

Mineral Industry Surveys

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SILICON IN JUNE 2024

Domestic silicon production in June 2024 was withheld to avoid disclosing proprietary data (table 1). Net shipments of silicon in June 2024 were 18,400 metric tons (t), 15% less than those in May 2024 and 5% less than those in June 2023. Ending stocks in June 2024 were 20,800 t, compared with the 20,700 t in May 2024 and 16% less than those in June 2023.

On a silicon content basis, total ferrosilicon imports were 15,200 t in June 2024, 7% less than those in May 2024 and more than double those in June 2023 (fig. 1, table 4). Total silicon metal imports, on a silicon content basis, were 10,300 t in June 2024, 6% more than those in May 2024 and 32% more than those in June 2023 (fig. 1, table 5).

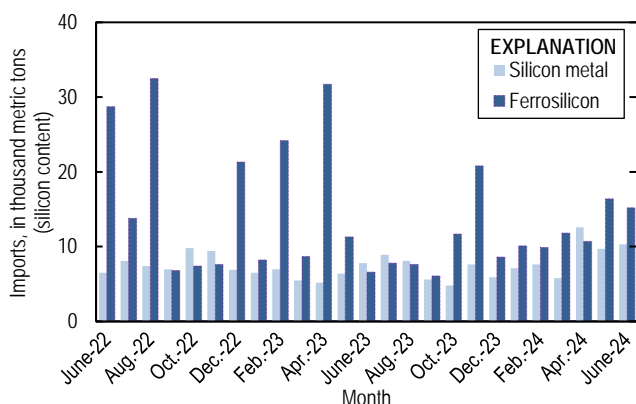


Figure 1. Ferrosilicon and silicon metal imports from June 2022 through June 2024. Source: U.S. Census Bureau.

In June 2024, on a silicon content basis in descending order of quantity, the leading export destinations for silicon metal, more than 99.99% silicon trade category, were Vietnam (1,190 t), Malaysia (801 t), and Japan (362 t) (table 3). In June 2024, on a silicon content basis in descending order of quantity, the leading import sources for ferrosilicon, 55%–80% grade, were Malaysia (6,220 t), Brazil (4,120 t), and Vietnam (1,170 t) and the leading import sources for silicon metal, 99.00%–99.99% silicon trade category, were Canada (2,340 t), Brazil (2,150 t), and Australia (1,170 t) (tables 4, 5).

Prices

The average U.S. spot price for ferrosilicon, 75% grade silicon content, was 136.25 cents per pound in June 2024, compared with 137.75 cents per pound in June 2023 and 6% less than the average price in May 2024. The average U.S. spot price for silicon metal was 202.50 cents per pound in June 2024, 16% more than the average price in June 2023 and 4% more than the average price in May 2024 (fig. 2, table 2).

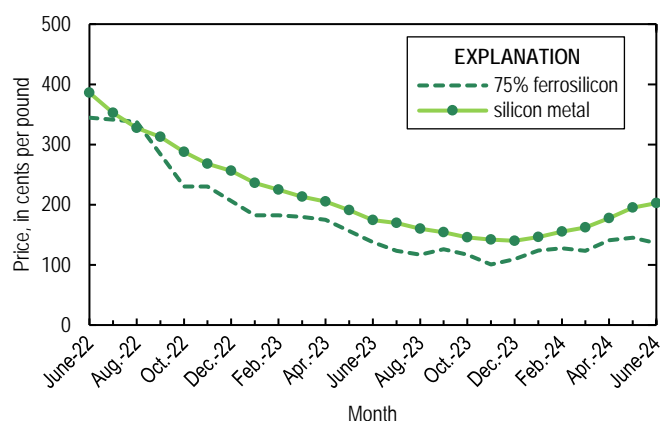


Figure 2. Average monthly spot prices for ferrosilicon, 75% grade silicon content, and silicon metal from June 2022 through June 2024. Source: S&P Global Platts Metals Week.

Industry News

NorSun AS (Norway) announced it had selected Tulsa, OK, as the site for its silicon ingot and wafer manufacturing facility. Pending final permits, approvals, and incentive agreements, construction at the 60 acre greenfield site was expected to begin in late 2024 with ingot and wafer production expected to start in 2026. NorSun manufactured mono-crystalline silicon ingots and wafers for the solar industry (Kristiansen, 2024).

