

Mineral Industry Surveys

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SILICON IN MAY 2021

Domestic production of silicon materials was 36,400 metric tons (t) in May 2021, 7% more than April 2021 production and 19% more than May 2020 production (fig. 1, table 1). Net shipments were 23,400 t, 15% less than shipments in April 2021 and 11% more than shipments in May 2020. Total production and net shipments during the first 5 months of 2021 were 3% less and 7% less, respectively, than those during the same period in 2020 (table 1).

Ending stocks were 20,800 t in May 2021, 18% more than ending stocks in April 2021 and 19% less than those in May 2020 (table 1). 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.

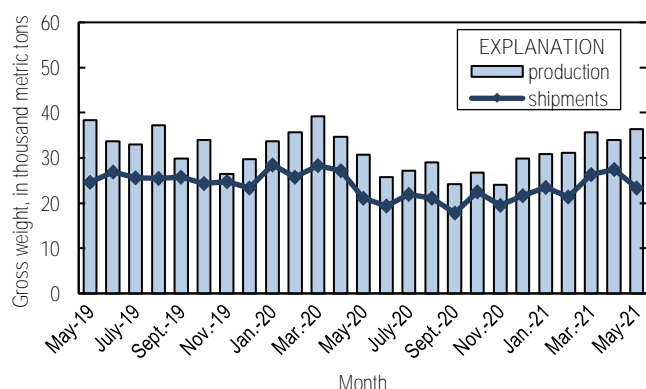


Figure 1. Monthly domestic production of total silicon materials and net shipments from May 2019 through May 2021 (may include revisions to previously published data).

Prices

The average U.S. spot price for silicon metal was 154.25 cents per pound in May 2021, 6% more than the average price in April 2021 and 60% more than the average price in May 2020. The average U.S. spot price for ferrosilicon, 50% grade, was 111.31 cents per pound, 9% more than the average price in April 2021 and 7% more than the average price in May 2020. The average U.S. spot price for ferrosilicon, 75% grade, was 133.50 cents per pound, 5% more than the average price in April 2021 and 37% more than that in May 2020 (fig. 2).

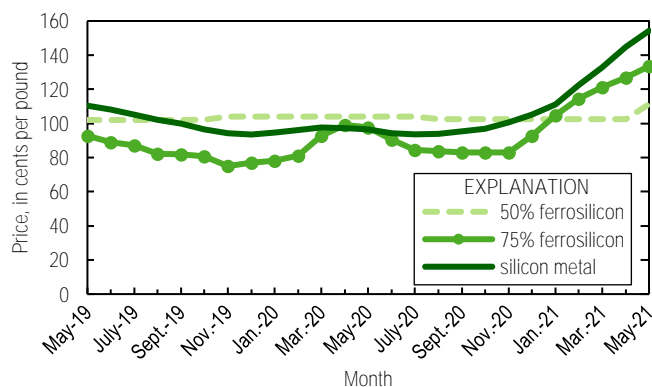


Figure 2. Average monthly spot prices for silicon metal and ferrosilicon 50% and 75% grades, contained silicon, from May 2019 through May 2021. Source: CRU Group and S&P Global Platts Metals Week.

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TABLE 1
PRODUCTION, SHIPMENTS, AND STOCKS OF SILICON ALLOYS
AND METAL IN THE UNITED STATES^{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–May	174,000 ^r	131,000 ^r	25,600 ^r
May	30,700	21,100	25,600
June	25,700	19,300	26,000
July	27,100	21,900	24,300
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 ^r	26,300 ^r	19,500
April	33,900 ^r	27,400 ^r	17,600 ^r
May	36,400	23,400	20,800
January–May	168,000	122,000	20,800

^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 USGS estimates.

⁴Ferrosilicon production includes material consumed in the production of miscellaneous silicon alloys.

TABLE 2
PRICES FOR FERROSILICON AND SILICON METAL IN MAY 2021

		Low	Average	High	Average low, mid, and high
Ferrosilicon:					
50% ferrosilicon ¹	cents per pound of contained silicon	101.00	XX	127.00	110.00–111.31–112.63
75% ferrosilicon ²	do.	130.00	133.50	138.00	XX
Silicon metal, 553 grade ³	cents per pound	150.00	154.25	158.00	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 MAY 2021^{1,2}

(Metric tons, unless otherwise specified)

