

Mineral Industry Surveys

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SILICON IN APRIL 2021

Domestic production of silicon materials was 33,500 metric tons (t) in April 2021, 5% less than March 2021 production and 3% less than April 2020 production (fig. 1, table 1). Net shipments were 27,600 t, 7% more than shipments in March 2021 and slightly more than shipments in April 2020. Total production and net shipments during the first 4 months of 2021 were 9% less and 10% less, respectively, than those during the same period in 2020 (table 1).

Ending stocks were 18,000 t in April 2021, 8% less than ending stocks in March 2021 and 17% less than those in April 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.

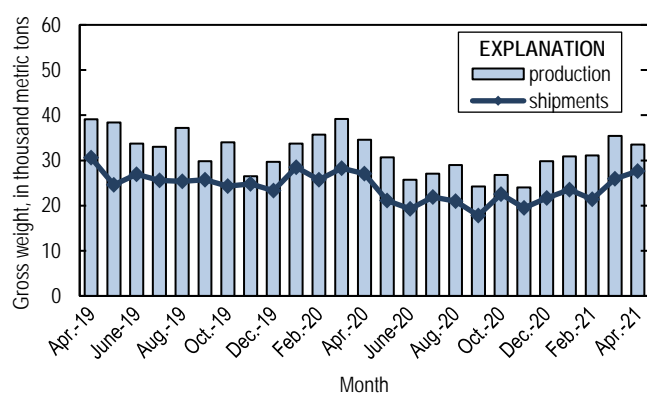


Figure 1. Monthly domestic production of total silicon materials and net shipments from April 2019 through April 2021 (may include revisions to previously published data).

Prices

The average U.S. spot price for silicon metal was 145.00 cents per pound in April 2021, 9% more than the average price in March 2021 and 49% more than the average price in April 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 April 2020. The average U.S. spot price for ferrosilicon, 75% grade, was 126.86 cents per pound, 5% more than the average price in March 2021 and 28% more than that in April 2020 (fig. 2).

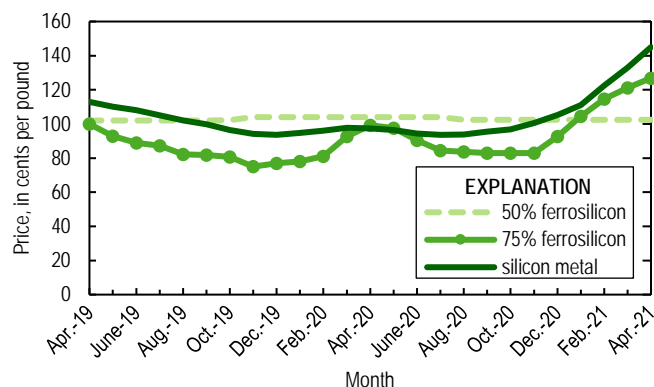


Figure 2. Average monthly spot prices for silicon metal and ferrosilicon 50% and 75% grades, contained silicon, from April 2019 through April 2021. Source: CRU Group and S&P Global Platts Metals Week.

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

(Metric tons, gross weight)

	Gross production ⁴	Net shipments	Producers' stocks, end of period
2020:			
January–December	360,000	275,000	18,600
January–April	143,000 ^r	110,000 ^r	21,800 ^r
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
April	33,500	27,600	18,000
January–April	131,000	98,400	18,000

^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 APRIL 2021

		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.	123.00	126.86	130.00	XX
Silicon metal, 553 grade ³	cents per pound	136.00	145.00	153.00	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 Metals Week, in U.S. warehouse, U.S. origin and imported material. Average price reported for all transactions during the month.

³S&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 APRIL 2021^{1, 2}

(Metric tons, unless otherwise specified)

