

# Mineral Industry Surveys

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## SILICON IN MAY 2022

Domestic production of silicon materials was 34,600 metric tons (t) in May 2022, 5% more than April 2022 production and 5% less than May 2021 production (fig. 1, table 1). Net shipments were 23,500 t, 8% less than shipments in April 2022 and essentially unchanged from those in May 2021. Total production and net shipments during the first 5 months of 2022 were 7% more and 3% more, respectively, than those during the same period in 2021 (fig. 1; table 1). Ending stocks were 20,300 t, 8% more than those in April 2022 and 3% less than those in May 2021.

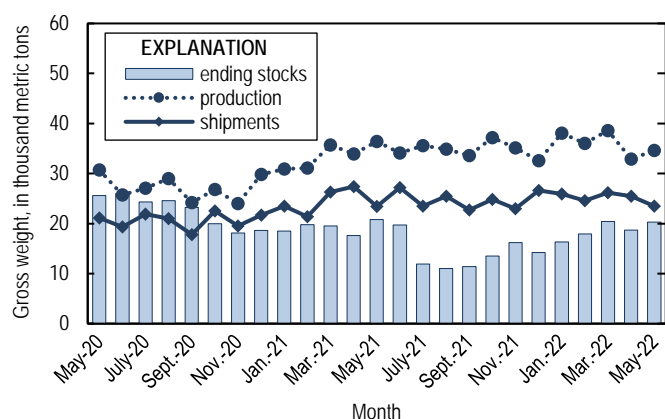


Figure 1. Monthly domestic production of total silicon materials, net shipments, and ending stocks from May 2020 through May 2022 (may include revisions to previously published data).

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

## Prices

The average U.S. spot price for silicon metal was 402.50 cents per pound in May 2022, 5% less than the average price in April 2022 and more than double the average price in May 2021. The average U.S. spot price for ferrosilicon, 75% grade, was 373.75 cents per pound, slightly more than the average price in April 2022 and more than double the average price in May 2021 (fig. 2). The average spot price for ferrosilicon, 50% grade, was not available for April or May 2022.

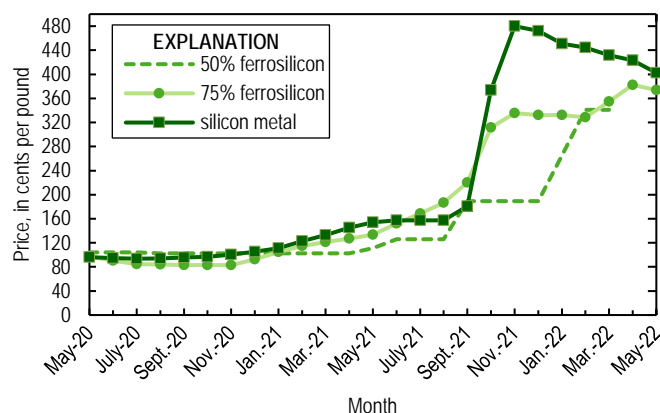


Figure 2. Average monthly spot prices for silicon metal and ferrosilicon 50% and 75% grades, contained silicon, from May 2020 through May 2022. The average spot prices for 50% ferrosilicon were not available for April or May 2022. Source: CRU Group and S&P Global Platts Metals Week.

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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–May	168,000	122,000	20,800
May	36,400	23,400	20,800
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	25,900	16,300
February	36,000	24,600	17,900
March	38,600	26,200	20,400
April	32,900	25,500	18,700
May	34,600	23,500	20,300
January–May	180,000	126,000	20,300

