

Mineral Industry Surveys

For information, contact:

Emily K. Schnebele, Silicon Commodity Specialist
National Minerals Information Center
U.S. Geological Survey
989 National Center
Reston, VA 20192
Telephone: (703) 648-4945, Fax: (703) 648-7757
Email: eschnebele@usgs.gov

Joshua Braunstein (Data)
Telephone: (703) 648-7958
Fax: (703) 648-7975
Email: jbraunstein@usgs.gov

Internet: <https://www.usgs.gov/centers/nmic>

SILICON IN AUGUST 2021

Domestic production of silicon materials was 34,900 metric tons (t) in August 2021, slightly less than July 2021 production and 20% more than August 2020 production (fig. 1, table 1). Net shipments were 25,500 t, 8% more than shipments in July 2021 and 21% more than shipments in August 2020. Total production and net shipments during the first 8 months of 2021 were 7% more and 3% more, respectively, than those during the same period in 2020 (table 1).

Ending stocks were 11,000 t in August 2021, 8% less than ending stocks in July 2021. Owing to domestic physical inventory adjustments, these were about half of those in August 2020 (table 1). In August 2021, the leading recipients for silicon metal, more than 99.99% silicon trade category, were Vietnam, Japan, and Germany, in descending order (table 3). The leading import sources for silicon metal, 99.00%–99.99% silicon trade category, were Brazil and Canada, in descending order and the leading import sources for ferrosilicon, 55%–80% grade, were Kazakhstan, Canada, and Brazil, in descending order (table 4).

Adjustments in stocks included in-plant consumption of ferrosilicon to produce magnesium ferrosilicon and other alloys. All comparative statistics were calculated based on unrounded, gross-weight figures.

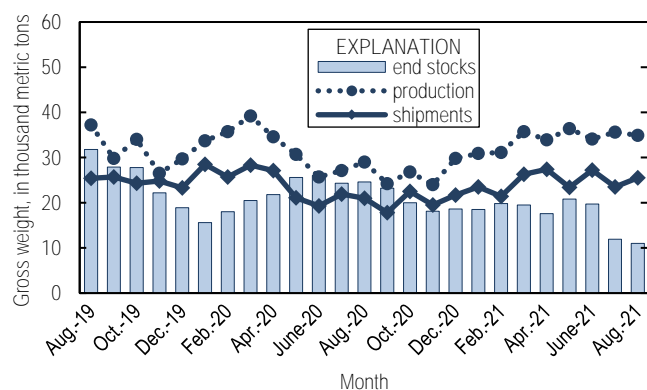


Figure 1. Monthly domestic production of total silicon materials, net shipments, and end stocks from August 2019 through August 2021 (may include revisions to previously published data).

Prices

The average U.S. spot price for silicon metal was 157.25 cents per pound in August 2021, unchanged from the average price in July 2021 and 68% more than the average price in August 2020. The average U.S. spot price for ferrosilicon, 50% grade, was 126.00 cents per pound, unchanged since June 2021 and 23% more than the average price in August 2020. The average U.S. spot price for ferrosilicon, 75% grade, was 186.38 cents per pound, 10% more than the average price in July 2021 and more than double that in August 2020 (fig. 2).

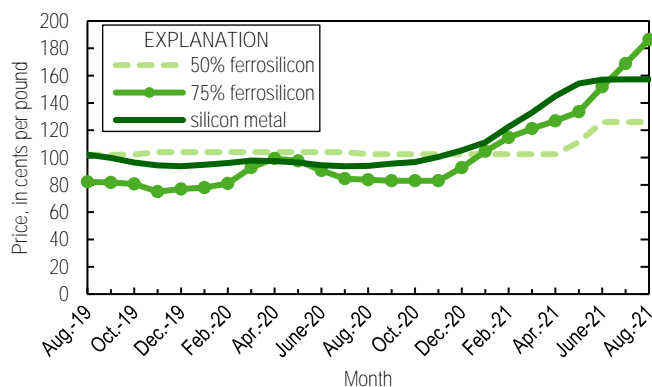


Figure 2. Average monthly spot prices for silicon metal and ferrosilicon 50% and 75% grades, contained silicon, from August 2019 through August 2021. Source: CRU Group and S&P Global Platts Metals Week.

List services and web feed subscribers are the first to receive notification of USGS minerals information publications and data releases. For information on how to subscribe, go to <https://www.usgs.gov/centers/nmic/minerals-information-publication-list-services>.

