

# Mineral Industry Surveys

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## SILICON IN MARCH 2021

Domestic production of silicon materials was 35,400 metric tons (t) in March 2021, 14% more than February 2021 production and 10% less than March 2020 production (fig. 1, table 1). Net shipments were 25,900 t, 21% more than shipments in February 2021 and 9% less than shipments in March 2020. Total production and net shipments during the first 3 months of 2021 were 10% less and 14% less, respectively, than those during the same period in 2020 (table 1).

Ending stocks were 19,500 t in March 2021, slightly less than ending stocks in February 2021 and 5% less than those in March 2020 (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.

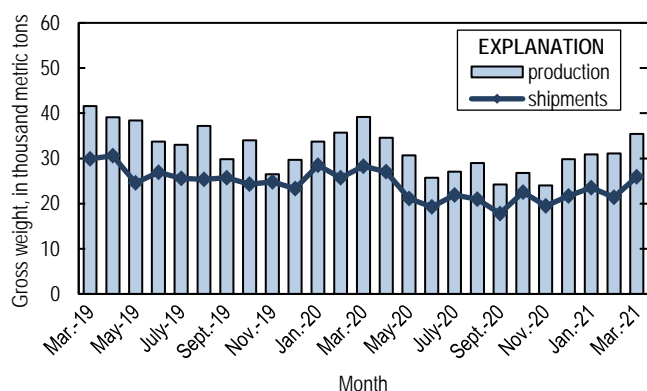


Figure 1. Monthly domestic production of total silicon materials and net shipments from March 2019 through March 2021 (may include revisions to previously published data).

## Prices

The average U.S. spot price for silicon metal was 132.90 cents per pound in March 2021, 8% more than the average price in February 2021 and 36% more than the average price in March 2020. The average U.S. spot price for ferrosilicon, 50% grade, was 102.50 cents per pound, unchanged since August 2020 and slightly less than the average price in March 2020. The average U.S. spot price for ferrosilicon, 75% grade, was 121.20 cents per pound, 6% more than the average price in February 2021 and 31% more than that in March 2020 (fig. 2).

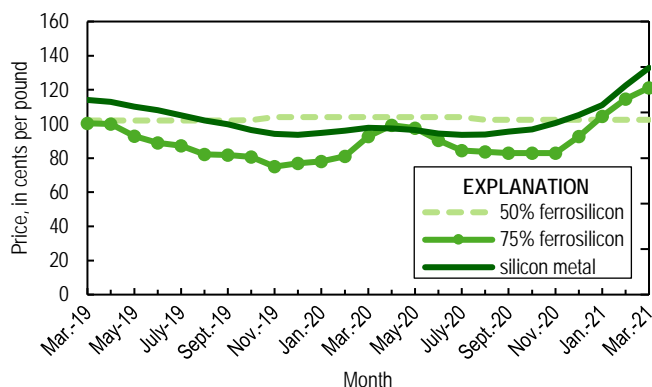


Figure 2. Average monthly spot prices for silicon metal and ferrosilicon 50% and 75% grades, contained silicon, from March 2019 through March 2021. Source: CRU Group and S&P Global Platts Metals Week.

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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
2020:			
January–December	360,000	275,000	18,600
January–March	109,000 <sup>r</sup>	82,500 <sup>r</sup>	20,500 <sup>r</sup>
March	39,200	28,300	20,500
April	34,600	27,100	21,800
May	30,700	21,100	25,600
June	25,700	19,300	26,000
July	27,100	21,900	24,300
August	29,000	21,000	24,600
September	24,200	17,800	23,200
October	26,800	22,500	20,000
November	24,000	19,500	18,100
December	29,800	21,700	18,600
2021:			
January	30,900	23,500	18,500
February	31,100	21,400	19,800
March	35,400	25,900	19,500
January–March	97,400	70,800	19,500

<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 MARCH 2021

		Low	Average	High	Average low, mid, and high
Ferrosilicon:					
50% ferrosilicon <sup>1</sup>	cents per pound of contained silicon	101.00	XX	104.00	101.00–102.50–104.00
75% ferrosilicon <sup>2</sup>	do.	115.00	121.20	125.00	XX
Silicon metal, 553 grade <sup>3</sup>	cents per pound	126.00	132.90	139.00	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 Metals Week, 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 Metals, 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 MARCH 2021<sup>1,2</sup>

(Metric tons, unless otherwise specified)

