

# Mineral Industry Surveys

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## SILICON IN FEBRUARY 2022

Domestic production of silicon materials was 35,900 metric tons (t) in February 2022, 6% less than January 2022 production and 15% more than February 2021 production (fig. 1, table 1). Net shipments were 25,200 t, slightly less than shipments in January 2022 and 18% more than those in February 2021. Total production and net shipments during the first 2 months of 2022 were 19% more and 14% more, respectively, than those during the same period in 2021 (fig. 1; table 1). Ending stocks were 16,500 t, essentially unchanged from those in January 2022 and 17% less than those in February 2021.

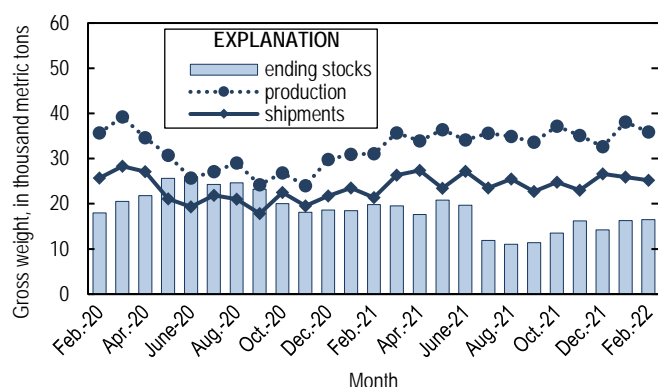


Figure 1. Monthly domestic production of total silicon materials, net shipments, and ending stocks from February 2020 through February 2022 (may include revisions to previously published data).

In February 2022, the leading destinations for silicon metal, more than 99.99% silicon trade category, were Germany, Vietnam, and Japan 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 Brazil, Canada, and Iceland, in descending order of quantity.

## Prices

The average U.S. spot price for silicon metal was 444.38 cents per pound in February 2022, essentially unchanged from the average price in January 2022 and more than three times the average price in February 2021. The average U.S. spot price for ferrosilicon, 50% grade, was 341.00 cents per pound, 29% more than the average price in January 2022 and more than three times the average price in February 2021. The average U.S. spot price for ferrosilicon, 75% grade, was 444.38 cents per pound, essentially unchanged from the average price in January 2022 and more than three times that in February 2021 (fig. 2).

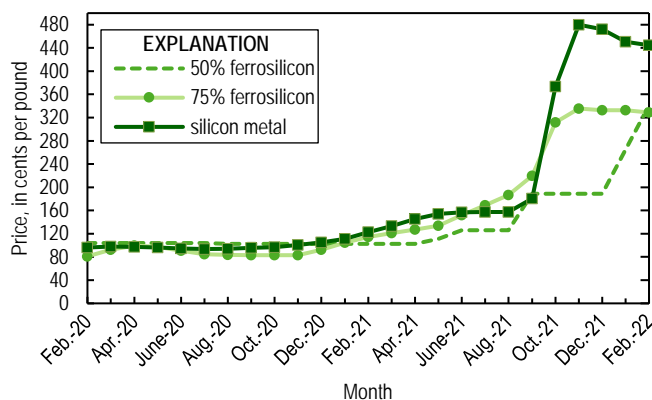


Figure 2. Average monthly spot prices for silicon metal and ferrosilicon 50% and 75% grades, contained silicon, from February 2020 through February 2022. Source: CRU Group and S&P Global Platts Metals Week.

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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–February	62,000	44,900	19,800
February	31,100	21,400	19,800
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 <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	35,900	25,200	16,500
January–February	74,000	51,100	16,500

<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 FEBRUARY 2022

		Low	Average	High	Average low, mid, and high
Ferrosilicon:					
50% ferrosilicon <sup>1</sup>	cents per pound of contained silicon	340.00	XX	342.00	340.00–341.00–342.00
75% ferrosilicon <sup>2</sup>	do.	325.00	328.75	335.00	XX
Silicon metal, 553 grade <sup>3</sup>	cents per pound	420.00	444.38	480.00	XX

do. Ditto. 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 FEBRUARY 2022<sup>1,2</sup>

(Metric tons, unless otherwise specified)

Country or locality	Gross weight	Contained weight	Value	January–February <sup>3</sup>		
				Gross weight	Contained weight	Value
Ferrosilicon:						
More than 55% silicon:						
Canada	1,630	976	\$2,600,000	2,430	1,460	\$4,020,000
Germany	52	31	81,000	52	31	81,000
Mexico	104	63	163,000	311	187	528,000
Singapore	7	4	10,500	7	4	10,500
Total	1,790	1,070	2,850,000	2,800	1,680	4,640,000
Other ferrosilicon:						
Belgium	36	15	36,000	72	29	72,000
Canada	19	5	23,700	411	79	556,000
Malaysia	--	--	--	15	7	10,000
Mexico	238	85	561,000	740	275	1,640,000
United Kingdom	38	19	162,000	38	19	162,000
Total	331	123	783,000	1,280	410	2,440,000
Total ferrosilicon	2,120	1,200	3,630,000	4,070	2,090	7,080,000
Metal:						
More than 99.99% silicon:						
China	329	329	9,480,000	516	516	17,100,000
Denmark	42	42	2,460,000	83	83	4,680,000
Germany	832	832	22,900,000	1,580	1,580	43,900,000
Italy	--	--	--	17	17	525,000
Japan	712	712	31,800,000	1,200	1,200	57,400,000
Korea, Republic of	81	81	3,480,000	277	277	11,400,000
Malaysia	41	41	3,800,000	216	216	11,800,000
Singapore	155	155	3,770,000	319	319	7,270,000
Taiwan	263	263	4,270,000	913	913	14,500,000
Vietnam	765	765	27,400,000	1,310	1,310	44,100,000
Other [14 countries and (or) localities]	20	20	717,000	46	46	1,760,000
Total	3,240	3,240	110,000,000	6,470	6,470	214,000,000
99.00%–99.99% silicon:						
Belgium	42	41	122,000	82	81	220,000
Czechia	--	--	--	57	57	169,000
Germany	177	173	213,000	177	173	213,000
United Kingdom	74	73	162,000	74	73	162,000
Total	292	287	498,000	390	384	764,000
Other silicon:						
Belgium	--	--	--	2	2	13,900
Canada	17	16	47,000	30	29	65,100
China	25	24	32,600	25	24	32,600
Germany	28	27	36,800	28	27	36,800
Mexico	15	15	45,100	16	16	53,500
Netherlands	8	8	10,500	47	46	50,500
South Africa	(4)	(4)	4,190	12	11	19,500
Total	92	90	176,000	160	156	272,000
Total silicon metal	3,630	3,620	111,000,000	7,020	7,010	215,000,000

