

# Mineral Industry Surveys

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## SILICON IN JULY 2022

Domestic production of silicon materials was 35,100 metric tons (t) in July 2022, 5% more than June 2022 production and slightly less than July 2021 production (fig. 1, table 1). Net shipments were 22,300 t, 7% less than those in June 2022 and 5% less than those in July 2021. During the first 7 months of 2022, total production was 4% more than during the same period in 2021 and net shipments were unchanged from those during the same period in 2021 (fig. 1; table 1). Ending stocks were 26,300 t, 14% more than those in June 2022 and more than double those in July 2021.

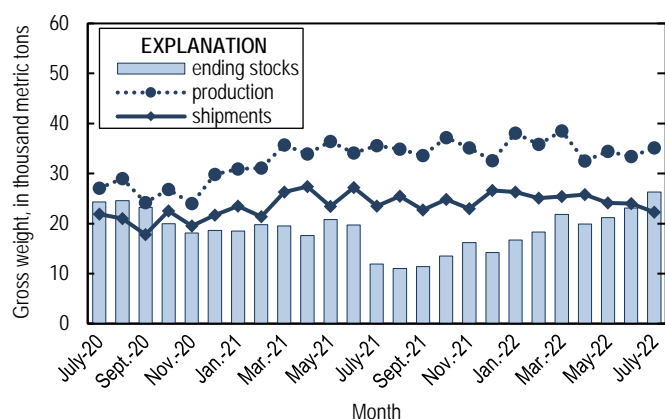


Figure 1. Monthly domestic production of total silicon materials, net shipments, and ending stocks from July 2020 through July 2022 (may include revisions to previously published data).

In July 2022, the leading destinations for silicon metal, more than 99.99% silicon trade category, were Japan, Vietnam, and China, 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 Australia in descending order of quantity (table 4). The leading import sources for ferrosilicon, 55%-80% grade, were Malaysia, Brazil, and China, in descending order of quantity on a contained weight basis.

## Prices

The average U.S. spot price for silicon metal was 352.20 cents per pound in July 2022, 9% less than the average price in June 2022 and more than double the average price in July 2021. The average U.S. spot price for ferrosilicon, 75% grade, was 341.25 cents per pound, essentially unchanged from the average price in June 2022 and more than double the average price in July 2021 (fig. 2). The average spot prices for ferrosilicon, 50% grade, have not been available since March 2022.

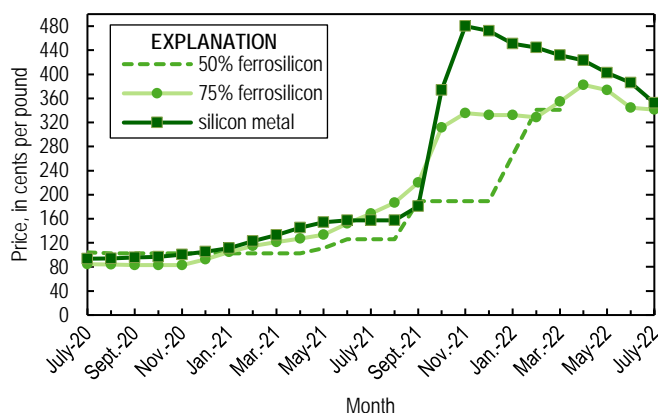


Figure 2. Average monthly spot prices for silicon metal and ferrosilicon 50% and 75% grades, contained silicon, from July 2020 through July 2022. The average spot prices for ferrosilicon, 50% grade, have not been available since March 2022. Source: CRU Group and S&P Global Platts Metals Week.

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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–July	238,000	173,000	11,900 <sup>r, 5</sup>
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	16,700
February	35,800	25,100	18,300
March	38,500	25,400	21,800
April	32,500	25,800	19,900
May	34,400	24,100	21,200
June	33,400	24,000	23,100
July	35,100	22,300	26,300
January–July	248,000	173,000	26,300

<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 JULY 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.	335.00	341.25	345.00	XX
Silicon metal, 553 grade <sup>3</sup>	cents per pound	330.00	352.50	380.00	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 JULY 2022<sup>1, 2</sup>

(Metric tons, unless otherwise specified)

