

Mineral Industry Surveys

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MANUFACTURED ABRASIVES IN THE FIRST QUARTER 2008

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 2008 was estimated to be 5,000 metric tons (t) of regular-grade crude fused aluminum oxide with an estimated value of \$800,000. Two companies, operating one plant in Canada and two 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 2008 through the month of March were 64,900 t valued at \$30.0 million, or an average of \$463 per ton. About 88% of the imports came from China and 12% from Venezuela, France, Russia, Canada, Germany, and Italy, combined. 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 2008 through the month of March were 9,210 t valued at \$11.1 million, or an average of \$1,200 per ton.

U.S. exports of crude fused aluminum oxide for 2008 through the month of March were 5,580 t. The exports were valued at \$15.3 million, or \$2,741 per ton. Canada received 40% of the exports that were shipped; Germany, 19%; Mexico, 13%; Japan, 9%; and others, 19%.

The U.S. Department of Defense had stored fused aluminum oxide in the National Defense Stockpile (NDS), but all stocks of both the crude fused aluminum oxide and fused aluminum oxide abrasive grain have been sold. No further stockpiling of crude fused aluminum oxide by the Department of Defense is anticipated.

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 2008 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 2008 through the month of March were 16,200 t valued at \$11.6 million; imports from China alone were 13,200 t valued at \$9.14 million. The average price of imported crude silicon carbide, excluding Chinese crude, was \$809 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 11,100 t valued at \$17.3 million, or an average of \$1,551 per ton. During the first quarter of 2008, China accounted for 82% of the crude material and 54% of the refined and ground material.

U.S. exports of crude silicon carbide for 2008 through the month of March were reported to be 2,080 t with a value of \$6.07 million. Exports of refined and ground silicon carbide were 1,790 t valued at \$5.36 million. About 98% of the crude material was shipped to, in decreasing order of quantity, Norway, Mexico, and Japan. About 96% of the refined material went to, in decreasing order of quantity, Canada, Mexico, Japan, Germany, China, Brazil, and the United Kingdom.

The U.S. Department of Defense also had stored silicon carbide in the stockpile, but the NDS has sold all stocks of the silicon carbide. No further stockpiling is anticipated.

Metallic Abrasives

Metallic abrasives information was collected from 12 companies operating 13 U.S. plants. During the first quarter of 2008, five companies produced 70,800 t of steel shot and grit, a 38% increase compared with that of the same period in 2007. At least one of the companies produced shot and grit from reclaimed material. Total first quarter 2008 production was valued at \$32.8 million, or an average of \$463 per ton. Total production in 2007 was 201,000 t valued at \$87.9 million.

Shipments of steel shot and grit in the first quarter of 2008 were 70,800 t valued at \$34.5 million, or an average of \$488 per ton, compared with shipments during the first quarter of 2007, which were 56,000 t valued at \$24.6 million for an average of \$440 per ton.

During the first quarter, seven companies produced 500 t of other types of metallic shot and grit (primarily cut wire shot) valued at \$2.03 million.

Imports of all types of metallic shot and grit for 2008 through the month of March were 4,840 t valued at \$4.31 million for an

average of \$892 per ton. Canada was the largest supplier, accounting for 67% of the tonnage imported.

Exports of all types of metallic abrasives for 2008 through the month of March were 12,400 t valued at \$15.6 million, or an average of \$1,250 per ton. Shipments to China accounted for 59% of the exports; an additional 16% was shipped to Canada and 15% was shipped to Mexico.

TABLE 1
MANUFACTURED ABRASIVES¹

(Metric tons, unless otherwise specified)

Source and product	2007								2008	
	First quarter		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	\$7,600	10,000	\$7,400	10,000	\$7,400	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	51,300	21,300	49,100	20,400	50,400	23,100	50,200	23,000	70,800	32,800
Other shot and grit ^{e,4}	688	2,870	667	2,830	416	1,830	413	1,810	500	2,030
Total	51,900	24,200	49,700	23,300	50,800	25,000	50,600	24,800	71,300	34,800
United States, shipments:										
Steel shot and grit	56,000	24,600	53,400	23,700	53,700	26,400	53,900	25,200	70,800	34,500
Other shot and grit ^{e,4}	619	2,750	652	3,000	435	2,050	416	1,940	495	2,250
Total	56,600	27,400	54,100	26,700	54,200	28,400	54,300	27,200	71,300	36,800

^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.