

Mineral Industry Surveys

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SILICON IN MARCH 2022

Domestic production of silicon materials was 38,600 metric tons (t) in March 2022, 7% more than February 2022 production and 8% more than March 2021 production (fig. 1, table 1). Net shipments were 26,200 t, 6% more than shipments in February 2022 and essentially unchanged from those in March 2021. Total production and net shipments during the first 3 months of 2022 were 15% more and 8% more, respectively, than those during the same period in 2021 (fig. 1; table 1). Ending stocks were 20,400 t, 14% more than those in February 2022 and 25% more than those in March 2021.

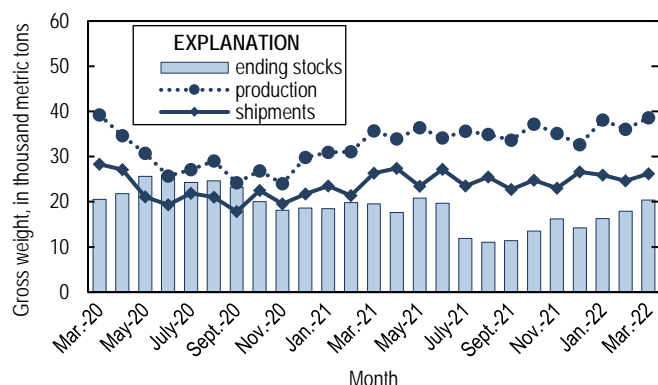


Figure 1. Monthly domestic production of total silicon materials, net shipments, and ending stocks from March 2020 through March 2022 (may include revisions to previously published data).

In March 2022, the leading destinations for silicon metal, more than 99.99% silicon trade category, were Vietnam, Japan, and Germany in descending order of quantity (table 3). The leading import sources for silicon metal, 99.00%–99.99% silicon trade category, were Brazil, Canada, and Norway, in descending order of quantity (table 4). The leading import sources for ferrosilicon, 55%–80% grade, were Russia, Brazil, and China, in descending order of quantity.

Prices

The average U.S. spot price for silicon metal was 431.50 cents per pound in March 2022, 3% less than the average price in February 2022 and more than three times the average price in March 2021. The average U.S. spot price for ferrosilicon, 50% grade, was 341.00 cents per pound, unchanged from the average price in February 2022 and more than three times the average price in March 2021. The average U.S. spot price for ferrosilicon, 75% grade, was 354.50 cents per pound, 8% more than the average price in February 2022 and more than twice that in March 2021 (fig. 2).

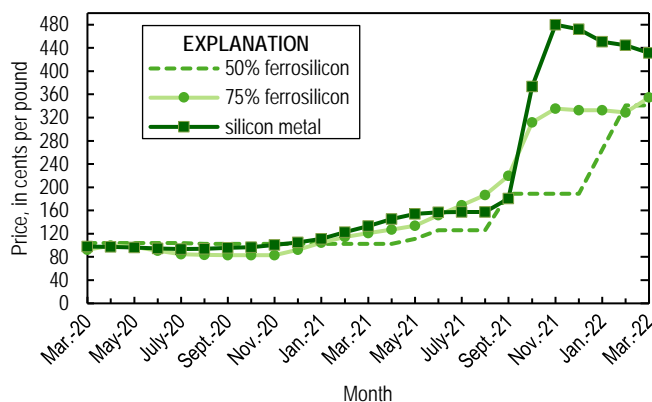


Figure 2. Average monthly spot prices for silicon metal and ferrosilicon 50% and 75% grades, contained silicon, from March 2020 through March 2022. Source: CRU Group and S&P Global Platts Metals Week.

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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
2021:			
January–December	411,000	295,000	14,200
January–March	97,700 ^r	71,200 ^r	19,500
March	35,700	26,300	19,500
April	33,900	27,400	17,600
May	36,400	23,400	20,800
June	34,100	27,200	19,700
July	35,600	23,500	11,900 ⁵
August	34,900	25,500	11,000
September	33,600	22,700	11,400
October	37,200	24,800	13,500
November	35,100	23,000	16,200
December	32,600	26,600	14,200
2022:			
January	38,100	25,900	16,300
February	36,000 ^r	24,600 ^r	17,900 ^r
March	38,600	26,200	20,400
January–March	113,000	76,600	20,400

^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.

⁵Decreased end of period stocks attributable to domestic physical inventory adjustment.

