

Mineral Industry Surveys

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SILICON IN FEBRUARY 2020

Domestic production of silicon materials was 34,500 metric tons (t) in February 2020, a 4% increase from January 2020 production and slightly less than February 2019 production (fig. 1, table 1). Net shipments were 23,100 t, 11% less than shipments in January 2020 and 20% less than shipments in February 2019. Total production and net shipments during the first 2 months of 2020 were 11% less and 18% less, respectively, then those during the same period in 2019 (table 1).

Ending stocks were 19,000 t in February 2020, 14% more than stocks in January 2020 and slightly less than those in February 2019 (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.

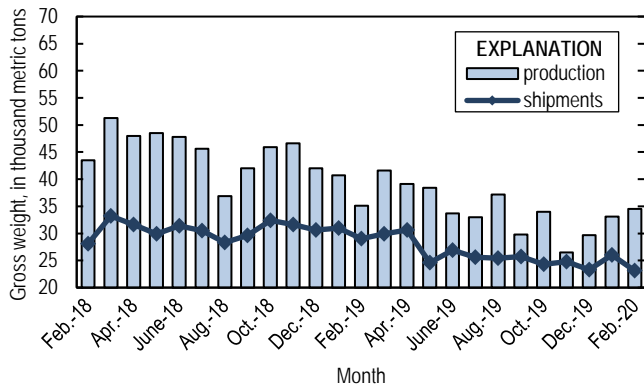


Figure 1. Monthly domestic production of total silicon materials and net shipments from February 2018 through February 2020 (may include revisions to previously published data).

Prices

The average U.S. spot price for silicon metal was 96.00 cents per pound in February 2020, slightly more than the average price in January 2020 and 17% less than that in February 2019. The average U.S. spot price for ferrosilicon, 50% grade, was 104 cents per pound, unchanged since November 2019 and slightly more than the average price in February 2019. The average U.S. spot price for ferrosilicon, 75% grade, was 81.00 cents per pound, 4% more than the average price in January 2020 and 20% less than that in February 2019 (fig. 2).

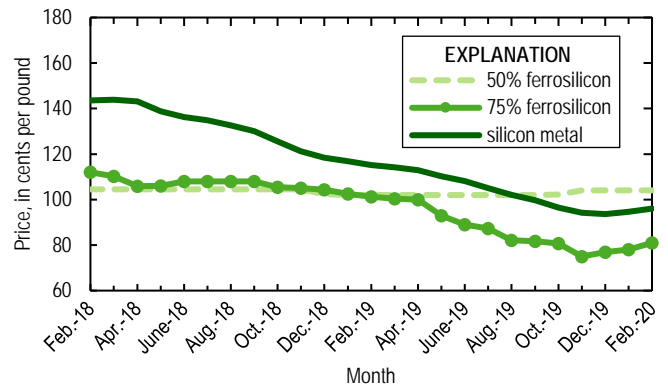


Figure 2. Average monthly spot prices for silicon metal and ferrosilicon 50% and 75% grades, contained silicon, February 2018 through February 2020. Source: CRU Group and S&P Global Platts.

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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
2019:			
January–December	419,000	321,000	18,900
January–February	75,800 ^r	60,000 ^r	19,400 ^r
February	35,100	29,000	19,400
March	41,600	29,900	22,300
April	39,100	30,600	23,000
May	38,400	24,600	28,400
June	33,700	26,900	29,000
July	33,000	25,600	29,000
August	37,200	25,400	31,800
September	29,800	25,700	27,900
October	34,000	24,300	27,800
November	26,500	24,800	22,200
December	29,700	23,300	18,900
2020:			
January	33,100	26,000	16,700
February	34,500	23,100	19,000
January–February	67,600	49,100	19,000

^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 FEBRUARY 2020

		Low	Average	High	Average low, mid, and high
Ferrosilicon:					
50% ferrosilicon ¹	cents per pound of contained silicon	103.00	XX	105.00	103.00–104.00–105.00
75% ferrosilicon ²	do.	79.00	81.00	85.00	XX
Silicon metal, 553 grade ³	cents per pound	94.00	96.00	99.00	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, in U.S. warehouse, U.S. origin and imported material. Average price reported for all transactions during the month.

