

Mineral Industry Surveys

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MANUFACTURED ABRASIVES IN THE SECOND QUARTER 2020

The U.S. Geological Survey (USGS) collects quarterly data on manufactured abrasives through its survey of producers. Manufactured abrasives included in this report are metallic abrasives, fused aluminum oxide, and silicon carbide. Where indicated, data from the United States and Canada are combined to avoid disclosing 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.

Metallic Abrasives

During the second quarter of 2020, an estimated 43,000 metric tons (t) of steel shot and grit valued at an estimated \$26 million was produced, and an estimated 47,000 t valued at \$32 million was shipped in the United States. This was compared with 43,000 t valued at \$26 million produced and 47,600 t valued at \$32 million shipped during the same period in 2019. At least one company produced shot and grit from reclaimed material. Production of other types of metallic shot and grit (primarily cut wire shot) was estimated to be 1,000 t valued at \$3 million, essentially unchanged compared with that of the first quarter of 2020. Shipments of other types of metallic shot in the second quarter of 2020 were 1,000 t valued at \$4 million; the quantity was essentially unchanged compared with that of the first quarter of 2020. Total second quarter 2020 production of metallic abrasives was 44,000 t valued at \$29 million, for an average unit value of \$659 per ton. Total second quarter 2020 shipments of metallic abrasives were 48,000 t valued at \$36 million, for an average unit value of \$750 per ton (table 1).

Imports of all types of metallic abrasives during the second quarter of 2020 were 5,210 t valued at \$6.54 million, for an average unit value of \$1,260 per ton (table 2).

Exports of all types of metallic abrasives during the second quarter of 2020 were 3,220 t valued at \$4.16 million, for an average unit value of \$1,290 per ton (table 2).

Fused Aluminum Oxide

Combined production of regular-grade crude fused aluminum oxide in the United States and Canada during the second quarter of 2020 was estimated to be 5,000 t with an estimated value of \$800,000, which has been essentially unchanged for several years owing to production figures being rounded to the nearest 5,000 t to avoid disclosing proprietary data (table 1).

Imports of crude fused aluminum oxide during the second quarter of 2020 were 23,600 t valued at \$15.7 million, for an average unit value of \$664 per ton. Imports of ground and refined fused aluminum oxide for the same period were 15,200 t valued at \$19.5 million, for an average unit value of \$1,280 per ton (table 2).

Exports of crude fused aluminum oxide for the second quarter of 2020 were 2,650 t valued at \$7.98 million, for an average unit value of \$3,010 per ton (table 2).

Silicon Carbide

Total production of abrasive-grade silicon carbide in the United States and Canada during the second quarter of 2020 was estimated to be 10,000 t with an estimated value of \$7.4 million, which has been essentially unchanged in quantity and value for several years owing to production figures being rounded to the nearest 5,000 t to avoid disclosing proprietary data (table 1).

Imports of crude silicon carbide during the second quarter of 2020 were 15,500 t valued at \$9.44 million, for an average unit value of \$607 per ton. Imports of ground and refined silicon carbide for the same period were 9,680 t valued at \$16.9 million, for an average unit value of \$1,750 per ton (table 2).

Exports of crude silicon carbide during the second quarter of 2020 were 279 t with a value of \$1.27 million, for an average unit value of \$4,560 per ton. Exports of ground and

refined silicon carbide for the same period were 1,230 t valued at \$3.43 million, for an average unit value of \$2,780 per ton (table 2).

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TABLE 1
PRODUCTION AND SHIPMENTS OF ALUMINUM OXIDE, SILICON CARBIDE, AND METALLIC ABRASIVES¹