<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 MAY 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.	360.00	373.75	400.00	XX
Silicon metal, 553 grade <sup>3</sup>	cents per pound	395.00	402.50	430.00	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 MAY 2022<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
Ferrosilicon:						
More than 55% silicon:						
Brazil	15	9	\$24,000	15	9	\$24,000
Canada	415	249	766,000	3,900	2,340	6,650,000
France	--	--	--	17	10	27,000
Germany	48	29	75,000	152	91	237,000
Mexico	172	103	274,000	814	488	1,330,000
Singapore	--	--	--	7	4	10,500
Total	650	390	1,140,000	4,900	2,940	8,280,000
Other ferrosilicon:						
Belgium	--	--	--	72	29	72,000
Canada	108	19	136,000	1,060	198	1,380,000
Costa Rica	--	--	--	6	3	8,010
Dominican Republic	--	--	--	63	9	78,800
France	--	--	--	74	32	91,500
Ghana	--	--	--	12	6	48,400
Malaysia	--	--	--	15	7	10,000
Mexico	141	67	323,000	1,240	488	3,020,000
Turkey	--	--	--	40	18	101,000
United Kingdom	--	--	--	97	48	406,000
Other [1 country or locality]	4	2	9,350	4	2	9,350
Total	252	88	468,000	2,690	842	5,220,000
Total ferrosilicon	902	478	1,610,000	7,590	3,780	13,500,000
Metal:						
More than 99.99% silicon:						
China	284	284	7,860,000	1,480	1,480	49,100,000
Denmark	464	464	15,700,000	2,930	2,930	87,800,000
Germany	931	931	39,500,000	4,280	4,280	186,000,000
Japan	26	26	1,080,000	368	368	16,200,000
Korea, Republic of	367	367	12,500,000	1,350	1,350	55,500,000
Malaysia	209	209	5,200,000	822	822	19,700,000
Singapore	832	832	19,400,000	2,530	2,530	52,300,000
Taiwan	234	234	8,830,000	234	234	9,110,000
Turkey	60	60	2,010,000	125	125	3,880,000
Vietnam	1,650	1,650	56,800,000	5,180	5,180	180,000,000
Other [25 countries and (or) localities]	33	33	1,770,000	261	261	11,900,000
Total	5,090	5,090	171,000,000	19,600	19,600	672,000,000
99.00%–99.99% silicon:						
Belgium	42	40	124,000	124	121	344,000
Czechia	--	--	--	57	57	169,000
Germany	75	74	87,700	258	253	310,000
Singapore	--	--	--	2	2	3,320
United Kingdom	--	--	--	74	73	162,000
Total	117	114	212,000	515	507	988,000
Other silicon:						
Belgium	11	11	14,600	72	70	178,000
Canada	52	50	97,600	118	114	251,000
China	--	--	--	42	41	55,400
Germany	9	9	11,800	70	68	200,000
Mexico	121	118	880,000	170	165	1,120,000
Netherlands	2	2	3,000	203	197	218,000
South Africa	24	24	32,300	48	46	66,700
Sweden	2	2	2,670	2	2	5,450
Trinidad and Tobago	--	--	--	29	28	50,500
United Kingdom	--	--	--	3	3	5,970
Other [3 countries and (or) localities]	(4)	(4)	2,890	3	3	9,850
Total	222	216	1,050,000	759	737	2,160,000
Total silicon metal	5,430	5,420	172,000,000	20,800	20,800	675,000,000