³S&P Global Platts, 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 2020^{1,2}

(Metric tons, unless otherwise specified)

Country or locality	Gross weight	Contained weight	Value	January–February ³		
				Gross weight	Contained weight	Value
Ferrosilicon:						
More than 55% silicon:						
Canada	178	107	\$268,000	427	256	\$616,000
France	--	--	--	80	48	95,100
Mexico	135	84	304,000	271	165	625,000
United Kingdom	--	--	--	86	51	134,000
Total	313	190	572,000	864	521	1,470,000
Other ferrosilicon:						
Belgium	36	16	25,200	72	31	50,400
Brazil	77	39	152,000	77	39	152,000
Canada	132	66	205,000	153	77	240,000
Finland	--	--	--	20	10	29,800
Japan	2	1	9,400	2	1	9,400
Mexico	42	19	103,000	270	69	453,000
Spain	20	10	31,300	20	10	31,300
United Kingdom	20	9	35,600	20	9	35,600
Total	329	160	562,000	634	245	1,000,000
Total ferrosilicon	642	350	1,130,000	1,500	766	2,470,000
Metal:						
More than 99.99% silicon:						
China	82	82	598,000	439	439	6,720,000
Germany	121	121	3,610,000	353	353	5,290,000
Japan	567	567	26,900,000	1,570	1,570	63,300,000
Korea, Republic of	458	458	4,270,000	984	984	11,100,000
Malaysia	17	17	2,680,000	27	27	4,250,000
Norway	98	98	900,000	180	180	1,650,000
Peru	20	20	74,200	35	35	150,000
Singapore	43	43	881,000	65	65	1,350,000
Taiwan	2	2	56,300	308	308	2,000,000
Vietnam	208	208	2,080,000	261	261	2,140,000
Other [11 countries and (or) localities]	32	32	1,810,000	56	56	3,260,000
Total	1,650	1,650	43,800,000	4,270	4,270	101,000,000
99.00%–99.99% silicon:						
Mexico	--	--	--	3	3	8,350
Pakistan	--	--	--	5	5	7,400
United Kingdom	76	76	78,900	76	76	78,900
Total	76	76	78,900	85	84	94,700
Other silicon:						
Argentina	4	4	5,450	4	4	5,450
Australia	3	3	4,000	7	7	8,960
Belgium	71	69	65,600	71	69	65,600
Canada	4	4	21,800	7	7	36,300
China	5	5	7,220	5	5	7,220
France	4	4	5,080	6	6	7,740
Mexico	2	2	20,500	2	2	20,500

See footnotes at end of table.

TABLE 3—Continued
 U.S. EXPORTS OF FERROSILICON AND SILICON METAL IN FEBRUARY 2020^{1,2}

(Metric tons, unless otherwise specified)

Country or locality	Gross weight	Contained weight	Value	January–February ³		
				Gross weight	Contained weight	Value
Metal—Continued:						
Other silicon:						
Singapore	--	--	--	9	9	\$11,800
South Africa	17	16	\$26,200	17	17	34,100
United Kingdom	3	2	3,310	14	14	18,800
Other [3 countries and (or) localities]	--	--	--	2	2	24,500
Total	114	110	159,000	145	141	241,000
Total silicon metal	1,840	1,840	44,000,000	4,500	4,500	101,000,000

-- 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 FEBRUARY 2020^{1,2}

(Metric tons, unless otherwise specified)