The Government of Canada updated its Critical Minerals List. The June 2024 update retained all 31 minerals from the original 2021 Critical Minerals List and added 3 additional minerals, one of which was silicon metal. Silicon metal was added to the list owing to its importance in the manufacture of semiconductor

chips and to the electronics market in general (Government of Canada, 2024).

Reference Cited

Government of Canada, 2024, Government of Canada releases updated Critical Minerals List: Ottawa, Ontario, Canada, Natural Resources Canada press release, June 10. (Accessed June 12, 2024, at <https://www.canada.ca/en/natural-resources-canada/news/2024/06/government-of-canada-releases-updated-critical-minerals-list.html>.)

Kristiansen, Morten, 2024, Tulsa chosen as NorSun's US expansion: Oslo, Norway, NorSun AS press release, June 25. (Accessed August 14, 2024, at <https://www.norsun.no/artikler/selectusa-2024-summit-site-selection-announcement>.)

A worksheet has been added to the Excel table files that includes a button to remove text and numerical footnotes from data cells. This will allow users to only have numbers in data cells. Please see the worksheet titled RemoveTextButton for instructions in how to use the tool. Note: you must download the excel file in order to use the tool.

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Table 1. Production, shipments, and stocks of silicon alloys and metal in the United States.

[Data are rounded to no more than three significant digits; may not add to totals shown. Includes ferrosilicon, miscellaneous silicon alloys, and silicon metal, excluding semiconductor and solar grades, except where noted. Includes USGS estimates. Data are in metric tons, gross weight. Revised data are marked with a superscript "r". W Withheld to avoid disclosing company proprietary data.]

Year to date	Gross production ¹	Net shipments	Producers' stocks, end of period
2023			
June	W	19,500	24,800
July	W	W	23,200
August	W	21,900	23,000
September	W	W	22,600
October	28,700	W	22,900
November	26,300	20,500	22,000
December	W	20,100	20,400
January–December	W	245,000	20,400
January–June	W	W	24,800
2024			
January	W	24,200	17,500
February	W	W	17,700
March	W	W	18,800
April	W	W	19,900 ^r
May	W	21,600 ^r	20,700 ^r
June	W	18,400	20,800
January–June	W	W	20,800

¹Ferrosilicon production includes material consumed in the production of miscellaneous silicon

Table 2. Prices for ferrosilicon and silicon metal in June 2024.

Product	Currency	Low	Average	High
Ferrosilicon (75%) ¹	cents per pound	125.00	136.25	150.00
Silicon metal, 553 grade ²	cents per pound	195.00	202.50	210.00

¹S&P Global Platts Metals Week, in U.S. warehouse, U.S. origin and imported material. Average price reported for all transactions during the month.

²S&P Global Platts Metals Week, 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.

[Data rounded to no more than three significant digits; may not add to totals shown. Data are in metric tons, unless otherwise specified. Source: U.S. Census Bureau.]

