

# Mineral Industry Surveys

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## SILICON IN OCTOBER 2009

Preliminary data for October 2009 indicate that domestic production and net shipments of silicon ferroalloys, on a gross-weight basis, were the same and slightly higher, respectively, compared with those in September 2009, according to the U.S. Geological Survey. Ending stocks were 5% more than those at the end of September. Stocks included adjustments in inventory and in-plant consumption of ferrosilicon to produce magnesium ferrosilicon and other miscellaneous alloys.

Production and net shipments of silicon ferroalloys during the first 10 months of 2009 decreased by 17% and 7%, respectively, compared with those during the same period in 2008. Production-related statistics for silicon metal were concealed to avoid disclosing company proprietary data.

On a gross-weight basis, U.S. ferrosilicon and silicon metal exports in September 2009 were 56% lower and 10% higher,

respectively, than those in August 2009. U.S. ferrosilicon and silicon metal exports in the first 9 months of 2009 were 30% lower and slightly higher, respectively, than those in the same period of 2008.

On a gross-weight basis, U.S. ferrosilicon and silicon metal imports in September 2009 were 33% lower and 35% higher, respectively, than those in August 2009. U.S. ferrosilicon and silicon metal imports in the first 9 months of 2009 were 72% lower and 42% lower, respectively, than those in the same period of 2008.

### Prices

Prices for silicon materials in October 2009, in cents per pound, silicon content, are listed below.

### 50% Ferrosilicon prices<sup>1</sup>

<u>Price Range</u>	<u>Average Low, Mid, and High Prices</u>
85.00-88.00	85.00-86.50-88.00

### 75% Ferrosilicon prices<sup>2</sup>

<u>Price Range</u>	<u>Average Price</u>
76.00-79.00	77.00

### Silicon metal prices<sup>2</sup>

<u>Price Range</u>	<u>Average Price</u>
110.00-118.00	116.25

<sup>1</sup>Source: Ryan's Notes, North American transaction price. Average prices reported for the price range.

<sup>2</sup>Source: Platts Metals Week, dealer import price. Average price reported for all transactions during the month.

TABLE 1  
U.S. PRODUCTION, SHIPMENTS, AND PRODUCER STOCKS OF SILICON ALLOYS AND METAL IN 2009<sup>1,2,3</sup>

(Metric tons)

Material	Gross production <sup>4</sup>		Net shipments		Stocks,
	October	Year to date	October	Year to date	October 31
Ferrosilicon, all grades <sup>5,6</sup>	21,300	204,000	19,000	181,000	21,500
Silicon metal, excludes semiconductor grades	W	W	W	W	W

W Withheld to avoid disclosing company proprietary data.

<sup>1</sup>Data are rounded to no more than three significant digits.

<sup>2</sup>Includes U.S. Geological Survey estimates.

<sup>3</sup>Data for silvery pig iron (less than 25% silicon) withheld to avoid disclosing company proprietary data.

<sup>4</sup>Includes in-plant consumption, as in production of magnesium ferrosilicon and other miscellaneous alloys.

<sup>5</sup>Ferrosilicon categories were aggregated to avoid disclosing company proprietary data.

<sup>6</sup>Includes miscellaneous silicon alloys and other silicon products.

TABLE 2  
U.S. EXPORTS OF FERROSILICON AND SILICON METAL IN SEPTEMBER 2009<sup>1,2</sup>

(Metric tons, unless otherwise specified)