Country or locality	Gross weight	Contained weight	Value	January–February ³		
				Gross weight	Contained weight	Value
Ferrosilicon:						
55%–80% silicon, more than 3% Ca:						
China	--	--	--	40	21	\$89,400
France	16	12	\$30,000	34	23	69,100
South Africa	36	27	56,100	36	27	56,100
Total	52	39	86,100	110	70	215,000
55%–80% silicon, other:						
Brazil	43	32	41,100	884	664	1,050,000
Canada	1,020	749	2,080,000	2,120	1,550	4,390,000
France	--	--	--	126	84	335,000
Germany	62	44	244,000	62	44	244,000
Iceland	471	372	471,000	2,290	1,810	2,250,000
Kazakhstan	595	456	702,000	2,250	1,730	2,630,000
Malaysia	434	330	412,000	1,190	898	1,110,000
Paraguay	317	248	362,000	1,160	916	1,910,000
Russia	--	--	--	12,400	9,450	13,500,000
South Africa	72	51	126,000	346	252	501,000
Other [3 countries and (or) localities]	12	9	80,600	44	33	167,000
Total	3,030	2,290	4,510,000	22,900	17,400	28,100,000
Magnesium ferrosilicon:						
Argentina	76	34	71,400	114	52	108,000
Brazil	102	46	117,000	102	46	117,000
Canada	1,000	460	1,800,000	1,850	848	3,300,000
India	--	--	--	31	13	47,800
Total	1,180	541	1,990,000	2,100	959	3,580,000
Other ferrosilicon:						
Brazil	--	--	--	216	93	248,000
Canada	771	252	987,000	1,740	571	2,160,000
China	--	--	--	107	47	184,000
France	9	4	22,200	9	4	22,200
Germany	2	1	10,400	2	1	10,400
India	--	--	--	20	9	26,700
Russia	1	1	2,860	1	1	2,860
Slovakia	--	--	--	38	17	27,300
Spain	1	1	4,910	1	1	4,910
Total	785	258	1,030,000	2,130	743	2,690,000
Total ferrosilicon	5,040	3,130	7,620,000	27,200	19,200	34,600,000
Metal:						
More than 99.99% silicon:						
Brazil	100	100	274,000	221	221	597,000
China	4	4	590,000	15	15	1,940,000
Denmark	(4)	(4)	151,000	(4)	(4)	177,000
France	(4)	(4)	9,970	(4)	(4)	9,970
Germany	13	13	1,940,000	50	50	3,860,000
Japan	29	29	1,550,000	57	57	2,590,000
Laos	36	36	792,000	36	36	792,000
Russia	(4)	(4)	20,800	(4)	(4)	28,600
Spain	(4)	(4)	3,240	(4)	(4)	3,240
Taiwan	17	17	1,960,000	34	34	3,880,000
Total	200	200	7,280,000	413	413	13,900,000
99.00%–99.99% silicon:						
Australia	291	290	664,000	725	720	1,600,000

See footnotes at end of table.

TABLE 4—Continued
 U.S. IMPORTS OF FERROSILICON AND SILICON METAL IN FEBRUARY 2020^{1,2}

(Metric tons, unless otherwise specified)

Country or locality	Gross weight	Contained weight	Value	January–February ³		
				Gross weight	Contained weight	Value
Metal—Continued:						
99.00%–99.99% silicon:						
Bosnia and Herzegovina	514	511	\$844,000	1,700	1,690	\$2,800,000
Brazil	2,220	2,200	5,260,000	3,460	3,430	7,960,000
Canada	551	547	1,340,000	2,030	2,020	4,950,000
Iceland	503	500	793,000	683	679	1,070,000
Kazakhstan	20	20	28,800	20	20	28,800
Malaysia	600	598	821,000	900	897	1,240,000
Norway	--	--	--	1,050	1,040	2,670,000
South Africa	--	--	--	200	198	239,000
Total	4,700	4,660	9,750,000	10,800	10,700	22,600,000
Other silicon:						
Australia	--	--	--	96	95	204,000
Belgium	--	--	--	40	38	85,800
Brazil	677	669	1,380,000	2,520	2,460	5,430,000
Canada	98	94	240,000	216	208	515,000
China	51	49	55,600	67	64	72,800
Netherlands	39	37	126,000	39	37	126,000
Norway	589	573	875,000	758	739	1,120,000
South Africa	20	20	36,100	40	39	72,200
Sweden	40	39	44,000	40	39	44,000
United Kingdom	2	2	4,590	2	2	4,590
Other [2 countries and (or) localities]	--	--	--	1	1	23,100
Total	1,520	1,480	2,760,000	3,820	3,720	7,700,000
Total silicon metal	6,410	6,350	19,800,000	15,000	14,800	44,200,000

-- 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.