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
2020:			
January–December	360,000	275,000	18,600
January–August	256,000 ^r	193,000 ^r	24,600 ^r
August	29,000	21,000	24,600
September	24,200	17,800	23,200
October	26,800	22,500	20,000
November	24,000	19,500	18,100
December	29,800	21,700	18,600
2021:			
January	30,900	23,500	18,500
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 ^r	23,500 ^r	11,900 ^{r,5}
August	34,900	25,500	11,000 ⁵
January–August	273,000	198,000	11,000 ⁵

^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 U.S. Geological Survey 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 AUGUST 2021

		Low	Average	High	Average low, mid, and high
Ferrosilicon:					
50% ferrosilicon ¹	cents per pound of contained silicon	125.00	XX	127.00	125.00–126.00–127.00
75% ferrosilicon ²	do.	180.00	186.38	193.00	XX
Silicon metal, 553 grade ³	cents per pound	153.00	157.25	163.00	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 AUGUST 2021^{1,2}

(Metric tons, unless otherwise specified)

Country or locality	Gross weight	Contained weight	Value	January–August ³		
				Gross weight	Contained weight	Value
Ferrosilicon:						
More than 55% silicon:						
Brazil	--	--	--	31	19	\$48,100
Canada	169	101	\$328,000	2,470	1,480	4,390,000
Colombia	--	--	--	2	1	9,360
Dominican Republic	46	28	72,300	139	83	217,000
India	--	--	--	3	2	4,180
Japan	--	--	--	32	19	108,000
Mexico	155	99	373,000	997	638	2,210,000
Poland	--	--	--	3	2	5,310
Singapore	7	4	10,100	8	5	15,100
Total	377	232	784,000	3,690	2,250	7,010,000
Other ferrosilicon:						
Belgium	79	39	105,000	575	264	573,000
Brazil	--	--	--	403	201	798,000
Canada	57	28	85,900	164	82	446,000
India	57	28	84,700	57	28	84,700
Mexico	314	156	620,000	2,400	1,180	4,700,000
Spain	--	--	--	197	99	311,000
Sweden	--	--	--	100	45	186,000
Switzerland	--	--	--	300	132	531,000
Turkey	60	27	113,000	340	154	619,000
United Kingdom	40	18	84,800	278	125	520,000
Other [5 countries and (or) localities]	--	--	--	90	33	105,000
Total	606	296	1,090,000	4,910	2,350	8,870,000
Total ferrosilicon	982	529	1,880,000	8,600	4,600	15,900,000
Metal:						
More than 99.99% silicon:						
China	299	299	9,300,000	2,610	2,610	56,800,000
Germany	497	497	11,000,000	3,970	3,970	89,000,000
Japan	580	580	26,700,000	14,100	14,100	307,000,000
Korea, Republic of	352	352	9,480,000	3,380	3,380	79,700,000
Malaysia	45	45	3,360,000	1,620	1,620	41,900,000
Netherlands	--	--	--	315	315	409,000
Norway	75	75	2,080,000	789	789	17,900,000
Singapore	106	106	2,230,000	1,060	1,060	22,100,000
Taiwan	213	213	2,890,000	4,580	4,580	40,800,000
Vietnam	641	641	19,000,000	3,570	3,570	54,700,000
Other [36 countries and (or) localities]	12	12	683,000	369	369	13,400,000
Total	2,820	2,820	86,800,000	36,400	36,400	724,000,000
99.00%–99.99% silicon:						
China	--	--	--	12	12	16,900
France	17	17	24,100	51	51	72,400
Germany	--	--	--	128	127	235,000
Japan	--	--	--	8	7	10,600
Korea, Republic of	--	--	--	42	41	44,800
Mauritania	--	--	--	3	3	4,220
Mexico	1	1	2,580	19	19	38,600
Netherlands	111	110	96,600	202	201	228,000
Peru	--	--	--	2	2	2,860
Singapore	--	--	--	2	2	3,330
Other [2 countries and (or) localities]	--	--	--	4	4	5,550
Total	129	128	123,000	473	469	662,000

See footnotes at end of table.

TABLE 3—Continued
U.S. EXPORTS OF FERROSILICON AND SILICON METAL IN AUGUST 2021^{1,2}

(Metric tons, unless otherwise specified)

Country or locality	Gross weight	Contained weight	Value	January–August ³		
				Gross weight	Contained weight	Value
Metal—Continued:						
Other silicon:						
Belgium	--	--	--	200	195	\$259,000
Canada	5	5	\$16,800	48	47	154,000
China	58	56	76,400	217	211	287,000
Germany	--	--	--	73	71	104,000
Japan	--	--	--	37	36	279,000
Mexico	1	1	3,300	16	16	75,300
Netherlands	--	--	--	128	124	157,000
South Africa	--	--	--	49	47	\$84,900
Taiwan	--	--	--	57	54	230,000
United Kingdom	--	--	--	48	47	67,100
Other [12 countries and (or) localities]	7	6	11,900	29	28	97,200
Total	70	68	108,000	901	875	1,790,000
Total silicon metal	3,020	3,020	87,000,000	37,800	37,700	726,000,000

-- 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 AUGUST 2021^{1,2}

(Metric tons, unless otherwise specified)