TABLE 2
PRICES FOR FERROSILICON AND SILICON METAL IN MARCH 2022

		Low	Average	High	Average low, mid, and high
Ferrosilicon:					
50% ferrosilicon ¹	cents per pound of contained silicon	340.00	XX	342.00	340.00–341.00–342.00
75% ferrosilicon ²	do.	330.00	354.50	400.00	XX
Silicon metal, 553 grade ³	cents per pound	415.00	431.50	460.00	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 MARCH 2022^{1,2}

(Metric tons, unless otherwise specified)

Country or locality	Gross weight	Contained weight	Value	January–March ³		
				Gross weight	Contained weight	Value
Ferrosilicon:						
More than 55% silicon:						
Canada	545	327	\$940,000	2,970	1,780	\$4,960,000
France	17	10	27,000	17	10	27,000
Germany	52	31	81,000	104	62	162,000
Mexico	46	28	76,600	357	214	604,000
Singapore	--	--	--	7	4	10,500
Total	661	396	1,120,000	3,460	2,070	5,760,000
Other ferrosilicon:						
Belgium	--	--	--	72	29	72,000
Canada	468	86	589,000	879	166	1,140,000
Costa Rica	6	3	8,010	6	3	8,010
France	54	23	54,000	54	23	54,000
Ghana	1	(4)	5,250	1	(4)	5,250
Malaysia	--	--	--	15	7	10,000
Mexico	100	45	276,000	841	319	1,920,000
Turkey	40	18	101,000	40	18	101,000
United Kingdom	58	29	244,000	97	48	406,000
Total	728	204	1,280,000	2,000	614	3,720,000
Total ferrosilicon	1,390	600	2,400,000	5,460	2,690	9,480,000
Metal:						
More than 99.99% silicon:						
China	446	446	15,000,000	962	962	32,100,000
Denmark	7	7	412,000	90	90	5,090,000
Dominican Republic	14	14	91,100	30	30	190,000
Germany	651	651	20,500,000	2,230	2,230	64,400,000
Japan	1,100	1,100	50,200,000	2,300	2,300	108,000,000
Korea, Republic of	8	8	1,050,000	285	285	12,400,000
Malaysia	192	192	8,860,000	408	408	20,700,000
Singapore	82	82	2,000,000	402	402	9,270,000
Taiwan	286	286	6,750,000	1,200	1,200	21,200,000
Vietnam	1,170	1,170	41,500,000	2,470	2,470	85,600,000
Other [17 countries and (or) localities]	15	15	786,000	61	61	2,980,000
Total	3,970	3,970	147,000,000	10,400	10,400	362,000,000
99.00%–99.99% silicon:						
Belgium	--	--	--	82	81	220,000
Czechia	--	--	--	57	57	169,000
Germany	6	6	9,000	184	179	222,000
Singapore	2	2	3,320	2	2	3,320
United Kingdom	--	--	--	74	73	162,000
Total	9	9	12,300	399	392	777,000
Other silicon:						
Belgium	20	20	26,800	23	22	40,700
Canada	31	30	37,400	61	59	102,000
China	11	11	14,700	36	35	47,300
Germany	20	20	26,800	48	47	63,700
Mexico	28	28	162,000	45	44	215,000
Netherlands	95	93	106,000	143	139	156,000
South Africa	11	11	14,900	23	22	34,300
Sri Lanka	2	2	2,860	2	2	2,860
Trinidad and Tobago	24	23	44,200	24	23	44,200
United Kingdom	(4)	(4)	2,600	(4)	(4)	2,600
Total	244	237	438,000	404	393	710,000
Total silicon metal	4,220	4,210	148,000,000	11,200	11,200	363,000,000

-- 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 MARCH 2022^{1,2}

(Metric tons, unless otherwise specified)