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

(Metric tons, unless otherwise specified)

Country or locality	Gross weight	Contained weight	Value	January–February <sup>3</sup>		
				Gross weight	Contained weight	Value
Ferrosilicon:						
55%–80% silicon, more than 3% Ca:						
France	54	31	\$169,000	89	53	\$267,000
Norway	--	--	--	24	17	75,100
South Africa	--	--	--	126	84	335,000
Total	54	31	169,000	239	154	677,000
55%–80% silicon, other:						
Brazil	1,600	1,200	3,640,000	2,800	2,110	6,390,000
Canada	960	691	3,480,000	2,070	1,490	7,050,000
China	475	364	1,260,000	475	364	1,260,000
Egypt	59	42	85,200	323	232	653,000
Iceland	832	637	3,110,000	1,580	1,210	5,900,000
Kazakhstan	25	19	43,200	1,320	1,010	7,130,000
Malaysia	--	--	--	2,780	2,060	5,840,000
Norway	--	--	--	662	500	1,870,000
Russia	--	--	--	10,600	8,060	54,700,000
South Africa	150	109	353,000	761	544	1,750,000
Other [6 countries and (or) localities]	114	80	256,000	318	230	735,000
Total	4,210	3,140	12,200,000	23,700	17,800	93,300,000
Magnesium ferrosilicon:						
Brazil	147	64	392,000	413	184	890,000
Canada	1,130	518	3,550,000	2,210	1,020	6,520,000
China	--	--	--	4	1	12,600
Germany	--	--	--	20	9	38,800
India	420	189	1,460,000	460	208	1,550,000
Russia	39	18	97,600	59	28	134,000
Total	1,730	790	5,500,000	3,170	1,450	9,150,000
Other ferrosilicon:						
Brazil	--	--	--	208	91	318,000
Canada	591	208	1,110,000	1,130	396	1,990,000
Germany	--	--	--	6	2	32,300
Norway	--	--	--	18	8	18,000
Slovakia	33	15	58,000	33	15	58,000
Total	624	223	1,160,000	1,400	513	2,420,000
Total ferrosilicon	6,620	4,180	19,100,000	28,500	19,900	105,000,000
Metal:						
More than 99.99% silicon:						
Brazil	261	261	735,000	595	595	1,570,000
China	14	14	677,000	20	20	1,540,000
Denmark	(4)	(4)	89,600	(4)	(4)	91,800
Finland	(4)	(4)	2,810	(4)	(4)	2,810
Germany	67	67	4,430,000	115	115	10,300,000
Japan	7	7	1,110,000	9	9	1,660,000
Korea, Republic of	--	--	--	(4)	(4)	78,300
Malaysia	--	--	--	(4)	(4)	7,610
Taiwan	42	42	5,590,000	62	62	8,100,000
Total	392	392	12,600,000	802	802	23,400,000
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 FEBRUARY 2022<sup>1,2</sup>

(Metric tons, unless otherwise specified)

Country or locality	Gross weight	Contained weight	Value	January–February <sup>3</sup>		
				Gross weight	Contained weight	Value
Metal—Continued:						
99.00%–99.99% silicon:						
Belgium	--	--	--	19	19	\$46,700
Brazil	1,160	1,150	\$5,920,000	3,070	3,050	11,000,000
Canada	1,850	1,840	4,450,000	3,100	3,080	7,430,000
China	--	--	--	2	2	11,500
Germany	175	174	341,000	175	174	341,000
Malaysia	100	99	269,000	200	199	659,000
Norway	792	787	2,160,000	792	787	2,160,000
Thailand	96	95	804,000	676	671	2,400,000
Total	4,180	4,150	13,900,000	8,260	8,200	25,900,000
Other silicon:						
Australia	--	--	--	1,910	1,840	5,210,000
Brazil	1,560	1,330	3,530,000	2,460	2,200	4,910,000
Bulgaria	--	--	--	(4)	(4)	5,150
Canada	2,380	2,040	9,290,000	2,380	2,040	9,290,000
China	22	21	25,700	38	36	43,000
Netherlands	94	90	102,000	147	135	186,000
Norway	667	640	748,000	1,010	894	1,860,000
Slovakia	140	135	153,000	310	298	338,000
Thailand	222	215	825,000	390	377	1,010,000
United Kingdom	--	--	--	150	144	163,000
Total	5,090	4,470	14,700,000	8,800	7,960	23,000,000
Total silicon metal	9,660	9,010	41,300,000	17,900	17,000	72,300,000

-- Zero.

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<sup>4</sup>Less than ½ unit.

Source: U.S. Census Bureau.