Product, country or locality, and Schedule B number	June			January–June ¹		
	Gross weight	Silicon content	Value (dollars)	Gross weight	Silicon content	Value (dollars)
Ferrosilicon						
More than 55% silicon (7202.21.0000)						
Brazil	15	9	23,000	44	27	69,000
Canada	83	50	142,000	675	405	1,220,000
France	0	0	0	47	28	73,100
Germany	0	0	0	66	41	96,000
India	47	28	73,000	267	193	307,000
Japan	10	6	15,100	19	12	30,100
Mexico	100	77	132,000	767	512	1,070,000
Netherlands	0	0	0	283	170	182,000
South Africa	0	0	0	38	26	42,000
Total	254	170	385,000	2,210	1,410	3,090,000
Other ferrosilicon (7202.29.0000)						
Belgium	0	0	0	180	79	169,000
Brazil	19	10	53,200	78	39	213,000
Canada	19	10	61,700	235	90	530,000
China	0	0	0	4	2	10,700
Ghana	0	0	0	11	6	32,400
Mexico	72	35	246,000	395	196	1,290,000
Singapore	0	0	0	11	6	14,000
Turkey	0	0	0	200	90	506,000
Total	110	55	361,000	1,110	507	2,770,000
Total ferrosilicon	365	224	746,000	3,320	1,920	5,860,000
Metal						
More than 99.99% silicon (2804.61.0000) ²						
China	238	238	7,560,000	708	708	24,300,000
Denmark	20	20	21,500	180	180	23,500,000
Germany	(³)	(³)	2,750	696	696	25,200,000
Japan	362	362	21,800,000	4,080	4,080	214,000,000
Korea, Republic of	10	10	1,440,000	558	558	25,500,000
Malaysia	801	801	4,430,000	3,420	3,420	29,200,000
Singapore	34	34	788,000	221	221	5,320,000
Taiwan	110	110	1,060,000	563	563	8,930,000
Turkey	0	0	0	225	225	6,080,000
Vietnam	1,190	1,190	25,500,000	9,950	9,950	214,000,000
Other [26 countries and (or) localities]	4	4	270,000	70	70	3,380,000
Total	2,770	2,770	62,900,000	20,700	20,700	580,000,000
99.00%–99.99% silicon (2804.69.1000) ²						
Belgium	0	0	0	26	26	68,100
China	3	3	4,500	5	5	7,640
France	40	40	56,400	48	48	67,600
Germany	0	0	0	7	7	9,660
India	0	0	0	4	4	5,550
Japan	0	0	0	7	6	9,190
Korea, Republic of	0	0	0	16	16	22,600
Malaysia	16	16	22,800	87	86	138,000
Mexico	193	191	272,000	193	191	272,000
Singapore	0	0	0	21	21	30,300
Other [2 countries and (or) localities]	0	0	0	7	7	10,500
Total	252	250	355,000	421	417	641,000
Other silicon (2804.69.5000) ²						
Belgium	10	10	13,700	38	37	50,000
Canada	23	23	42,200	349	339	722,000
China	0	0	0	42	41	55,100
Germany	1	1	9,190	33	32	63,800
Mexico	25	24	93,800	237	230	779,000
Netherlands	0	0	0	150	145	118,000
South Africa	0	0	0	47	46	62,200
Trinidad and Tobago	0	0	0	58	56	89,900
United Arab Emirates	0	0	0	11	10	13,900
Vietnam	0	0	0	450	434	6,300,000
Other [5 countries and (or) localities]	0	0	0	9	8	29,900
Total	60	58	159,000	1,420	1,380	8,290,000
Total silicon metal	3,080	3,080	63,400,000	22,500	22,500	588,000,000

¹May include revisions to previously published data.

²Presentation of monthly data is based on the quantities (gross weight) of the leading countries and (or) localities.

³Less than ½ unit.

Table 4. U.S. imports of ferrosilicon.

[Data rounded to no more than three significant digits; may not add to totals shown. Data are in metric tons, unless otherwise specified. Source: U.S. Census Bureau.]

Product, country or locality, and HTS ¹ code	June			January–June ²		
	Gross weight	Silicon content	Value (dollars)	Gross weight	Silicon content	Value (dollars)
Ferrosilicon						
55%–80% silicon, more than 3% Ca (7202.21.1000)						
Canada	0	0	0	72	38	86,100
China	0	0	0	21	12	41,000
France	19	11	71,000	76	46	271,000
India	18	14	31,700	90	68	148,000
Kazakhstan	0	0	0	150	150	202,000
Malaysia	0	0	0	72	54	96,900
South Africa	0	0	0	10	10	21,200
Thailand	0	0	0	81	47	159,000
Total	37	25	103,000	572	426	1,020,000
55%–80% silicon, other (7202.21.5000) ³						
Brazil	5,460	4,120	7,780,000	25,100	19,000	35,600,000
Canada	959	689	3,010,000	9,540	7,020	25,500,000
Iceland	748	576	1,100,000	6,720	5,160	10,500,000
India	267	192	554,000	779	572	1,740,000
Kazakhstan	0	0	0	5,790	4,010	9,880,000
Kuwait	0	0	0	804	594	978,000
Malaysia	8,420	6,220	10,900,000	24,900	18,400	32,100,000
Paraguay	252	190	370,000	1,220	922	1,790,000
Russia	0	0	0	5,740	4,320	11,100,000
Vietnam	1,540	1,170	2,810,000	6,800	5,140	9,980,000
Other [12 countries and (or) localities]	1,450	1,080	2,380,000	3,640	2,680	8,290,000
Total	19,100	14,200	28,900,000	91,100	67,800	148,000,000
80%–90% ferrosilicon (7202.21.7500)						
Canada	0	0	0	22	19	34,300
More than 90% ferrosilicon (7202.21.9000)						
Canada	0	0	0	13	12	22,700
Magnesium ferrosilicon (7202.29.0010)						
Brazil	348	157	538,000	1,590	713	2,460,000
Canada	989	460	3,040,000	6,020	2,780	19,600,000
Germany	0	0	0	1	(⁴)	2,860
India	32	15	81,700	652	296	1,300,000
Norway	0	0	0	23	11	37,700
Paraguay	5	3	15,800	34	17	115,000
Thailand	113	40	217,000	1,000	387	1,780,000
Total	1,490	674	3,890,000	9,320	4,210	25,300,000
Other ferrosilicon (7202.29.0050)						
Brazil	139	61	170,000	275	121	300,000
Canada	616	206	975,000	3,850	1,290	6,900,000
China	0	0	0	105	49	251,000
Czechia	39	12	75,000	39	12	75,000
Germany	0	0	0	24	11	64,000
India	44	19	56,000	49	20	65,900
Japan	0	0	0	27	12	68,900
Paraguay	20	10	56,000	78	38	223,000
Slovakia	0	0	0	156	38	308,000
Spain	0	0	0	31	14	56,800
Total	857	309	1,330,000	4,640	1,600	8,310,000
Total ferrosilicon	21,500	15,200	34,200,000	106,000	74,100	182,000,000