Country	Gross weight	Contained weight	Value	Year to date		
				Gross weight	Contained weight	Value
<b>Ferrosilicon:</b>						
<b>More than 55% silicon:</b>						
Brazil	--	--	--	38	23	\$54,200
Canada	401	241	\$700,000	4,840	3,320	4,660,000
Colombia	10	7	22,600	43	36	116,000
France	25	19	40,400	25	19	40,400
Germany	--	--	--	20	15	27,100
Japan	--	--	--	18	14	25,200
Malaysia	1	1	3,200	12	9	23,600
Mexico	195	120	333,000	1,720	1,160	2,710,000
Turkey	--	--	--	10	7	22,200
United Kingdom	--	--	--	92	60	106,000
Other (4 countries)	7	4	10,700	17	12	31,300
<b>Total</b>	<b>639</b>	<b>392</b>	<b>1,110,000</b>	<b>6,830</b>	<b>4,670</b>	<b>7,810,000</b>
<b>Other ferrosilicon:</b>						
Belgium	--	--	--	220	110	412,000
Canada	64	32	114,000	950	475	1,470,000
Egypt	--	--	--	100	46	210,000
Germany	--	--	--	73	37	106,000
Japan	17	2	20,100	86	22	100,000
Korea, Republic of	--	--	--	108	47	81,000
Mexico	120	51	226,000	705	303	1,340,000
Portugal	40	19	75,900	80	37	152,000
Spain	--	--	--	180	90	352,000
Turkey	60	27	103,000	189	85	343,000
Other (7 countries)	14	7	23,800	216	107	500,000
<b>Total</b>	<b>316</b>	<b>137</b>	<b>563,000</b>	<b>2,910</b>	<b>1,360</b>	<b>5,070,000</b>
<b>Total ferrosilicon</b>	<b>955</b>	<b>529</b>	<b>1,670,000</b>	<b>9,740</b>	<b>6,030</b>	<b>12,900,000</b>

See footnotes at end of table.

TABLE 2--Continued  
 U.S. EXPORTS OF FERROSILICON AND SILICON METAL IN SEPTEMBER 2009<sup>1,2</sup>

(Metric tons, unless otherwise specified)

Country	Gross weight	Contained weight	Value	Year to date		
				Gross weight	Contained weight	Value
<b>Metal:</b>						
<b>More than 99.99% silicon:</b>						
Brazil	--	XX	--	72	XX	\$4,730,000
China	812	XX	\$47,700,000	4,890	XX	326,000,000
Denmark	8	XX	1,620,000	70	XX	14,100,000
Germany	457	XX	21,300,000	3,760	XX	194,000,000
Hong Kong	48	XX	2,730,000	130	XX	9,820,000
Japan	978	XX	58,300,000	7,520	XX	523,000,000
Korea, Republic of	129	XX	10,500,000	1,350	XX	109,000,000
Malaysia	6	XX	1,180,000	131	XX	14,900,000
Norway	136	XX	7,860,000	3,010	XX	194,000,000
Taiwan	135	XX	9,190,000	938	XX	64,100,000
Other (35 countries)	44	XX	3,190,000	276	XX	22,100,000
<b>Total</b>	<b>2,750</b>	<b>2,750<sup>c</sup></b>	<b>163,000,000</b>	<b>22,100</b>	<b>22,100<sup>c</sup></b>	<b>1,480,000,000</b>
<b>99.00% - 99.99% silicon:</b>						
Belgium	--	--	--	163	161	465,000
China	--	--	--	74	73	192,000
Germany	--	--	--	45	44	63,000
Italy	--	--	--	100	99	194,000
Japan	--	--	--	71	71	159,000
Mexico	8	8	14,200	27	26	49,900
Netherlands	--	--	--	242	241	466,000
Singapore	11	11	15,200	48	47	90,200
Taiwan	2	2	2,570	199	198	537,000
United Kingdom	--	--	--	127	126	249,000
Other (16 countries)	7	7	12,900	148	147	297,000
<b>Total</b>	<b>28</b>	<b>27</b>	<b>44,900</b>	<b>1,240</b>	<b>1,230</b>	<b>2,760,000</b>
<b>Other silicon:</b>						
Canada	4	4	28,900	90	88	189,000
China	6	6	21,700	306	297	631,000
Hong Kong	192	186	253,000	192	186	253,000
Japan	189	183	249,000	920	892	1,840,000
Korea, Republic of	--	--	--	216	210	151,000
Mexico	60	59	195,000	74	72	231,000
Netherlands	80	78	90,000	220	214	247,000
South Africa	--	--	--	50	48	86,600
Taiwan	128	124	169,000	642	623	1,180,000
United Kingdom	--	--	--	83	81	215,000
Other (20 countries)	17	16	28,800	192	187	410,000
<b>Total</b>	<b>676</b>	<b>656</b>	<b>1,040,000</b>	<b>2,990</b>	<b>2,900</b>	<b>5,440,000</b>
<b>Total silicon metal</b>	<b>3,460</b>	<b>3,440</b>	<b>165,000,000</b>	<b>26,400</b>	<b>26,300</b>	<b>1,480,000,000</b>