Country or locality	Gross weight	Contained weight	Value	January–March <sup>3</sup>		
				Gross weight	Contained weight	Value
Ferrosilicon:						
More than 55% silicon:						
Brazil	7	4	\$11,100	7	4	\$11,100
Canada	256	154	451,000	1,100	658	1,930,000
Colombia	2	1	9,360	2	1	9,360
Mexico	102	61	234,000	416	254	849,000
Total	367	220	706,000	1,520	918	2,800,000
Other ferrosilicon:						
Belgium	54	24	40,900	144	64	109,000
Brazil	57	29	114,000	248	124	494,000
Canada	37	19	117,000	53	27	169,000
Korea, Republic of	--	--	--	20	10	32,200
Luxembourg	40	9	30,700	40	9	30,700
Mexico	341	169	658,000	922	453	1,790,000
Spain	20	10	31,300	60	30	94,000
Switzerland	40	17	73,000	120	52	224,000
Turkey	40	18	73,000	140	64	256,000
United Kingdom	40	19	67,800	40	19	67,800
Other [1 country or locality]	20	9	38,000	20	9	38,000
Total	689	322	1,240,000	1,810	860	3,310,000
Total ferrosilicon	1,060	542	1,950,000	3,330	1,780	6,110,000
Metal:						
More than 99.99% silicon:						
China	281	281	3,570,000	654	654	15,600,000
Estonia	--	--	--	47	47	33,000
Germany	426	426	7,880,000	1,430	1,430	37,400,000
Japan	3,190	3,190	37,900,000	4,890	4,890	89,100,000
Korea, Republic of	645	645	19,300,000	1,690	1,690	37,700,000
Malaysia	285	285	4,960,000	695	695	11,900,000
Norway	225	225	5,810,000	354	354	6,890,000
Singapore	130	130	2,690,000	349	349	7,140,000
Taiwan	865	865	5,770,000	1,620	1,620	12,200,000
Vietnam	564	564	6,170,000	1,010	1,010	10,600,000
Other [22 countries and (or) localities]	46	46	1,180,000	108	108	4,290,000
Total	6,650	6,650	95,200,000	12,900	12,900	233,000,000
99.00%–99.99% silicon:						
China	12	12	16,900	12	12	16,900
France	--	--	--	34	34	48,200
Germany	5	5	6,400	5	5	6,400
Japan	--	--	--	4	4	5,310
Korea, Republic of	38	37	39,500	40	39	42,100
Mauritania	--	--	--	3	3	4,220
Mexico	--	--	--	3	3	6,260
Singapore	--	--	--	2	2	3,330
Total	54	53	62,800	103	102	133,000
Other silicon:						
Belgium	5	5	22,400	43	42	68,200
Canada	9	9	26,300	21	21	78,100
China	23	22	30,000	30	29	40,000
Germany	14	13	17,900	14	13	17,900
Mexico	2	2	9,640	10	10	52,400
Netherlands	16	16	21,200	61	59	80,000
Pakistan	6	5	7,400	6	5	7,400

See footnotes at end of table.

TABLE 3—Continued  
U.S. EXPORTS OF FERROSILICON AND SILICON METAL IN MARCH 2021<sup>1, 2</sup>

(Metric tons, unless otherwise specified)

Country or locality	Gross weight	Contained weight	Value	January–March <sup>3</sup>		
				Gross weight	Contained weight	Value
Metal—Continued:						
Other silicon:						
Romania	--	--	--	3	3	\$4,570
South Africa	24	23	\$39,900	24	24	44,700
Taiwan	--	--	--	57	54	230,000
Other [8 countries and (or) localities]	1	1	7,200	6	6	41,500
Total	99	96	182,000	275	267	664,000
Total silicon metal	6,800	6,800	95,500,000	13,200	13,200	234,000,000

-- Zero.

<sup>1</sup>Presentation of monthly data is based on the quantities (gross weight) of the leading countries and (or) localities.

<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.

TABLE 4  
U.S. IMPORTS OF FERROSILICON AND SILICON METAL IN MARCH 2021<sup>1,2</sup>

(Metric tons, unless otherwise specified)

