175,000	485	173	913,000
Spain	--	--	--	99	50	157,000
Switzerland	20	9	35,000	80	36	140,000
Turkey	40	18	64,400	40	18	64,400
United Kingdom	--	--	--	80	36	144,000
<b>Total</b>	<b>242</b>	<b>114</b>	<b>414,000</b>	<b>1,350</b>	<b>587</b>	<b>2,250,000</b>
<b>Total ferrosilicon</b>	<b>518</b>	<b>281</b>	<b>853,000</b>	<b>3,230</b>	<b>1,730</b>	<b>5,390,000</b>
<b>Metal:</b>						
<b>More than 99.99% silicon:</b>						
China	83	83	1,210,000	682	682	10,900,000
Estonia	--	--	--	62	62	43,700
Germany	267	267	11,700,000	1,580	1,580	53,700,000
Japan	587	587	31,100,000	3,730	3,730	151,000,000
Korea, Republic of	346	346	4,880,000	2,110	2,110	41,500,000
Malaysia	6	6	906,000	53	53	8,480,000
Norway	--	--	--	365	365	3,460,000
Singapore	59	59	1,170,000	242	242	4,860,000
Taiwan	17	17	525,000	581	581	4,410,000
Vietnam	473	473	4,640,000	1,450	1,450	13,700,000
Other [25 countries and (or) localities]	29	29	2,410,000	179	179	7,800,000
<b>Total</b>	<b>1,870</b>	<b>1,870</b>	<b>58,500,000</b>	<b>11,000</b>	<b>11,000</b>	<b>300,000,000</b>
<b>99.00%–99.99% silicon:</b>						
Dominican Republic	--	--	--	5	5	6,800
Germany	--	--	--	21	20	22,200
Guatemala	--	--	--	4	4	5,860
Mexico	15	15	24,000	21	21	40,900
Netherlands	--	--	--	53	48	54,000
Pakistan	--	--	--	5	5	7,400
United Kingdom	--	--	--	117	117	137,000
<b>Total</b>	<b>15</b>	<b>15</b>	<b>24,000</b>	<b>227</b>	<b>221</b>	<b>274,000</b>
<b>Other silicon:</b>						
Australia	--	--	--	10	9	25,000
Belgium	39	38	49,300	167	163	191,000
Canada	3	2	19,200	55	54	165,000
China	24	23	34,600	57	55	78,000
Korea, Republic of	1	1	17,200	29	28	72,900

See footnotes at end of table.

TABLE 3—Continued  
 U.S. EXPORTS OF FERROSILICON AND SILICON METAL IN MAY 2020<sup>1,2</sup>

(Metric tons, unless otherwise specified)

Country or locality	Gross weight	Contained weight	Value	January–May <sup>3</sup>		
				Gross weight	Contained weight	Value
<b>Metal—Continued:</b>						
Mexico	--	--	--	26	25	\$93,900
Netherlands	57	55	\$37,800	57	55	37,800
Singapore	--	--	--	9	9	11,800
South Africa	--	--	--	18	17	41,700
United Kingdom	37	36	33,200	78	76	87,700
Other [8 countries and (or) localities]	3	3	11,600	21	20	66,900
<b>Total</b>	<b>163</b>	<b>159</b>	<b>203,000</b>	<b>526</b>	<b>511</b>	<b>872,000</b>
<b>Total silicon metal</b>	<b>2,040</b>	<b>2,040</b>	<b>58,700,000</b>	<b>11,800</b>	<b>11,700</b>	<b>301,000,000</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.

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

(Metric tons, unless otherwise specified)