¹Harmonized Tariff Schedule of the United States.

²May include revisions to previously published data.

³Presentation of monthly data is based on the quantities (gross weight) of the leading countries and (or) localities.

⁴Less than ½ unit.

Table 5. U.S. imports of silicon metal.

[Data rounded to no more than three significant digits; may not add to totals shown. Data are in metric tons, unless otherwise specified. Source: U.S. Census Bureau.]

Product, country or locality, and HTS ¹ code	June			January–June ²		
	Gross weight	Silicon content	Value (dollars)	Gross weight	Silicon content	Value (dollars)
Metal						
More than 99.99% silicon (2804.61.0000) ³						
Australia	46	46	171,000	169	169	629,000
Brazil	603	603	3,290,000	2,750	2,750	15,200,000
China	39	39	1,600,000	58	58	3,650,000
Denmark	8	8	585,000	8	8	812,000
Germany	59	59	4,740,000	314	314	27,200,000
Japan	28	28	1,330,000	81	81	4,530,000
Korea, Republic of	0	0	0	126	126	2,870,000
Malaysia	0	0	0	1	1	15,900
Taiwan	23	23	2,490,000	102	102	11,800,000
Vietnam	1	1	49,500	42	42	145,000
Other [6 countries and (or) localities]	(⁴)	(⁴)	144,000	2	2	1,090,000
Total	806	806	14,400,000	3,650	3,650	67,900,000
99.00%–99.99% silicon (2804.69.1000) ³						
Australia	1,170	1,170	3,970,000	4,950	4,920	15,400,000
Brazil	2,170	2,150	6,670,000	9,670	9,600	29,400,000
Canada	2,360	2,340	7,600,000	17,600	17,400	57,600,000
France	810	804	2,180,000	972	965	2,620,000
Georgia	64	63	182,000	824	817	2,060,000
Germany	0	0	0	305	303	732,000
Laos	400	398	930,000	3,430	3,400	7,780,000
Malaysia	70	69	230,000	623	617	1,630,000
Norway	775	770	2,340,000	2,250	2,230	7,380,000
Thailand	384	382	1,030,000	1,950	1,940	4,860,000
Other [4 countries and (or) localities]	96	95	206,000	139	138	315,000
Total	8,290	8,240	25,400,000	42,700	42,400	130,000,000
Other silicon (2804.69.5000) ³						
Australia	59	58	182,000	67	66	208,000
Bahrain	24	23	76,400	69	62	220,000
Brazil	345	336	899,000	2,840	2,780	7,240,000
China	10	9	126,000	60	58	294,000
France	136	132	383,000	360	347	969,000
Germany	0	0	0	99	97	207,000
Japan	(⁴)	(⁴)	2,220	21	21	92,300
Malaysia	410	403	1,250,000	2,490	2,450	7,040,000
Norway	299	291	846,000	1,150	1,110	3,810,000
South Africa	0	0	0	25	25	56,800
Other [6 countries and (or) localities]	6	6	51,900	59	55	266,000
Total	1,290	1,260	3,820,000	7,240	7,080	20,400,000
Total silicon metal	10,400	10,300	43,600,000	53,600	53,100	218,000,000

¹Harmonized Tariff Schedule of the United States.

²May include revisions to previously published data.

³Presentation of monthly data is based on the quantities (gross weight) of the leading countries and (or) localities.

⁴Less than ½ unit.