Source and product	2019							
	2d quarter		3d quarter		4th quarter		1st quarter–4th quarter	
	Quantity (metric tons)	Value ^e (thousands)						
United States, production:								
Steel shot and grit ^e	43,000	\$26,000	43,000	\$26,000	43,000	\$26,000	173,000	\$104,000
Other shot and grit ^{e,2}	1,000	3,000	1,000	2,000	1,000	2,000	4,000	10,000
Total	44,000	29,000	44,000	28,000	44,000	28,000	177,000	114,000
United States, shipments:								
Steel shot and grit	47,600 ^e	32,000 ^e	47,700 ^e	32,000 ^e	48,000 ^e	33,000 ^e	191,000	129,000 ^e
Other shot and grit ^{e,2}	1,000	4,000	1,000	3,000	1,000	3,000	4,000	13,000
Total	48,600	36,000	48,700	35,000	49,000	36,000	195,000	142,000
United States and Canada, production: ^{e,3}								
Crude aluminum oxide, regular-grade	5,000	800	5,000	800	5,000	800	10,000	1,700
Silicon carbide ⁴	10,000	7,400	10,000	7,400	10,000	7,400	35,000	26,000
2020								
Source and product	1st quarter		2d quarter					
	Quantity (metric tons)	Value ^e (thousands)	Quantity (metric tons)	Value ^e (thousands)				
United States, production:								
Steel shot and grit ^e	43,000	\$26,000	43,000	\$26,000				
Other shot and grit ^{e,2}	1,000	3,000	1,000	3,000				
Total ^e	44,000	29,000	44,000	29,000				
United States, shipments:								
Steel shot and grit ^e	48,000	33,000	47,000	32,000				
Other shot and grit ^{e,2}	1,000	4,000	1,000	4,000				
Total ^e	49,000	37,000	48,000	36,000				
United States and Canada, production: ^{e,3}								
Crude aluminum oxide, regular-grade	5,000	800	5,000	800				
Silicon carbide ⁴	10,000	7,400	10,000	7,400				

^eEstimated.

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

²Includes cut wire shot and reclaimed shot and grit from primary producers.

³Quantities are rounded to the nearest 5,000 tons to avoid disclosing proprietary data. Values are rounded to avoid disclosing proprietary data.

⁴Includes materials for metallurgical uses and other applications.

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

Source and product	2019							
	2d quarter		3d quarter		4th quarter		1st quarter–4th quarter	
	Quantity (metric tons)	Value ² (thousands)						
Exports:								
Metallic abrasives	8,130	\$9,750	8,080	\$9,670	7,260	\$8,390	31,200	\$37,000
Aluminum oxide, crude	6,350	19,200	3,820 ^r	10,600	2,990	9,190 ^r	18,400	56,000 ^r
Silicon carbide:								
Crude	607	1,380	467	1,120	491	1,310	2,340	5,250
Ground and refined	2,030	4,590	1,650	3,900	2,340	3,900	9,160	18,100
Imports for consumption:								
Metallic abrasives	7,860	10,100	6,680	9,070 ^r	6,280	8,110	27,900	36,400 ^r
Aluminum oxide:								
Crude	23,000	16,900	38,700 ^r	27,600 ^r	21,400	14,800	118,000	84,400 ^r
Ground and refined	17,200	23,800	16,800	19,100 ^r	15,900	19,000	65,700	82,000 ^r
Silicon carbide:								
Crude	15,100	13,300	36,700	25,100	29,400	17,800	99,300	69,600
Ground and refined	7,620 ^r	15,700 ^r	6,180	13,100	7,630 ^r	14,600	31,300	62,100
2020								
Source and product	1st quarter		2d quarter					
	Quantity (metric tons)	Value ² (thousands)	Quantity (metric tons)	Value ² (thousands)				
Exports:								
Metallic abrasives	5,840	\$8,770	3,220	\$4,160				
Aluminum oxide, crude	4,160	11,700	2,650	7,980				
Silicon carbide:								
Crude	460	687	279	1,270				
Ground and refined	2,350	4,860	1,230	3,430				
Imports for consumption:								
Metallic abrasives	6,360	7,490	5,210	6,540				
Aluminum oxide:								
Crude	15,500	11,100	23,600	15,700				
Ground and refined	15,500	18,300	15,200	19,500				
Silicon carbide:								
Crude	18,000	13,200	15,500	9,440				
Ground and refined	6,770	14,200	9,680	16,900				

^rRevised.

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

²Export values are free alongside ship values; import values are customs values.

Source: U.S. Census Bureau.