

# Mineral Industry Surveys

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## SILICON IN JUNE 2022

Domestic production of silicon materials was 33,400 metric tons (t) in June 2022, 3% less than May 2022 production and slightly less than June 2021 production (fig. 1, table 1). Net shipments were 24,000 t, unchanged from those in May 2022 and 12% less than those in June 2021. During the first 6 months of 2022, total production was 5% more than during the same period in 2021 and net shipments were essentially unchanged from those during the same period in 2021 (fig. 1; table 1). Ending stocks were 23,100 t, 9% more than those in May 2022 and 17% more than those in June 2021.

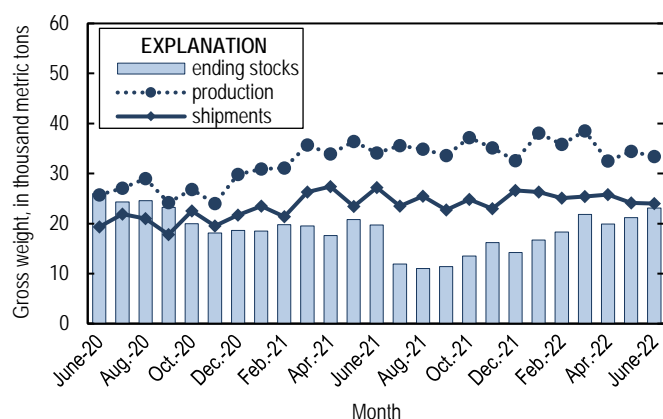


Figure 1. Monthly domestic production of total silicon materials, net shipments, and ending stocks from June 2020 through June 2022 (may include revisions to previously published data).

In June 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 Canada, Brazil, and Norway, in descending order of quantity (table 4). The leading import sources for ferrosilicon, 55%–80% grade, were Russia, China, and Brazil, in descending order of quantity on a contained weight basis.

## Prices

The average U.S. spot price for silicon metal was 386.00 cents per pound in June 2022, 4% less than the average price in May 2022 and more than double the average price in June 2021. The average U.S. spot price for ferrosilicon, 75% grade, was 344.50 cents per pound, 8% less than the average price in May 2022 and more than double the average price in June 2021 (fig. 2). The average spot price for ferrosilicon, 50% grade, has not been available since March 2022.

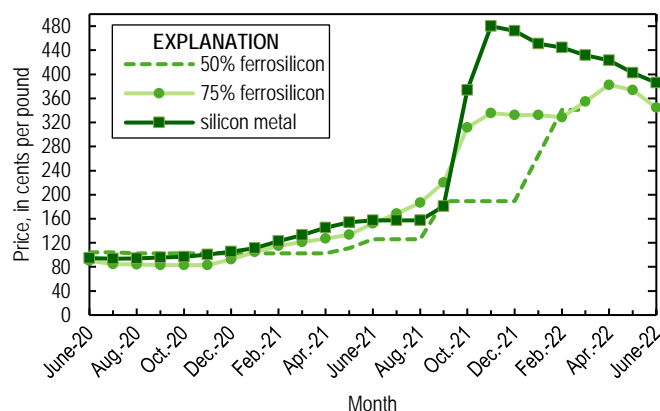


Figure 2. Average monthly spot prices for silicon metal and ferrosilicon 50% and 75% grades, contained silicon, from June 2020 through June 2022. The average spot price for ferrosilicon, 50% grade, has not been available since March 2022. Source: CRU Group and S&P Global Platts Metals Week.

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

(Metric tons, gross weight)

	Gross production <sup>4</sup>	Net shipments	Producers' stocks, end of period
2021:			
January–December	411,000	295,000	14,200
January–June	202,000	149,000	19,700
June	34,100	27,200	19,700
July	35,600	23,500	11,900 <sup>5</sup>
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	26,300 <sup>r</sup>	16,700 <sup>r</sup>
February	35,800 <sup>r</sup>	25,100 <sup>r</sup>	18,300 <sup>r</sup>
March	38,500 <sup>r</sup>	25,400 <sup>r</sup>	21,800 <sup>r</sup>
April	32,500 <sup>r</sup>	25,800 <sup>r</sup>	19,900 <sup>r</sup>
May	34,400 <sup>r</sup>	24,100 <sup>r</sup>	21,200 <sup>r</sup>
June	33,400	24,000	23,100
January–June	213,000	151,000	23,100

<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.

<sup>5</sup>Decreased end of period stocks attributable to domestic physical inventory adjustment.

