

Mineral Industry Surveys

For information, contact:

Donald W. Olson, Abrasives Commodity Specialist
U.S. Geological Survey
989 National Center
Reston, VA 20192
Telephone: (703) 648-7721, Fax: (703) 648-7757
E-mail: dolson@usgs.gov

Monica D. Zeigler (Data)
Telephone: (703) 648-7981
Fax: (703) 648-7975
E-mail: mdzeigler@usgs.gov

Internet: <http://minerals.usgs.gov/minerals>

MANUFACTURED ABRASIVES IN THE FIRST QUARTER 2009

The U.S. Geological Survey (USGS) collects quarterly data on manufactured abrasives through its survey of producers. Manufactured abrasives included in this report are fused aluminum oxide, silicon carbide, and metallic abrasives. Where indicated, Canadian and United States data are combined to protect proprietary information. Except where noted, the quantities cited in this report are in metric units. All unit value calculations in this report are based on unrounded data.

Fused Aluminum Oxide

The United States and Canadian combined production during the first quarter of 2009 was estimated to be 5,000 metric tons (t) of regular-grade crude fused aluminum oxide with an estimated value of \$800,000. One company, operating one plant in Canada and one in the United States, produced fused aluminum oxide. This total production figure has been rounded to the nearest 5,000 t to avoid disclosing proprietary data.

According to the U.S. Census Bureau, U.S. imports of crude fused aluminum oxide for 2009 through the month of March were 7,340 t valued at \$5.01 million, or an average of \$682 per ton. About 69% of the imports came from Venezuela and combined 31%, in decreasing order of quantity, from Canada, Hungary, China, France, Germany, and the Slovakia. Imports of crude fused aluminum oxide from China may not all be abrasive-quality material.

U.S. imports of refined and ground fused aluminum oxide for 2009 through the month of March were 7,810 t valued at \$9.04 million, or an average of \$1,160 per ton.

U.S. exports of crude fused aluminum oxide for 2009 through the month of March were 3,400 t. The exports were valued at \$8.58 million, or \$2,520 per ton. Canada received 43% of the exports that were shipped; Mexico, 21%; Germany, 18%; Japan, 6%; and others, 12%.

Silicon Carbide

Abrasive-grade silicon carbide is produced by one company in the United States. The total production of abrasive-grade silicon carbide during the first quarter of 2009 was estimated to be 10,000 t, with an estimated value of \$7.4 million. This total

production figure has been rounded to the nearest 5,000 t to avoid disclosing proprietary data.

Total U.S. imports of crude silicon carbide for 2009 through the month of March were 11,300 t valued at \$7.82 million; imports from China alone were 6,360 t valued at \$5.97 million. The average price of imported crude silicon carbide, excluding Chinese crude, was \$375 per ton; the average price of Chinese crude was \$693 per ton. U.S. imports of refined and ground silicon carbide for the same period were 4,490 t valued at \$11.9 million, or an average of \$2,660 per ton. During the first quarter of 2009, China accounted for 56% of the crude material and 30% of the refined and ground material.

U.S. exports of crude silicon carbide for 2009 through the month of March were reported to be 3,520 t with a value of \$5.96 million. Exports of refined and ground silicon carbide were 923 t valued at \$3.50 million. About 99% of the crude material was shipped to, in decreasing order of quantity, Norway, Mexico, Germany, and Japan. About 95% of the refined material was shipped to, in decreasing order of quantity, Canada, Mexico, Germany, Norway, and Japan.

Metallic Abrasives

Metallic abrasives information was collected from 12 companies operating 13 U.S. plants. During the first quarter of 2009, five companies produced 40,300 t of steel shot and grit, a 43% decrease compared with that of the same period in 2008. At least one of the companies produced shot and grit from reclaimed material. Total first quarter 2009 production was valued at \$18.3 million, or an average of \$455 per ton. Total production in 2008 was 210,000 t valued at \$98.1 million.

Shipments of steel shot and grit in the first quarter of 2009 were 37,300 t valued at \$17.0 million, or an average of \$456 per ton, compared with shipments during the first quarter of 2008, which were 70,800 t valued at \$34.5 million for an average of \$488 per ton.