Country or locality	Gross weight	Contained weight	Value	January–April ³		
				Gross weight	Contained weight	Value
Ferrosilicon:						
More than 55% silicon:						
Brazil	--	--	--	7	4	\$11,100
Canada	331	199	\$612,000	1,430	857	2,540,000
Colombia	--	--	--	2	1	9,360
India	3	2	4,180	3	2	4,180
Mexico	102	64	231,000	518	318	1,080,000
Poland	3	2	5,310	3	2	5,310
Total	439	266	852,000	1,960	1,180	3,650,000
Other ferrosilicon:						
Belgium	90	41	67,900	234	105	176,000
Brazil	--	--	--	248	124	494,000
Canada	19	9	52,900	72	36	222,000
Luxembourg	--	--	--	40	9	30,700
Mexico	296	146	583,000	1,220	599	2,380,000
Spain	20	10	31,300	80	40	125,000
Sweden	80	36	148,000	100	45	186,000
Switzerland	40	18	51,000	160	70	275,000
Turkey	80	36	142,000	220	100	398,000
United Kingdom	60	27	107,000	100	45	175,000
Other [2 countries and (or) localities]	20	9	27,600	40	19	59,800
Total	704	331	1,210,000	2,510	1,190	4,520,000
Total ferrosilicon	1,140	598	2,060,000	4,470	2,380	8,170,000
Metal:						
More than 99.99% silicon:						
China	463	463	6,360,000	1,120	1,120	21,900,000
Germany	381	381	6,000,000	1,810	1,810	43,400,000
Japan	2,330	2,330	35,500,000	7,220	7,220	125,000,000
Korea, Republic of	440	440	6,940,000	2,130	2,130	44,600,000
Malaysia	81	81	3,910,000	776	776	15,800,000
Netherlands	155	155	179,000	156	156	229,000
Norway	60	60	2,380,000	415	415	9,270,000
Singapore	223	223	4,750,000	572	572	11,900,000
Taiwan	1,590	1,590	7,660,000	3,210	3,210	19,900,000
Vietnam	579	579	8,850,000	1,590	1,590	19,400,000
Other [26 countries and (or) localities]	33	33	2,040,000	188	188	6,320,000
Total	6,330	6,330	84,600,000	19,200	19,200	317,000,000
99.00%–99.99% silicon:						
China	--	--	--	12	12	16,900
France	--	--	--	34	34	48,200
Germany	22	22	64,900	27	27	71,300
Ireland	2	2	2,770	2	2	2,770
Japan	2	2	2,570	6	6	7,870
Korea, Republic of	--	--	--	40	39	42,100
Mauritania	--	--	--	3	3	4,220
Mexico	1	1	4,720	4	4	11,000
Netherlands	73	72	78,200	73	72	78,200
Singapore	--	--	--	2	2	3,330
Total	99	98	153,000	202	200	286,000
Other silicon:						
Belgium	38	37	39,300	81	79	108,000
Canada	2	2	11,800	23	22	89,800
China	19	19	25,400	50	48	65,400
Germany	15	14	27,600	28	28	45,400
Japan	18	17	81,000	18	17	81,000
Mexico	(4)	(4)	3,200	11	10	55,600
Netherlands	--	--	--	61	59	80,000

See footnotes at end of table.

TABLE 3—Continued
U.S. EXPORTS OF FERROSILICON AND SILICON METAL IN APRIL 2021^{1,2}

(Metric tons, unless otherwise specified)

Country or locality	Gross weight	Contained weight	Value	January–April ³		
				Gross weight	Contained weight	Value
Metal—Continued:						
Other silicon:						
South Africa	--	--	--	24	24	\$44,700
Taiwan	--	--	--	57	54	230,000
United Kingdom	37	36	\$45,400	38	37	53,500
Other [9 countries and (or) localities]	(4)	(4)	4,100	15	14	49,500
Total	130	126	238,000	404	392	902,000
Total silicon metal	6,560	6,560	85,000,000	19,800	19,800	319,000,000

-- Zero.

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

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 APRIL 2021^{1,2}

(Metric tons, unless otherwise specified)