TABLE 2  
PRICES FOR FERROSILICON AND SILICON METAL IN JUNE 2022

		Low	Average	High	Average low, mid, and high
Ferrosilicon:					
50% ferrosilicon <sup>1</sup>	cents per pound of contained silicon	NA	XX	NA	NA
75% ferrosilicon <sup>2</sup>	do.	340.00	344.50	370.00	XX
Silicon metal, 553 grade <sup>3</sup>	cents per pound	375.00	386.00	405.00	XX

do. Ditto. NA Not available. 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 JUNE 2022<sup>1,2</sup>

(Metric tons, unless otherwise specified)

Country or locality	Gross weight	Contained weight	Value	January–June <sup>3</sup>		
				Gross weight	Contained weight	Value
Ferrosilicon:						
More than 55% silicon:						
Brazil	--	--	--	15	9	\$24,000
Canada	1,000	602	\$1,760,000	4,900	2,940	8,410,000
France	--	--	--	17	10	27,000
Germany	--	--	--	152	91	237,000
Mexico	107	64	167,000	921	552	1,490,000
Singapore	--	--	--	7	4	10,500
United Arab Emirates	2	1	3,250	2	1	3,250
Total	1,110	667	1,930,000	6,010	3,610	10,200,000
Other ferrosilicon:						
Belgium	--	--	--	72	29	72,000
Brazil	116	58	190,000	116	58	190,000
Canada	111	23	159,000	1,170	221	1,540,000
Dominican Republic	--	--	--	63	9	78,800
France	--	--	--	74	32	91,500
Ghana	--	--	--	12	6	48,400
Malaysia	--	--	--	15	7	10,000
Mexico	160	33	360,000	1,400	521	3,380,000
Turkey	--	--	--	40	18	101,000
United Kingdom	--	--	--	97	48	406,000
Other [2 countries and (or) localities]	--	--	--	10	5	17,400
Total	387	114	709,000	3,080	956	5,930,000
Total ferrosilicon	1,500	781	2,640,000	9,090	4,560	16,100,000
Metal:						
More than 99.99% silicon:						
China	288	288	8,210,000	1,760	1,760	57,300,000
Germany	373	373	13,800,000	3,310	3,310	102,000,000
Japan	695	695	28,000,000	4,980	4,980	214,000,000
Korea, Republic of	56	56	1,830,000	425	425	18,000,000
Malaysia	252	252	10,600,000	1,610	1,610	66,100,000
Singapore	153	153	4,060,000	975	975	23,700,000
Taiwan	260	260	4,550,000	2,790	2,790	56,800,000
Thailand	(4)	(4)	48,400	234	234	9,160,000
Turkey	180	180	6,090,000	305	305	9,970,000
Vietnam	1,180	1,180	40,400,000	6,370	6,370	220,000,000
Other [29 countries and (or) localities]	139	139	4,360,000	400	400	16,300,000
Total	3,580	3,580	122,000,000	23,200	23,200	794,000,000
99.00%–99.99% silicon:						
Belgium	--	--	--	124	121	344,000
Czechia	--	--	--	57	57	169,000
Germany	--	--	--	258	253	310,000
Mexico	1	1	9,630	1	1	9,630
Singapore	--	--	--	2	2	3,320
United Kingdom	--	--	--	74	73	162,000
Total	1	1	9,630	516	508	998,000
Other silicon:						
Belgium	--	--	--	72	70	178,000
Canada	2	2	3,240	120	117	254,000
China	15	14	19,600	57	55	75,000
Germany	--	--	--	70	68	200,000
Mexico	64	63	147,000	234	228	1,260,000
Netherlands	--	--	--	203	197	218,000
South Africa	8	8	11,000	56	54	77,700
Sweden	--	--	--	2	2	5,450
Trinidad and Tobago	(4)	(4)	2,600	29	28	53,100
United Kingdom	(4)	(4)	9,580	3	3	15,500
Other [4 countries and (or) localities]	1	1	10,800	4	4	20,600
Total	92	89	203,000	851	827	2,360,000
Total silicon metal	3,670	3,670	122,000,000	24,500	24,500	797,000,000

-- 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.

<sup>4</sup>Less than ½ unit.

Source: U.S. Census Bureau.

TABLE 4  
U.S. IMPORTS OF FERROSILICON AND SILICON METAL IN JUNE 2022<sup>1, 2</sup>

(Metric tons, unless otherwise specified)