Country or locality	Gross weight	Contained weight	Value	January–July <sup>3</sup>		
				Gross weight	Contained weight	Value
Ferrosilicon:						
More than 55% silicon:						
Brazil	--	--	--	15	9	\$24,000
Canada	833	500	\$1,470,000	5,730	3,440	9,880,000
France	--	--	--	17	10	27,000
Germany	--	--	--	152	91	237,000
Mexico	228	137	364,000	1,150	690	1,860,000
Singapore	--	--	--	7	4	10,500
United Arab Emirates	--	--	--	2	1	3,250
Total	1,060	637	1,830,000	7,070	4,240	12,000,000
Other ferrosilicon:						
Belgium	--	--	--	72	29	72,000
Brazil	76	38	285,000	192	96	475,000
Canada	52	9	65,800	1,230	231	1,600,000
Dominican Republic	--	--	--	63	9	78,800
France	--	--	--	74	32	91,500
Ghana	--	--	--	12	6	48,400
Malaysia	--	--	--	15	7	10,000
Mexico	40	16	133,000	1,440	536	3,510,000
Turkey	--	--	--	40	18	101,000
United Kingdom	--	--	--	97	48	406,000
Other [3 countries and (or) localities]	9	1	44,600	19	6	62,000
Total	178	64	528,000	3,250	1,020	6,460,000
Total ferrosilicon	1,240	701	2,360,000	10,300	5,260	18,500,000
Metal:						
More than 99.99% silicon:						
China	307	307	10,900,000	2,070	2,070	68,200,000
Germany	269	269	9,270,000	3,580	3,580	111,000,000
Japan	1,070	1,070	49,300,000	6,040	6,040	264,000,000
Korea, Republic of	101	101	3,690,000	525	525	21,700,000
Malaysia	95	95	5,020,000	1,700	1,700	71,100,000
Singapore	283	283	8,700,000	1,260	1,260	32,400,000
Taiwan	283	283	7,020,000	3,080	3,080	63,900,000
Thailand	(4)	(4)	113,000	234	234	9,270,000
Turkey	135	135	4,820,000	440	440	14,800,000
Vietnam	1,060	1,060	37,000,000	7,420	7,420	257,000,000
Other [31 countries and (or) localities]	32	32	1,850,000	432	432	18,100,000
Total	3,630	3,630	138,000,000	26,800	26,800	932,000,000
99.00%–99.99% silicon:						
Belgium	--	--	--	124	121	344,000
Czechia	--	--	--	57	57	169,000
France	33	33	47,200	33	33	47,200
Germany	--	--	--	258	253	310,000
Mexico	--	--	--	1	1	9,630
Singapore	--	--	--	2	2	3,320
United Kingdom	--	--	--	74	73	162,000
Total	33	33	47,200	550	541	1,050,000
Other silicon:						
Belgium	119	115	168,000	191	186	346,000
Canada	3	3	11,000	124	120	265,000
China	17	17	22,800	74	72	97,800
Germany	66	64	86,800	136	132	287,000
Japan	4	4	4,800	4	4	4,800
Mexico	28	28	127,000	263	255	1,390,000
Netherlands	2	2	6,500	205	199	224,000
South Africa	--	--	--	56	54	77,700
Trinidad and Tobago	--	--	--	29	28	53,100
United Kingdom	--	--	--	3	3	15,500
Other [6 countries and (or) localities]	3	3	3,400	9	9	29,500
Total	242	235	430,000	1,090	1,060	2,790,000
Total silicon metal	3,900	3,890	138,000,000	28,400	28,400	935,000,000

-- 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 JULY 2022<sup>1, 2</sup>

(Metric tons, unless otherwise specified)