Country or locality	Gross weight	Contained weight	Value	January–April ³		
				Gross weight	Contained weight	Value
Ferrosilicon:						
55%–80% silicon, more than 3% Ca:						
China	40	22	\$92,400	100	65	\$221,000
France	--	--	--	126	76	352,000
South Africa	18	12	25,100	18	12	25,100
Total	58	34	118,000	244	152	597,000
55%–80% silicon, other:						
Brazil	1,250	946	1,410,000	6,260	4,740	6,720,000
Canada	1,050	767	2,190,000	4,140	3,020	8,710,000
France	102	68	242,000	389	270	950,000
Iceland	1,410	1,080	2,260,000	2,910	2,250	4,090,000
Kazakhstan	--	--	--	7,450	5,720	12,000,000
Malaysia	506	383	603,000	4,000	3,010	4,440,000
Norway	419	319	584,000	1,970	1,540	2,500,000
Paraguay	378	279	510,000	976	747	1,010,000
Russia	270	203	404,000	23,800	18,100	37,500,000
South Africa	292	214	507,000	713	522	1,250,000
Other [8 countries and (or) localities]	134	97	398,000	539	397	1,650,000
Total	5,810	4,350	9,110,000	53,100	40,300	80,900,000
80%–90% ferrosilicon, Germany	--	--	--	27	22	25,500
Magnesium ferrosilicon:						
Argentina	19	9	15,800	114	46	95,600
Brazil	3	1	25,900	416	189	520,000
Canada	1,050	485	1,840,000	3,890	1,790	6,700,000
China	25	13	53,600	34	17	70,100
Germany	15	3	44,900	15	3	44,900
India	104	48	179,000	164	75	285,000
Panama	--	--	--	49	22	36,700
South Africa	130	61	85,200	130	61	85,200
Total	1,350	619	2,240,000	4,810	2,210	7,840,000
Other ferrosilicon:						
Canada	600	207	734,000	2,430	823	3,120,000
China	--	--	--	24	11	32,600
France	2	1	12,600	4	2	25,000
Germany	--	--	--	2	1	10,400
Mexico	2	1	4,200	2	1	4,200
Russia	--	--	--	50	24	94,200
Slovakia	39	6	74,900	58	15	106,000
South Africa	34	3	49,800	34	3	49,800
Total	677	218	875,000	2,610	880	3,440,000
Total ferrosilicon	7,890	5,230	12,300,000	60,800	43,500	92,800,000
Metal:						
More than 99.99% silicon:						
Brazil	111	111	304,000	400	400	995,000
China	(4)	(4)	43,600	19	19	1,260,000
Denmark	1	1	215,000	1	1	392,000
Germany	57	57	4,490,000	198	198	15,900,000
Japan	3	3	809,000	36	36	3,280,000
Malaysia	--	--	--	86	86	994,000
Poland	(4)	(4)	2,790	(4)	(4)	2,790
Taiwan	42	42	3,630,000	155	155	13,200,000
Ukraine	(4)	(4)	26,200	1	1	121,000
United Kingdom	(4)	(4)	3,240	2	2	12,600
Other [6 countries and (or) localities]	(4)	(4)	5,660	1	1	88,100
Total	216	216	9,530,000	899	899	36,200,000
99.00%–99.99% silicon:						
Australia	192	191	491,000	1,530	1,530	3,500,000

See footnotes at end of table.

TABLE 4—Continued
U.S. IMPORTS OF FERROSILICON AND SILICON METAL IN APRIL 2021^{1,2}

(Metric tons, unless otherwise specified)

Country or locality	Gross weight	Contained weight	Value	January–April ³		
				Gross weight	Contained weight	Value
Metal—Continued:						
99.00%–99.99% silicon:						
Brazil	1,820	1,800	\$3,780,000	5,860	5,820	\$11,300,000
Canada	2,920	2,900	7,030,000	9,260	9,200	22,100,000
China	--	--	--	4	4	8,880
Germany	--	--	--	11	11	32,900
Malaysia	--	--	--	96	95	151,000
Norway	768	763	1,890,000	2,890	2,870	7,170,000
Thailand	244	242	585,000	896	889	1,990,000
United Kingdom	--	--	--	(4)	(4)	2,320
Vietnam	--	--	--	44	44	108,000
Total	5,940	5,900	13,800,000	20,600	20,500	46,400,000
Other silicon:						
Australia	--	--	--	1,120	1,080	2,270,000
Belgium	4	3	9,690	24	23	57,900
Brazil	719	710	1,630,000	2,000	1,970	4,460,000
Canada	47	45	119,000	48	46	122,000
France	--	--	--	68	65	118,000
Germany	75	72	105,000	224	217	670,000
Japan	29	28	38,000	60	57	71,700
Netherlands	44	43	127,000	83	79	236,000
Norway	563	549	1,020,000	2,350	2,260	3,760,000
Thailand	--	--	--	336	331	602,000
Other [2 countries and (or) localities]	--	--	--	21	20	39,300
Total	1,480	1,450	3,050,000	6,320	6,150	12,400,000
Total silicon metal	7,640	7,570	26,300,000	27,800	27,500	95,000,000

-- Zero.

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Source: U.S. Census Bureau.