-- 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 MAY 2022<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
Ferrosilicon:						
55%–80% silicon, more than 3% Ca:						
China	260	19	\$377,000	548	91	\$795,000
France	17	11	70,600	178	106	586,000
Norway	--	--	--	276	210	1,350,000
South Africa	--	--	--	171	122	466,000
Total	277	29	448,000	1,170	529	3,200,000
55%–80% silicon, other:						
Brazil	1,660	1,240	4,580,000	9,150	6,850	22,700,000
Canada	1,080	775	4,430,000	5,490	3,930	20,300,000
China	6,800	5,160	14,000,000	9,310	7,070	19,400,000
Iceland	166	127	840,000	2,990	2,280	11,400,000
India	126	90	377,000	584	425	1,590,000
Kazakhstan	--	--	--	2,940	2,250	16,000,000
Malaysia	134	99	316,000	7,710	5,780	27,700,000
Norway	591	451	2,430,000	2,170	1,610	7,930,000
Russia	--	--	--	23,400	17,800	120,000,000
South Africa	54	39	173,000	1,370	966	3,440,000
Other [9 countries and (or) localities]	356	259	925,000	1,750	1,270	4,230,000
Total	11,000	8,240	28,100,000	66,900	50,300	254,000,000
More than 90% ferrosilicon, India	2	2	4,530	2	2	4,530
Magnesium ferrosilicon:						
Brazil	413	187	786,000	1,910	889	4,670,000
Canada	1,800	827	6,040,000	6,930	3,190	22,400,000
China	177	80	296,000	180	81	309,000
Germany	69	31	85,100	137	62	218,000
India	289	132	699,000	1,100	500	3,220,000
Russia	--	--	--	93	44	225,000
Slovakia	--	--	--	87	39	113,000
Total	2,740	1,260	7,910,000	10,400	4,800	31,200,000
Other ferrosilicon:						
Brazil	--	--	--	208	91	318,000
Canada	481	166	893,000	3,310	1,090	6,010,000
China	--	--	--	75	12	47,600
Germany	--	--	--	9	4	39,100
Norway	--	--	--	18	8	18,000
Paraguay	--	--	--	10	5	42,900
Slovakia	154	68	300,000	299	132	545,000
Turkey	--	--	--	1	(4)	3,390
United Kingdom	6	3	13,600	6	3	13,600
Total	641	237	1,210,000	3,940	1,350	7,040,000
Total ferrosilicon	14,600	9,770	37,600,000	82,400	56,900	296,000,000
Metal:						
More than 99.99% silicon:						
Brazil	109	109	367,000	961	961	2,780,000
China	3	3	222,000	31	31	4,170,000
Germany	149	149	7,120,000	347	347	25,300,000
Israel	--	--	--	20	20	70,900
Japan	4	4	825,000	47	47	5,050,000
Norway	47	47	371,000	47	47	371,000
Spain	1	1	4,700	1	1	4,700
Taiwan	56	56	7,410,000	231	231	29,400,000
Thailand	--	--	--	72	72	466,000
United Kingdom	1	1	5,430	1	1	18,100
Other [8 countries and (or) localities]	(4)	(4)	49,300	2	2	334,000
Total	369	369	16,400,000	1,760	1,760	68,000,000
99.00%–99.99% silicon:						
Australia	75	74	368,000	303	300	2,260,000

See footnotes at end of table.

TABLE 4—Continued  
U.S. IMPORTS OF FERROSILICON AND SILICON METAL IN MAY 2021, 2

(Metric tons, unless otherwise specified)

Country or locality	Gross weight	Contained weight	Value	Gross weight	January–May <sup>3</sup> Contained weight	Value
Metal—Continued:						
99.00%–99.99% silicon:						
Brazil	1,360	1,350	\$7,760,000	7,620	7,550	\$28,600,000
Canada	526	523	4,190,000	6,440	6,390	18,800,000
Germany	310	309	767,000	485	483	1,110,000
Malaysia	--	--	--	200	199	659,000
Norway	792	787	718,000	2,110	2,100	5,970,000
Slovakia	134	133	643,000	170	169	808,000
Thailand	144	143	900,000	1,090	1,080	5,470,000
Turkey	--	--	--	53	52	260,000
United Kingdom	--	--	--	20	20	60,000
Other [2 countries and (or) localities]	--	--	--	20	20	58,200
Total	3,340	3,320	15,300,000	18,500	18,400	64,100,000
Other silicon:						
Australia	188	184	945,000	2,750	2,660	8,430,000
Belgium	160	154	174,000	238	228	259,000
Brazil	9,760	9,370	10,600,000	17,900	16,900	23,900,000
Canada	4,490	3,660	25,200,000	14,100	12,500	58,700,000
Malaysia	--	--	--	264	260	174,000
Netherlands	217	209	237,000	723	688	814,000
Norway	1,020	989	4,490,000	3,090	2,920	11,300,000
Slovakia	587	563	640,000	1,340	1,300	2,880,000
Thailand	537	521	1,710,000	3,110	2,990	6,130,000
United Kingdom	--	--	--	170	163	223,000
Other [8 countries and (or) localities]	156	149	180,000	241	231	327,000
Total	17,100	15,800	44,200,000	43,900	40,800	113,000,000
Total silicon metal	20,800	19,500	75,900,000	64,100	60,900	245,000,000

-- 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.