Country or locality	Gross weight	Contained weight	Value	January–March ³		
				Gross weight	Contained weight	Value
Ferrosilicon:						
55%–80% silicon, more than 3% Ca:						
China	288	72	\$418,000	288	72	\$418,000
France	54	32	190,000	143	85	456,000
Norway	--	--	--	24	17	75,100
South Africa	27	27	89,900	153	111	425,000
Total	369	131	697,000	608	285	1,370,000
55%–80% silicon, other:						
Brazil	3,110	2,330	7,700,000	5,910	4,430	14,100,000
Canada	1,270	911	4,860,000	3,350	2,400	11,900,000
China	1,750	1,330	3,580,000	2,230	1,700	4,840,000
Egypt	--	--	--	323	232	653,000
Iceland	914	695	3,480,000	2,490	1,900	9,380,000
Kazakhstan	--	--	--	1,320	1,010	7,130,000
Malaysia	--	--	--	2,780	2,060	5,840,000
Norway	545	376	1,930,000	1,210	876	3,800,000
Russia	12,800	9,760	64,900,000	23,400	17,800	120,000,000
South Africa	144	100	411,000	905	643	2,160,000
Other [7 countries and (or) localities]	470	345	1,150,000	788	575	1,890,000
Total	21,000	15,800	88,000,000	44,700	33,700	181,000,000
Magnesium ferrosilicon:						
Brazil	535	269	2,040,000	948	453	2,930,000
Canada	1,400	643	4,700,000	3,610	1,660	11,200,000
China	--	--	--	4	1	12,600
Germany	8	4	13,800	28	13	52,600
India	141	66	319,000	601	274	1,870,000
Russia	34	16	91,100	93	44	225,000
Slovakia	87	39	113,000	87	39	113,000
Total	2,200	1,040	7,280,000	5,370	2,480	16,400,000
Other ferrosilicon:						
Brazil	--	--	--	208	91	318,000
Canada	891	296	1,760,000	2,030	692	3,750,000
Germany	--	--	--	6	2	32,300
Norway	--	--	--	18	8	18,000
Slovakia	68	30	128,000	101	44	186,000
Total	959	326	1,890,000	2,360	838	4,300,000
Total ferrosilicon	24,600	17,300	97,800,000	53,100	37,300	203,000,000
Metal:						
More than 99.99% silicon:						
Belgium	(4)	(4)	14,000	(4)	(4)	14,000
Brazil	169	169	526,000	764	764	2,100,000
China	2	2	989,000	22	22	2,530,000
Denmark	--	--	--	(4)	(4)	91,800
Germany	20	20	4,400,000	135	135	14,700,000
Israel	20	20	70,900	20	20	70,900
Japan	29	29	1,560,000	39	39	3,220,000
Taiwan	46	46	5,570,000	108	108	13,700,000
Thailand	72	72	466,000	72	72	466,000
United Kingdom	1	1	12,700	1	1	12,700
Other [3 countries and (or) localities]	(4)	(4)	34,600	(4)	(4)	123,000
Total	359	359	13,600,000	1,160	1,160	37,000,000
99.00%–99.99% silicon:						
Australia	--	--	--	228	226	1,890,000

See footnotes at end of table.

TABLE 4—Continued
U.S. IMPORTS OF FERROSILICON AND SILICON METAL IN MARCH 2022^{1,2}

(Metric tons, unless otherwise specified)

Country or locality	Gross weight	Contained weight	Value	January–March ³		
				Gross weight	Contained weight	Value
Metal—Continued:						
99.00%–99.99% silicon:						
Belgium	--	--	--	19	19	\$46,700
Brazil	2,840	2,810	\$9,040,000	5,910	5,860	20,000,000
Canada	1,990	1,970	4,760,000	5,090	5,050	12,200,000
China	--	--	--	2	2	11,500
Germany	--	--	--	175	174	341,000
Malaysia	--	--	--	200	199	659,000
Norway	264	262	690,000	1,060	1,050	2,850,000
Thailand	197	195	1,560,000	873	866	3,960,000
United Kingdom	20	20	60,000	20	20	60,000
Total	5,300	5,260	16,100,000	13,600	13,500	42,000,000
Other silicon:						
Australia	357	345	1,020,000	2,270	2,180	6,230,000
Brazil	2,460	2,310	4,310,000	4,920	4,510	9,220,000
Canada	2,880	2,590	12,300,000	5,270	4,630	21,600,000
China	(4)	(4)	2,850	38	36	45,800
Netherlands	216	207	235,000	363	342	422,000
Norway	368	359	2,280,000	1,380	1,250	4,140,000
Slovakia	180	178	750,000	490	475	1,090,000
Spain	31	30	33,600	31	30	33,600
Thailand	205	199	764,000	595	576	1,770,000
United Kingdom	20	20	60,000	170	163	223,000
Other [3 countries and (or) localities]	17	16	61,900	17	16	67,100
Total	6,740	6,250	21,800,000	15,500	14,200	44,800,000
Total silicon metal	12,400	11,900	51,500,000	30,300	28,800	124,000,000

-- Zero.

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⁴Less than ½ unit.

Source: U.S. Census Bureau.