Country or locality	Gross weight	Contained weight	Value	January–May <sup>3</sup>		
				Gross weight	Contained weight	Value
<b>Ferrosilicon:</b>						
55%–80% silicon, more than 3% Ca:						
China	--	--	--	80	43	\$179,000
France	54	33	\$142,000	142	89	371,000
South Africa	--	--	--	72	48	142,000
Total	54	33	142,000	294	180	692,000
55%–80% silicon, other:						
Brazil	4,210	3,160	4,720,000	7,380	5,550	8,110,000
Canada	1,150	862	1,770,000	5,390	3,960	10,100,000
Iceland	914	722	1,160,000	4,870	3,850	5,130,000
Kazakhstan	1,800	1,380	2,770,000	5,990	4,590	7,930,000
Malaysia	3,460	2,700	3,470,000	6,870	5,330	6,680,000
Netherlands	--	--	--	3,400	2,590	3,760,000
Norway	548	433	799,000	701	552	1,000,000
Paraguay	682	520	683,000	2,500	1,930	3,230,000
Russia	231	176	245,000	18,400	14,000	20,100,000
South Africa	144	101	324,000	955	689	1,410,000
Other [5 countries and (or) localities]	114	80	372,000	724	504	2,360,000
Total	13,300	10,100	16,300,000	57,200	43,500	69,900,000
80%–90% ferrosilicon, Brazil	48	40	59,400	280	231	500,000
<b>Magnesium ferrosilicon:</b>						
Argentina	38	17	36,300	304	138	282,000
Brazil	51	23	54,200	170	77	186,000
Canada	381	175	653,000	3,760	1,720	6,670,000
Germany	--	--	--	16	6	45,700
India	39	18	62,400	108	48	168,000
Norway	--	--	--	49	23	93,800
Total	509	234	805,000	4,400	2,020	7,450,000
<b>Other ferrosilicon:</b>						
Brazil	--	--	--	216	93	248,000
Canada	318	140	291,000	3,750	1,320	4,490,000
China	--	--	--	107	47	184,000
France	--	--	--	18	8	44,400
Germany	6	3	25,600	9	3	36,000
India	17	8	24,800	73	32	103,000
Russia	21	10	44,900	83	39	169,000
Slovakia	39	6	64,400	175	49	222,000
Spain	--	--	--	1	1	4,910
United Kingdom	--	--	--	5	2	39,100
Total	402	166	451,000	4,430	1,590	5,550,000
Total ferrosilicon	14,300	10,600	17,800,000	66,600	47,500	84,100,000
<b>Metal:</b>						
More than 99.99% silicon:						
Brazil	63	63	152,000	440	440	1,170,000
China	4	4	380,000	36	36	4,230,000
Denmark	--	--	--	1	1	206,000
Germany	19	19	2,450,000	118	118	12,500,000
Japan	4	4	911,000	95	95	6,000,000
Korea, Republic of	1	1	36,800	1	1	90,400
Laos	--	--	--	36	36	792,000
Norway	17	17	193,000	17	17	193,000
Taiwan	23	23	2,600,000	98	98	11,100,000

See footnotes at end of table.

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

(Metric tons, unless otherwise specified)

Country or locality	Gross weight	Contained weight	Value	January–May <sup>3</sup>		
				Gross weight	Contained weight	Value
<b>Metal—Continued:</b>						
More than 99.99% silicon:						
United Kingdom	1	1	\$2,810	3	3	\$15,500
Other [5 countries and (or) localities]	1	1	52,200	2	2	97,400
<b>Total</b>	<b>132</b>	<b>132</b>	<b>6,780,000</b>	<b>846</b>	<b>846</b>	<b>36,400,000</b>
99.00%–99.99% silicon:						
Australia	--	--	--	917	910	1,990,000
Bosnia and Herzegovina	417	413	776,000	3,960	3,930	6,910,000
Brazil	376	373	971,000	5,190	5,150	12,000,000
Canada	2,610	2,600	6,090,000	7,840	7,790	18,700,000
Iceland	260	259	425,000	1,650	1,640	2,640,000
Kazakhstan	300	298	480,000	805	799	1,260,000
Laos	--	--	--	720	713	1,580,000
Malaysia	1,060	1,050	1,750,000	3,900	3,870	6,080,000
Norway	644	640	1,710,000	2,940	2,920	7,890,000
South Africa	--	--	--	360	357	458,000
Other [3 countries and (or) localities]	8	8	24,000	56	56	103,000
<b>Total</b>	<b>5,670</b>	<b>5,630</b>	<b>12,200,000</b>	<b>28,300</b>	<b>28,100</b>	<b>59,600,000</b>
Other silicon:						
Australia	581	563	1,170,000	2,040	1,980	4,070,000
Brazil	386	381	893,000	4,170	3,960	8,830,000
Canada	--	--	--	216	208	515,000
China	16	15	17,300	99	95	107,000
Iceland	--	--	--	183	181	273,000
Malaysia	--	--	--	120	118	218,000
Netherlands	23	22	67,200	121	116	381,000
Norway	825	808	1,150,000	2,580	2,530	3,580,000
South Africa	80	79	133,000	140	138	241,000
Sweden	--	--	--	141	136	154,000
Other [6 countries and (or) localities]	50	48	82,800	171	164	323,000
<b>Total</b>	<b>1,960</b>	<b>1,920</b>	<b>3,520,000</b>	<b>9,980</b>	<b>9,620</b>	<b>18,700,000</b>
<b>Total silicon metal</b>	<b>7,770</b>	<b>7,680</b>	<b>22,500,000</b>	<b>39,200</b>	<b>38,600</b>	<b>115,000,000</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.

Source: U.S. Census Bureau.