<sup>c</sup>Estimated. XX Not applicable. -- Zero.

<sup>1</sup>Countries listed are the leading exporters in terms of year-to-date quantities (gross weight).

<sup>2</sup>Data are rounded to no more than three significant digits; may not add to totals shown.

Source: U.S. Census Bureau.

TABLE 3  
U.S. IMPORTS FOR CONSUMPTION OF FERROSILICON AND SILICON METAL IN SEPTEMBER 2009<sup>1,2</sup>

(Metric tons, unless otherwise specified)

Country	Gross weight	Contained weight	Value	Year to date		
				Gross weight	Contained weight	Value
<b>Ferrosilicon:</b>						
<b>55% - 80% silicon, more than 3% Ca:</b>						
Argentina	--	--	--	40	24	\$162,000
Brazil	74	44	\$161,000	375	270	450,000
China	99	52	164,000	757	531	905,000
France	36	22	89,900	127	78	446,000
<b>Total</b>	<b>209</b>	<b>118</b>	<b>416,000</b>	<b>1,300</b>	<b>903</b>	<b>1,960,000</b>
<b>55% - 80% silicon, other:</b>						
Brazil	72	57	127,000	1,020	768	1,150,000
Canada	1,200	891	1,910,000	7,060	5,230	13,300,000
China	132	97	152,000	5,040	3,810	5,510,000
France	72	54	193,000	677	470	1,900,000
Germany	36	26	232,000	184	130	1,020,000
India	--	--	--	38	28	120,000
Norway	--	--	--	49	36	85,200
Russia	4,720	3,610	5,620,000	31,900	24,500	30,400,000
South Africa	176	133	210,000	296	223	353,000
Venezuela	--	--	--	8,200	6,150	9,430,000
Other (1 country)	--	--	--	26	17	187,000
<b>Total</b>	<b>6,410</b>	<b>4,870</b>	<b>8,440,000</b>	<b>54,500</b>	<b>41,400</b>	<b>63,500,000</b>
<b>80% - 90% silicon:</b>						
Germany	19	14	91,700	19	14	91,700
Norway	--	--	--	1	1	3,170
<b>Total</b>	<b>19</b>	<b>14</b>	<b>91,700</b>	<b>20</b>	<b>15</b>	<b>94,800</b>
<b>Magnesium ferrosilicon:</b>						
Argentina	19	5	52,900	393	169	1,260,000
Brazil	283	126	422,000	1,820	847	3,040,000
Canada	645	294	1,290,000	4,200	1,920	8,560,000
China	--	--	--	1,510	811	1,890,000
France	176	17	239,000	488	165	648,000
Germany	15	10	25,200	15	10	25,200
India	--	--	--	2	1	3,340
Japan	--	--	--	16	7	58,400
South Africa	--	--	--	17	8	29,600
<b>Total</b>	<b>1,140</b>	<b>452</b>	<b>2,030,000</b>	<b>8,470</b>	<b>3,940</b>	<b>15,500,000</b>
<b>Other ferrosilicon:</b>						
Brazil	20	3	13,700	78	23	58,100
Canada	578	130	693,000	2,850	856	3,640,000
China	40	20	54,700	40	20	54,700
France	--	--	--	18	9	39,600
Poland	--	--	--	21	5	72,000
Russia	--	--	--	152	71	138,000
<b>Total</b>	<b>638</b>	<b>152</b>	<b>761,000</b>	<b>3,160</b>	<b>984</b>	<b>4,000,000</b>
<b>Total ferrosilicon</b>	<b>8,410</b>	<b>5,610</b>	<b>11,700,000</b>	<b>67,400</b>	<b>47,200</b>	<b>85,100,000</b>

See footnotes at end of table.