During the first quarter, five companies produced 381 t of other types of metallic shot and grit (primarily cut wire shot) valued at \$1.46 million.

Imports of all types of metallic shot and grit for 2009 through

the month of March were 2,770 t valued at \$1.98 million for an average of \$715 per ton. Canada was the largest supplier, accounting for 62% of the tonnage imported.

Exports of all types of metallic abrasives for 2009 through the month of March were 4,470 t valued at \$5.85 million, or an

average of \$1,310 per ton. Shipments to Mexico accounted for 40% of the exports; an additional 28% was shipped to Canada and 14% was shipped to China.

TABLE 1
MANUFACTURED ABRASIVES¹

(Metric tons, unless otherwise specified)

Source and product	2009									
			Second quarter		Third quarter		Fourth quarter		First quarter	
	Quantity	Value (thousands)	Quantity	Value (thousands)	Quantity	Value (thousands)	Quantity	Value (thousands)	Quantity	Value (thousands)
United States and Canada, production: ²										
Silicon carbide ³	10,000	\$7,400	10,000	\$7,400	10,000	\$7,800	10,000	\$7,400	10,000	\$7,400
Crude aluminum oxide, regular-grade	5,000	800	5,000	800	5,000	800	5,000	800	5,000	800
United States, production:										
Steel shot and grit	70,800	32,800	53,300	25,000	46,500	22,100	39,800	18,200	40,300	18,300
Other shot and grit ^{e,4}	500	2,030	503	2,270	465	1,830	439	1,580	381	1,460
Total	71,300	34,800	53,800	27,300	47,000	23,900	40,200	19,800	40,700	19,800
United States, shipments:										
Steel shot and grit	70,800	34,500	55,100	27,500	45,100	21,600	39,700	18,400	37,300	17,000
Other shot and grit ^{e,4}	495	2,250	496	2,230	484	2,150	438	1,830	392	1,510
Total	71,300	36,800	55,600	29,700	45,500	23,800	40,200	20,200	37,700	18,500

^eEstimated.

¹Data are rounded to no more than three significant digits; may not add to totals shown.

²Quantities are rounded to the nearest 5,000 tons to avoid disclosing proprietary data; values are estimated.

³Includes materials for metallurgical uses and other applications.

⁴Includes cut wire shot and reclaimed shot and grit from primary producers.

TABLE 2
U.S. EXPORTS AND IMPORTS FOR CONSUMPTION OF ALUMINUM OXIDE, SILICON CARBIDE, AND METALLIC ABRASIVES¹

	2009									
			Second quarter		Third quarter		Fourth quarter		First quarter	
	Quantity (metric tons)	Value ² (thousands)								
Exports:										
Aluminum oxide:										
Crude	5,580	\$15,300	6,370	\$17,500	6,090	\$15,300	3,860	\$11,000	3,400	\$8,580
Ground and refined	297,000	156,000	298,000	171,000	283,000	160,000	222,000	125,000	184,000	86,500
Silicon carbide:										
Crude	2,080	6,070	2,180	5,480	2,790	5,680	3,530	7,480	3,520	5,960
Ground and refined	1,790	5,360	1,780	6,520	1,470	4,970	1,370	5,040	923	3,500
Metallic abrasives	12,400	15,600	8,290	12,900	6,950	11,000	6,680	8,920	4,470	5,850
Imports for consumption:										
Aluminum oxide:										
Crude	64,900	30,000	90,500	39,500	59,000	37,100	29,800	18,300	7,340	5,010
Ground and refined	9,210	11,100	11,900	13,600	9,970	12,800	10,700	12,800	7,810	9,040
Silicon carbide:										
Crude	16,200	11,600	28,600	20,300	21,000	19,400	21,500	21,600	11,300	7,820
Ground and refined	11,100	17,300	11,700	20,400	9,220	20,000	7,570	18,100	4,490	11,900
Metallic abrasives	4,840	4,310	13,100	8,410	12,800	10,100	5,910	5,450	2,770	1,980

¹Data are rounded to no more than three significant digits; may not add to totals shown.

²Customs value.

Source: U.S. Census Bureau.