Country or locality	Gross weight	Contained weight	Value	January–July <sup>3</sup>		
				Gross weight	Contained weight	Value
Ferrosilicon:						
55%–80% silicon, more than 3% Ca:						
China	1,170	892	\$1,930,000	1,720	982	\$2,720,000
France	72	43	268,000	250	149	854,000
Mexico	--	--	--	2	2	6,660
Norway	--	--	--	276	210	1,350,000
South Africa	14	14	54,300	212	163	621,000
Total	1,260	949	2,250,000	2,460	1,510	5,560,000
55%–80% silicon, other:						
Brazil	3,960	3,010	11,600,000	14,900	11,200	39,000,000
Canada	893	643	3,690,000	7,490	5,380	28,500,000
China	2,200	1,650	5,000,000	19,700	14,900	44,200,000
Iceland	166	129	749,000	3,740	2,860	15,100,000
India	97	72	375,000	807	590	2,380,000
Kazakhstan	1,030	785	4,690,000	4,070	3,120	21,300,000
Malaysia	5,290	3,960	20,000,000	13,100	9,840	48,000,000
Norway	240	183	1,120,000	2,830	2,110	11,200,000
Russia	--	--	--	44,500	33,900	211,000,000
South Africa	--	--	--	1,440	1,020	3,630,000
Other [10 countries and (or) localities]	925	691	2,160,000	3,060	2,240	7,610,000
Total	14,800	11,100	49,400,000	116,000	87,200	432,000,000
More than 90% ferrosilicon, India	--	--	--	2	2	4,530
Magnesium ferrosilicon:						
Brazil	422	190	813,000	3,130	1,440	7,010,000
Canada	1,680	765	5,140,000	10,600	4,850	34,300,000
China	258	118	531,000	1,900	882	4,560,000
Germany	70	32	87,200	207	93	305,000
India	290	133	875,000	2,100	959	5,560,000
Norway	348	160	1,300,000	348	160	1,300,000
Russia	--	--	--	93	44	225,000
Slovakia	--	--	--	87	39	113,000
Thailand	231	110	675,000	764	351	1,820,000
Total	3,290	1,510	9,420,000	19,200	8,820	55,200,000
Other ferrosilicon:						
Brazil	--	--	--	208	91	318,000
Canada	702	221	1,330,000	4,770	1,550	8,670,000
China	--	--	--	100	24	194,000
Germany	--	--	--	9	4	39,100
India	19	9	81,700	19	9	81,700
Norway	--	--	--	18	8	18,000
Paraguay	23	10	101,000	158	79	412,000
Slovakia	66	29	116,000	398	175	719,000
Spain	--	--	--	51	22	98,500
United Kingdom	--	--	--	6	3	13,600
Other [1 country or locality]	--	--	--	1	(4)	3,390
Total	809	269	1,630,000	5,740	1,960	10,600,000
Total ferrosilicon	20,200	13,800	62,700,000	143,000	99,500	503,000,000
Metal:						
More than 99.99% silicon:						
Brazil	119	119	424,000	1,260	1,260	3,810,000
China	131	131	2,840,000	314	314	8,760,000
Germany	53	53	4,180,000	426	426	33,200,000
Israel	--	--	--	20	20	70,900
Japan	3	3	809,000	53	53	6,540,000
Norway	2	2	26,100	69	69	508,000
Taiwan	37	37	5,000,000	346	346	44,900,000
Thailand	--	--	--	72	72	466,000
Turkey	--	--	--	19	19	93,400
United Kingdom	--	--	--	1	1	18,100
Other [10 countries and (or) localities]	1	1	102,000	3	3	471,000
Total	347	347	13,400,000	2,580	2,580	98,900,000
99.00%–99.99% silicon:						
Australia	188	186	815,000	550	546	3,410,000

See footnotes at end of table.

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

(Metric tons, unless otherwise specified)

Country or locality	Gross weight	Contained weight	Value	January–July <sup>3</sup>		
				Gross weight	Contained weight	Value
Metal—Continued:						
99.00%–99.99% silicon:						
Brazil	588	584	\$2,940,000	8,660	8,590	\$34,300,000
Canada	--	--	--	6,940	6,890	23,900,000
Germany	120	119	413,000	605	602	1,520,000
Malaysia	114	113	301,000	363	361	1,150,000
Norway	553	550	5,320,000	2,980	2,960	11,600,000
Slovakia	--	--	--	290	288	1,390,000
Thailand	24	24	128,000	1,290	1,280	6,340,000
Turkey	--	--	--	250	249	1,230,000
United Kingdom	--	--	--	20	20	60,000
Other [2 countries and (or) localities]	2	2	11,300	23	23	69,600
Total	1,590	1,580	9,930,000	22,000	21,800	85,000,000
Other silicon:						
Australia	91	88	777,000	2,840	2,740	9,200,000
Belgium	--	--	--	258	238	383,000
Brazil	1,910	1,870	13,200,000	20,300	19,200	40,900,000
Canada	3,310	3,050	28,100,000	19,800	17,900	109,000,000
Malaysia	26	25	57,200	290	285	231,000
Netherlands	19	10	105,000	773	713	1,090,000
Norway	976	954	7,260,000	4,560	4,360	22,200,000
Slovakia	20	20	77,200	1,500	1,460	3,440,000
Thailand	192	98	1,410,000	3,900	3,680	12,100,000
United Kingdom	20	20	107,000	190	183	330,000
Other [10 countries and (or) localities]	20	19	109,000	306	295	603,000
Total	6,590	6,150	51,200,000	54,700	51,100	200,000,000
Total silicon metal	8,530	8,080	74,500,000	79,200	75,500	384,000,000

-- 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.