Country or locality	Gross weight	Contained weight	Value	January–May ³		
				Gross weight	Contained weight	Value
Ferrosilicon:						
More than 55% silicon:						
Brazil	--	--	--	7	4	\$11,100
Canada	346	208	\$571,000	1,770	1,060	3,110,000
Colombia	--	--	--	2	1	9,360
India	--	--	--	3	2	4,180
Mexico	85	58	177,000	603	377	1,260,000
Poland	--	--	--	3	2	5,310
Total	431	266	748,000	2,390	1,450	4,400,000
Other ferrosilicon:						
Belgium	73	33	69,300	307	137	246,000
Brazil	78	39	152,000	326	163	646,000
Canada	12	6	48,900	84	42	271,000
Luxembourg	--	--	--	40	9	30,700
Mexico	306	151	599,000	1,520	749	2,970,000
Spain	58	29	91,600	138	69	217,000
Sweden	--	--	--	100	45	186,000
Switzerland	60	27	108,000	220	97	383,000
Turkey	20	9	37,500	240	109	436,000
United Kingdom	59	26	107,000	158	71	282,000
Other [3 countries and (or) localities]	5	2	6,030	45	21	65,800
Total	670	322	1,220,000	3,180	1,510	5,740,000
Total ferrosilicon	1,100	587	1,970,000	5,570	2,960	10,100,000
Metal:						
More than 99.99% silicon:						
China	208	208	6,280,000	1,330	1,330	28,200,000
Germany	862	862	15,500,000	2,670	2,670	58,900,000
Japan	1,950	1,950	36,000,000	9,170	9,170	161,000,000
Korea, Republic of	329	329	9,150,000	2,460	2,460	53,700,000
Malaysia	132	132	3,810,000	908	908	19,600,000
Netherlands	159	159	180,000	315	315	409,000
Norway	89	89	1,790,000	504	504	11,100,000
Singapore	115	115	2,400,000	688	688	14,300,000
Taiwan	554	554	7,300,000	3,770	3,770	27,200,000
Vietnam	753	753	8,460,000	2,350	2,350	27,900,000
Other [29 countries and (or) localities]	90	90	2,090,000	278	278	8,410,000
Total	5,240	5,240	92,900,000	24,400	24,400	410,000,000
99.00%–99.99% silicon:						
China	--	--	--	12	12	16,900
France	--	--	--	34	34	48,200
Germany	--	--	--	27	27	71,300
Ireland	--	--	--	2	2	2,770
Japan	--	--	--	6	6	7,870
Korea, Republic of	--	--	--	40	39	42,100
Mauritania	--	--	--	3	3	4,220
Mexico	13	12	21,700	17	16	32,700
Netherlands	--	--	--	73	72	78,200
Singapore	--	--	--	2	2	3,330
Total	13	12	21,700	215	212	308,000
Other silicon:						
Belgium	80	78	105,000	161	157	213,000
Canada	14	14	31,600	37	36	121,000
China	65	64	86,400	115	112	152,000
Germany	--	--	--	28	28	45,400
Japan	19	18	198,000	37	36	279,000
Mexico	1	1	3,000	12	11	58,600
Netherlands	67	65	77,100	128	124	157,000

See footnotes at end of table.

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

(Metric tons, unless otherwise specified)

Country or locality	Gross weight	Contained weight	Value	January–May ³		
				Gross weight	Contained weight	Value
Metal—Continued:						
Other silicon:						
South Africa	--	--	--	24	24	\$44,700
Taiwan	--	--	--	57	54	230,000
United Kingdom	--	--	--	38	37	53,500
Other [9 countries and (or) localities]	6	6	\$20,200	21	20	69,700
Total	253	246	521,000	658	638	1,420,000
Total silicon metal	5,510	5,500	93,400,000	25,300	25,300	412,000,000

-- 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.

Source: U.S. Census Bureau.

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

(Metric tons, unless otherwise specified)