Country or locality	Gross weight	Contained weight	Value	January–June <sup>3</sup>		
				Gross weight	Contained weight	Value
Ferrosilicon:						
55%–80% silicon, more than 3% Ca:						
China	--	--	--	548	91	\$795,000
France	--	--	--	178	106	586,000
Mexico	2	2	\$6,660	2	2	6,660
Norway	--	--	--	276	210	1,350,000
South Africa	27	27	101,000	198	149	567,000
Total	29	29	108,000	1,200	557	3,310,000
55%–80% silicon, other:						
Brazil	1,830	1,360	4,670,000	11,000	8,210	27,400,000
Canada	1,110	800	4,530,000	6,600	4,730	24,800,000
China	8,240	6,200	19,800,000	17,600	13,300	39,200,000
Iceland	582	444	2,940,000	3,570	2,730	14,400,000
India	126	93	411,000	710	518	2,000,000
Kazakhstan	108	82	627,000	3,050	2,330	16,600,000
Malaysia	135	100	261,000	7,850	5,880	28,000,000
Norway	421	320	2,110,000	2,590	1,930	10,000,000
Russia	21,100	16,100	91,100,000	44,500	33,900	211,000,000
South Africa	71	50	187,000	1,440	1,020	3,630,000
Other [9 countries and (or) localities]	387	281	1,210,000	2,140	1,550	5,450,000
Total	34,100	25,800	128,000,000	101,000	76,100	382,000,000
More than 90% ferrosilicon, India	--	--	--	2	2	4,530
Magnesium ferrosilicon:						
Brazil	795	359	1,530,000	2,710	1,250	6,200,000
Canada	1,960	898	6,740,000	8,890	4,080	29,200,000
China	1,460	683	3,720,000	1,640	764	4,020,000
Germany	--	--	--	137	62	218,000
India	716	325	1,470,000	1,810	826	4,680,000
Russia	--	--	--	93	44	225,000
Slovakia	--	--	--	87	39	113,000
Thailand	533	241	1,140,000	533	241	1,140,000
Total	5,460	2,510	14,600,000	15,900	7,310	45,800,000
Other ferrosilicon:						
Brazil	--	--	--	208	91	318,000
Canada	754	229	1,330,000	4,070	1,320	7,340,000
China	25	12	146,000	100	24	194,000
Germany	--	--	--	9	4	39,100
Norway	--	--	--	18	8	18,000
Paraguay	126	64	267,000	136	69	310,000
Slovakia	33	15	58,600	332	146	603,000
Spain	51	22	98,500	51	22	98,500
Turkey	--	--	--	1	(4)	3,390
United Kingdom	--	--	--	6	3	13,600
Total	989	342	1,900,000	4,930	1,690	8,940,000
Total ferrosilicon	40,600	28,700	144,000,000	123,000	85,600	440,000,000
Metal:						
More than 99.99% silicon:						
Brazil	182	182	607,000	1,140	1,140	3,390,000
China	152	152	1,750,000	183	183	5,920,000
Germany	26	26	3,770,000	372	372	29,100,000
Israel	--	--	--	20	20	70,900
Japan	3	3	683,000	49	49	5,730,000
Norway	20	20	111,000	67	67	482,000
Taiwan	77	77	10,500,000	308	308	39,900,000
Thailand	--	--	--	72	72	466,000
Turkey	19	19	93,400	19	19	93,400
United Kingdom	--	--	--	1	1	18,100
Other [10 countries and (or) localities]	(4)	(4)	30,100	3	3	369,000
Total	478	478	17,500,000	2,240	2,240	85,500,000
99.00%–99.99% silicon:						
Australia	60	59	336,000	363	359	2,590,000

See footnotes at end of table.

TABLE 4—Continued  
U.S. IMPORTS OF FERROSILICON AND SILICON METAL IN JUNE 2022<sup>1</sup>, 2

(Metric tons, unless otherwise specified)

Country or locality	Gross weight	Contained weight	Value	January–June <sup>3</sup>		
				Gross weight	Contained weight	Value
Metal—Continued:						
99.00%–99.99% silicon:						
Brazil	453	450	\$2,800,000	8,070	8,000	\$31,400,000
Canada	503	500	5,020,000	6,940	6,890	23,900,000
Germany	--	--	--	485	483	1,110,000
Malaysia	49	48	194,000	249	247	853,000
Norway	312	310	283,000	2,420	2,410	6,250,000
Slovakia	120	119	583,000	290	288	1,390,000
Thailand	172	171	745,000	1,270	1,260	6,210,000
Turkey	197	197	972,000	250	249	1,230,000
United Kingdom	--	--	--	20	20	60,000
Other [2 countries and (or) localities]	--	--	--	20	20	58,200
Total	1,870	1,850	10,900,000	20,400	20,200	75,000,000
Other silicon:						
Australia	--	--	--	2,750	2,660	8,430,000
Belgium	20	10	124,000	258	238	383,000
Brazil	521	509	3,910,000	18,400	17,400	27,800,000
Canada	2,380	2,350	22,500,000	16,400	14,900	81,200,000
Malaysia	--	--	--	264	260	174,000
Netherlands	30	15	174,000	753	703	988,000
Norway	498	489	3,630,000	3,590	3,410	15,000,000
Slovakia	140	137	482,000	1,480	1,440	3,360,000
Thailand	603	585	4,550,000	3,710	3,580	10,700,000
United Kingdom	--	--	--	170	163	223,000
Other [10 countries and (or) localities]	45	44	167,000	285	275	494,000
Total	4,230	4,140	35,500,000	48,100	45,000	149,000,000
Total silicon metal	6,580	6,480	63,900,000	70,700	67,400	309,000,000

-- 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.

<sup>4</sup>Less than ½ unit.

Source: U.S. Census Bureau.