Country or locality	Gross weight	Contained weight	Value	January–August ³		
				Gross weight	Contained weight	Value
Ferrosilicon:						
55%–80% silicon, more than 3% Ca:						
China	--	--	--	160	99	\$364,000
France	--	--	--	306	185	851,000
Germany	--	--	--	1	1	2,120
Russia	--	--	--	8	4	19,600
South Africa	--	--	--	36	22	79,900
Total	--	--	--	511	310	1,320,000
55%–80% silicon, other:						
Brazil	1,060	789	\$1,560,000	10,800	8,180	12,700,000
Canada	1,160	839	2,480,000	8,190	5,960	17,400,000
France	144	100	290,000	1,100	756	2,790,000
Iceland	499	382	1,210,000	4,910	3,780	8,200,000
Kazakhstan	1,300	991	3,360,000	11,200	8,630	20,500,000
Malaysia	327	239	415,000	8,480	6,370	10,700,000
Norway	1,010	770	1,650,000	3,820	2,940	5,400,000
Paraguay	50	35	55,000	1,730	1,300	2,030,000
Russia	--	--	--	40,700	30,900	70,400,000
South Africa	395	273	725,000	1,840	1,310	3,090,000
Other [10 countries and (or) localities]	609	455	1,110,000	1,610	1,190	3,890,000
Total	6,540	4,880	12,900,000	94,400	71,300	157,000,000
80%–90% ferrosilicon, Germany	--	--	--	27	22	25,500
More than 90% ferrosilicon, China	--	--	--	15	14	59,100
Magnesium ferrosilicon:						
Argentina	38	8	31,100	285	106	253,000
Brazil	--	--	--	742	314	901,000
Canada	821	380	1,420,000	7,620	3,520	13,200,000
China	--	--	--	34	17	70,100
Germany	--	--	--	95	40	183,000
India	81	37	148,000	395	180	708,000
Panama	--	--	--	49	22	36,700
South Africa	--	--	--	130	61	85,200
Total	940	425	1,600,000	9,350	4,260	15,400,000
Other ferrosilicon:						
Canada	745	232	986,000	5,100	1,640	6,630,000
China	--	--	--	58	26	83,900
France	--	--	--	38	18	101,000
Germany	--	--	--	4	2	20,900
Mexico	5	2	15,100	7	3	19,300
Russia	10	5	19,100	112	54	229,000
Slovakia	39	12	72,200	238	70	418,000
South Africa	--	--	--	85	11	125,000
Spain	--	--	--	25	11	42,500
Total	798	251	1,090,000	5,670	1,840	7,670,000
Total ferrosilicon	8,280	5,550	15,600,000	110,000	77,800	181,000,000
Metal:						
More than 99.99% silicon:						
Brazil	180	180	422,000	1,060	1,060	2,540,000
China	2	2	498,000	32	32	2,750,000
Germany	32	32	5,340,000	335	335	33,200,000
Japan	28	28	1,360,000	126	126	8,020,000
Malaysia	--	--	--	86	86	994,000
Norway	1	1	18,000	7	7	108,000
Taiwan	19	19	1,550,000	340	340	31,700,000
Thailand	48	48	130,000	48	48	130,000
United Kingdom	1	1	4,560	3	3	21,400
Vietnam	--	--	--	74	74	183,000
Other [10 countries and (or) localities]	1	1	107,000	6	6	956,000
Total	312	312	9,430,000	2,120	2,120	80,600,000
99.00%–99.99% silicon:						
Australia	--	--	--	2,900	2,880	6,980,000

See footnotes at end of table.

TABLE 4—Continued
U.S. IMPORTS OF FERROSILICON AND SILICON METAL IN AUGUST 2021^{1,2}

(Metric tons, unless otherwise specified)

Country or locality	Gross weight	Contained weight	Value	January–August ³		
				Gross weight	Contained weight	Value
Metal—Continued:						
99.00%–99.99% silicon:						
Brazil	2,760	2,730	\$6,430,000	16,700	16,500	\$36,200,000
Canada	1,870	1,860	4,570,000	19,400	19,300	46,400,000
China	1	1	13,400	6	6	24,500
Germany	--	--	--	11	11	32,900
Malaysia	20	20	63,100	116	115	214,000
Norway	684	680	1,800,000	5,720	5,680	14,600,000
Switzerland	--	--	--	20	20	53,400
Thailand	378	375	956,000	2,940	2,920	7,190,000
Vietnam	--	--	--	67	67	165,000
Other [2 countries and (or) localities]	--	--	--	(4)	(4)	13,700
Total	5,710	5,670	13,800,000	47,900	47,600	112,000,000
Other silicon:						
Australia	168	165	607,000	2,120	2,070	5,180,000
Brazil	779	769	1,650,000	5,170	5,090	12,000,000
Canada	121	116	288,000	172	166	416,000
China	83	79	90,000	139	134	193,000
France	303	293	572,000	371	359	691,000
Germany	9	8	8,500	233	226	678,000
Japan	--	--	--	117	112	142,000
Malaysia	100	96	322,000	100	96	322,000
Norway	388	380	684,000	3,940	3,820	6,600,000
Thailand	--	--	--	336	331	602,000
Other [8 countries and (or) localities]	15	14	20,600	251	244	609,000
Total	1,960	1,920	4,250,000	12,900	12,600	27,400,000
Total silicon metal	7,990	7,900	27,500,000	63,000	62,300	220,000,000

-- 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.