Country or locality	Gross weight	Contained weight	Value	January–March <sup>3</sup>		
				Gross weight	Contained weight	Value
Ferrosilicon:						
55%–80% silicon, more than 3% Ca:						
China	40	22	\$92,400	60	43	\$128,000
France	54	33	143,000	126	76	352,000
Total	94	55	236,000	186	119	480,000
55%–80% silicon, other:						
Brazil	1,980	1,500	2,260,000	5,010	3,790	5,300,000
Canada	1,150	831	2,370,000	3,100	2,260	6,520,000
France	108	77	247,000	287	202	709,000
Iceland	332	255	524,000	1,500	1,170	1,830,000
Kazakhstan	3,140	2,410	5,580,000	7,450	5,720	12,000,000
Malaysia	1,980	1,500	2,240,000	3,490	2,630	3,840,000
Norway	808	634	1,070,000	1,550	1,220	1,920,000
Paraguay	75	56	66,800	598	467	501,000
Russia	23,300	17,700	36,700,000	23,500	17,900	37,100,000
South Africa	20	15	43,300	421	308	745,000
Other [6 countries and (or) localities]	255	190	680,000	405	300	1,250,000
Total	33,100	25,100	51,800,000	47,300	35,900	71,800,000
80%–90% ferrosilicon, Germany	--	--	--	27	22	25,500
Magnesium ferrosilicon:						
Argentina	19	9	16,000	95	37	79,800
Brazil	282	128	350,000	413	187	494,000
Canada	998	459	1,710,000	2,840	1,310	4,870,000
China	9	4	16,500	9	4	16,500
India	7	3	15,800	60	28	106,000
Panama	49	22	36,700	49	22	36,700
Total	1,360	626	2,140,000	3,460	1,590	5,600,000
Other ferrosilicon:						
Canada	757	259	992,000	1,830	617	2,380,000
China	--	--	--	24	11	32,600
France	--	--	--	2	1	12,500
Germany	--	--	--	2	1	10,400
Russia	10	5	17,100	50	24	94,200
Slovakia	--	--	--	19	9	30,900
Total	766	263	1,010,000	1,930	662	2,560,000
Total ferrosilicon	35,300	26,100	55,200,000	52,900	38,300	80,400,000
Metal:						
More than 99.99% silicon:						
Brazil	98	98	231,000	290	290	691,000
China	8	8	283,000	19	19	1,220,000
Denmark	(4)	(4)	11,600	1	1	177,000
Finland	(4)	(4)	20,500	(4)	(4)	30,800
Germany	76	76	5,270,000	140	140	11,400,000
Japan	28	28	1,440,000	33	33	2,470,000
Malaysia	--	--	--	86	86	994,000
Taiwan	48	48	4,060,000	112	112	9,560,000
Ukraine	1	1	77,700	1	1	94,700
United Kingdom	--	--	--	1	1	9,340
Other [4 countries and (or) localities]	(4)	(4)	2,030	(4)	(4)	51,600
Total	260	260	11,400,000	684	684	26,700,000
99.00%–99.99% silicon:						
Australia	798	794	1,820,000	1,340	1,330	3,000,000

TABLE 4—Continued  
U.S. IMPORTS OF FERROSILICON AND SILICON METAL IN MARCH 2021<sup>1,2</sup>

(Metric tons, unless otherwise specified)

Country or locality	Gross weight	Contained weight	Value	January–March <sup>3</sup>		
				Gross weight	Contained weight	Value
Metal—Continued:						
99.00%–99.99% silicon:						
Brazil	1,530	1,520	\$2,850,000	4,040	4,010	\$7,540,000
Canada	2,080	2,070	5,030,000	6,340	6,300	15,100,000
China	--	--	--	4	4	8,880
Germany	1	1	3,520	11	11	32,900
Malaysia	--	--	--	96	95	151,000
Norway	284	282	747,000	2,120	2,100	5,280,000
Thailand	452	449	1,040,000	652	647	1,410,000
United Kingdom	--	--	--	(4)	(4)	2,320
Vietnam	44	44	108,000	44	44	108,000
Total	5,200	5,160	11,600,000	14,700	14,600	32,600,000
Other silicon:						
Australia	--	--	--	1,120	1,080	2,270,000
Belgium	20	20	48,200	20	20	48,200
Brazil	722	713	1,650,000	1,280	1,260	2,830,000
China	18	17	29,600	20	19	33,900
France	--	--	--	68	65	118,000
Germany	--	--	--	149	145	565,000
Japan	31	30	33,800	31	30	33,800
Netherlands	--	--	--	38	37	108,000
Norway	766	733	1,230,000	1,780	1,710	2,740,000
Thailand	236	233	417,000	336	331	602,000
Other [2 countries and (or) localities]	--	--	--	2	2	8,420
Total	1,790	1,750	3,410,000	4,840	4,700	9,360,000
Total silicon metal	7,250	7,170	26,400,000	20,200	19,900	68,700,000

-- Zero.

<sup>1</sup>Presentation of monthly data is based on the quantities (gross weight) of the leading countries and (or) localities.

<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.