TABLE 3--Continued  
 U.S. IMPORTS FOR CONSUMPTION OF FERROSILICON AND SILICON METAL IN SEPTEMBER 2009<sup>1,2</sup>

(Metric tons, unless otherwise specified)

	Gross weight	Contained weight	Value	Year to date		
				Gross weight	Contained weight	Value
<b>Metal:</b>						
<b>More than 99.99% silicon:</b>						
Canada	10	XX	\$387,000	174	XX	\$7,390,000
China	3	XX	90,800	70	XX	1,460,000
Denmark	1	XX	283,000	4	XX	1,700,000
Germany	150	XX	9,700,000	1,220	XX	84,300,000
Italy	16	XX	714,000	153	XX	7,860,000
Japan	15	XX	2,900,000	170	XX	19,600,000
Korea, Republic of	37	XX	2,830,000	180	XX	11,000,000
Norway	--	XX	--	17	XX	974,000
Spain	2	XX	9,160	5	XX	29,500
Taiwan	--	XX	--	28	XX	630,000
Other (10 countries)	(3)	XX	62,300	4	XX	3,330,000
<b>Total</b>	<b>234</b>	<b>234<sup>e</sup></b>	<b>17,000,000</b>	<b>2,030</b>	<b>2,030<sup>e</sup></b>	<b>138,000,000</b>
<b>99.00% - 99.99% silicon:</b>						
Australia	288	286	698,000	9,470	9,420	24,800,000
Brazil	3,600	3,570	8,600,000	25,900	25,100	62,600,000
Canada	697	692	1,570,000	4,800	4,770	10,100,000
Japan	--	--	--	14	1	20,000
Laos	540	537	1,070,000	5,220	5,190	11,500,000
Norway	241	239	815,000	6,430	6,390	21,200,000
Philippines	57	57	114,000	489	486	1,020,000
South Africa	4,460	4,430	10,000,000	16,800	16,700	40,800,000
Sweden	--	--	--	32	30	244,000
Ukraine	--	--	--	302	299	800,000
<b>Total</b>	<b>9,880</b>	<b>9,800</b>	<b>22,900,000</b>	<b>69,400</b>	<b>68,400</b>	<b>173,000,000</b>
<b>Other silicon:</b>						
Australia	--	--	--	969	951	2,750,000
Brazil	90	89	212,000	1,820	1,700	5,590,000
Canada	294	289	622,000	1,600	1,570	3,160,000
China	--	--	--	462	456	739,000
Germany	35	33	38,000	35	33	38,000
Japan	43	31	108,000	66	53	214,000
Norway	8	8	22,000	820	683	1,850,000
Philippines	20	20	28,000	92	90	157,000
Ukraine	--	--	--	318	314	801,000
United Kingdom	--	--	--	32	31	75,300
Other (5 countries)	--	--	--	42	3	67,700
<b>Total</b>	<b>490</b>	<b>471</b>	<b>1,030,000</b>	<b>6,260</b>	<b>5,890</b>	<b>15,400,000</b>
<b>Total silicon metal</b>	<b>10,600</b>	<b>10,500</b>	<b>40,900,000</b>	<b>77,700</b>	<b>76,300</b>	<b>327,000,000</b>

<sup>e</sup>Estimated. XX Not applicable. -- Zero.

<sup>1</sup>Presentation of monthly data is based on the year-to-date quantities (gross weight) of the leading countries.

<sup>2</sup>Data are rounded to no more than three significant digits; may not add to totals shown.

<sup>3</sup>Less than ½ unit.

Source: U.S. Census Bureau.