Country or locality	Gross weight	Contained weight	Value	January–May ³		
				Gross weight	Contained weight	Value
Ferrosilicon:						
55%–80% silicon, more than 3% Ca:						
China	--	--	--	100	65	\$221,000
France	36	23	\$96,900	162	98	449,000
South Africa	--	--	--	18	12	25,100
Total	36	23	96,900	280	175	694,000
55%–80% silicon, other:						
Brazil	1,140	861	1,370,000	7,400	5,600	8,090,000
Canada	965	701	2,020,000	5,110	3,720	10,700,000
France	262	184	706,000	651	453	1,660,000
Iceland	499	381	901,000	3,410	2,630	4,990,000
Kazakhstan	1,080	836	2,140,000	8,530	6,560	14,200,000
Malaysia	1,710	1,280	2,310,000	5,700	4,290	6,750,000
Norway	441	332	639,000	2,410	1,870	3,140,000
Paraguay	554	410	806,000	1,530	1,160	1,820,000
Russia	--	--	--	23,800	18,100	37,500,000
South Africa	279	198	436,000	992	720	1,690,000
Other [8 countries and (or) localities]	155	114	421,000	693	511	2,070,000
Total	7,090	5,300	11,800,000	60,200	45,600	92,600,000
80%–90% ferrosilicon, Germany	--	--	--	27	22	25,500
More than 90% ferrosilicon, China	15	14	59,100	15	14	59,100
Magnesium ferrosilicon:						
Argentina	38	8	31,100	152	54	127,000
Brazil	--	--	--	416	189	520,000
Canada	1,010	467	1,750,000	4,900	2,260	8,460,000
China	--	--	--	34	17	70,100
Germany	27	12	48,300	42	16	93,100
India	42	19	74,300	206	94	360,000
Panama	--	--	--	49	22	36,700
South Africa	--	--	--	130	61	85,200
Total	1,120	507	1,910,000	5,930	2,710	9,750,000
Other ferrosilicon:						
Canada	611	183	855,000	3,050	1,010	3,970,000
China	--	--	--	24	11	32,600
France	16	8	36,200	20	10	61,200
Germany	2	1	10,400	4	2	20,900
Mexico	--	--	--	2	1	4,200
Russia	26	12	54,700	76	36	149,000
Slovakia	19	9	30,000	77	23	136,000
South Africa	--	--	--	34	3	49,800
Spain	25	11	42,500	25	11	42,500
Total	700	223	1,030,000	3,310	1,100	4,470,000
Total ferrosilicon	8,960	6,060	14,800,000	69,800	49,600	108,000,000
Metal:						
More than 99.99% silicon:						
Brazil	124	124	291,000	524	524	1,290,000
China	4	4	242,000	24	24	1,500,000
Germany	15	15	2,870,000	213	213	18,800,000
Japan	29	29	1,480,000	65	65	4,760,000
Malaysia	--	--	--	86	86	994,000
Norway	5	5	86,800	5	5	86,800
Taiwan	21	21	2,390,000	176	176	15,600,000
Ukraine	(4)	(4)	6,700	1	1	128,000
United Kingdom	--	--	--	2	2	12,600
Vietnam	49	49	121,000	49	49	121,000
Other [8 countries and (or) localities]	(4)	(4)	123,000	2	2	606,000
Total	248	248	7,610,000	1,150	1,150	43,800,000
99.00%–99.99% silicon:						
Australia	284	282	643,000	1,820	1,810	4,140,000

See footnotes at end of table.

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

(Metric tons, unless otherwise specified)

Country or locality	Gross weight	Contained weight	Value	January–May ³		
				Gross weight	Contained weight	Value
Metal—Continued:						
99.00%–99.99% silicon:						
Brazil	2,340	2,320	\$5,020,000	8,200	8,140	\$16,300,000
Canada	3,120	3,110	7,330,000	12,400	12,300	29,400,000
China	1	(4)	2,230	5	5	11,100
Germany	--	--	--	11	11	32,900
Malaysia	--	--	--	96	95	151,000
Norway	396	393	1,000,000	3,280	3,260	8,170,000
Switzerland	20	20	53,400	20	20	53,400
Thailand	780	775	1,980,000	1,680	1,670	3,980,000
Vietnam	--	--	--	44	44	108,000
Other [1 country or locality]	--	--	--	(4)	(4)	2,320
Total	6,940	6,890	16,000,000	27,500	27,400	62,400,000
Other silicon:						
Australia	288	284	748,000	1,400	1,360	3,020,000
Brazil	535	524	1,160,000	2,530	2,500	5,620,000
Canada	--	--	--	48	46	122,000
France	--	--	--	68	65	118,000
Germany	--	--	--	224	217	670,000
Japan	27	26	29,900	87	84	102,000
Netherlands	--	--	--	83	79	236,000
Norway	247	240	430,000	2,590	2,500	4,190,000
South Africa	48	47	84,000	48	47	84,000
Thailand	--	--	--	336	331	602,000
Other [5 countries and (or) localities]	40	38	74,200	84	81	171,000
Total	1,190	1,160	2,530,000	7,510	7,310	14,900,000
Total silicon metal	8,370	8,300	26,200,000	36,200	35,800	121,000,000

-- 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.