

Mineral Industry Surveys

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MANUFACTURED ABRASIVES IN THE FIRST QUARTER 2025

The U.S. Geological Survey 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, 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 first quarter of 2025, an estimated 41,700 metric tons (t) of steel shot and grit valued at an estimated \$32.1 million was produced, and an estimated 46,900 t valued at an estimated \$50.6 million was shipped in the United States. This was compared with an estimated 50,400 t valued at \$35.5 million produced and an estimated 57,500 t valued at \$69.8 million shipped during the first quarter of 2024. 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 497 t valued at \$1.83 million, 22% less in quantity and 35% less in value compared with those of the first quarter of 2024. The quantity of shipments of other types of metallic shot was estimated to be 572 t valued at \$2.52 million, 13% less in quantity and 15% less in value compared with those of the first quarter of 2024. Total first quarter 2025 production of metallic abrasives was 42,200 t valued at \$33.9 million, for an average unit value of \$803 per ton. Total first quarter 2025 shipments of metallic abrasives were 47,500 t valued at \$53.1 million, for an average unit value of \$1,120 per ton (table 1).

Imports of all types of metallic abrasives during the first quarter of 2025 were 4,240 t valued at \$8.90 million, for an average unit value of \$2,100 per ton compared with 4,040 t valued at \$8.24 million, for an average unit value of \$2,040 during the first quarter of 2024 (table 2).

Exports of all types of metallic abrasives during the first quarter of 2025 were 4,790 t valued at \$8.23 million, for an average unit value of \$1,720 per ton compared with 4,980 t valued at \$8.75 million, for an average unit value of \$1,760 during the first quarter of 2024 (table 2).

Fused Aluminum Oxide

Production quantities are rounded to the nearest 5,000 t to avoid disclosing proprietary data. Combined production of regular-grade crude fused aluminum oxide in the United States and Canada during the first quarter of 2025 was estimated to be 5,000 t, which has been unchanged in quantity for several years owing to production figures being rounded. The production value was estimated at \$1.49 million—62% more than in the first quarter of 2024 and 10% more than in the fourth quarter of 2024 (table 1).

Imports of crude fused aluminum oxide during the first quarter of 2025 were 24,500 t valued at \$17.1 million, for an average unit value of \$702 per ton. Imports of ground and refined fused aluminum oxide for the same period were 14,400 t valued at \$21.5 million, for an average unit value of \$1,490 per ton (table 2).

Exports of crude fused aluminum oxide for the first quarter of 2025 were 1,650 t valued at \$5.05 million, for an average unit value of \$3,050 per ton (table 2).

Silicon Carbide

Production quantities are rounded to the nearest 5,000 t to avoid disclosing proprietary data. Total production of abrasive-grade silicon carbide in the United States during the first quarter of 2025 was estimated to be 10,000 t with an estimated value of \$6.79 million, which has been unchanged in quantity. The value was an 15% increase compared with the first quarter of 2024 and 24% decrease from that of the fourth quarter of 2024 (table 1).

Imports of crude silicon carbide during the first quarter of 2025 were 27,000 t valued at \$17.7 million, for an average

unit value of \$656 per ton. Imports of ground and refined silicon carbide for the same period were 9,330 t valued at \$32.2 million, for an average unit value of \$3,450 per ton (table 2).

Exports of crude silicon carbide during the first quarter of 2025 were 1,030 t with a value of \$1.29 million, for an average unit value of \$1,250 per ton. Exports of ground and refined silicon carbide for the same period were 1,510 t valued at \$5.79 million, for an average unit value of \$3,840 per ton (table 2).

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Table 1. Estimated production and shipments of aluminum oxide, silicon carbide, and metallic abrasives.

[Data are rounded to no more than three significant digits; may not add to totals shown. Revised data are marked with a superscript "r"]

Source and product	2024								2025			
	1st quarter		2nd quarter		3d quarter		4th quarter		1st quarter–4th quarter		1st quarter	
	Quantity (metric tons)	Value (thousand dollars)	Quantity (metric tons)	Value (thousand dollars)	Quantity (metric tons)	Value (thousand dollars)	Quantity (metric tons)	Value (thousand dollars)	Quantity (metric tons)	Value (thousand dollars)	Quantity (metric tons)	Value (thousand dollars)
United States, production												
Steel shot and grit	50,400	35,500	48,800	40,800	47,800	35,100	43,800 ^r	35,400 ^r	191,000 ^r	147,000	41,700	32,100
Other shot and grit ¹	633	2,820	614	3,240	575	2,650	536 ^r	2,230 ^r	2,360 ^r	10,900 ^r	497	1,830
Total	51,000	38,300	49,500	44,000	48,400	37,800	44,300 ^r	37,600 ^r	193,000 ^r	158,000	42,200	33,900
United States, shipments												
Steel shot and grit	57,500	69,800	55,700	59,300 ^r	54,800	54,100 ^r	52,200 ^r	53,800 ^r	220,000 ^r	237,000 ^r	46,900	50,600
Other shot and grit ¹	658	2,950	638	3,390	600	2,760	542 ^r	2,950	2,440 ^r	12,100	572	2,520
Total	58,100	72,700	56,400	62,700 ^r	55,400	56,800 ^r	52,700 ^r	56,800 ^r	223,000 ^r	249,000 ^r	47,500	53,100
United States and Canada, production²												
Crude aluminum oxide, regular-grade	5,000	917	5,000	1,060	5,000	1,210	5,000	1,400	25,000 ^r	4,540 ^r	5,000	1,490
United States, production²												
Silicon carbide ³	10,000	5,890	10,000	6,770	10,000	7,780	10,000	8,950	40,000	29,400	10,000	6,790

¹Includes cut wire shot and reclaimed shot and grit from primary producers.²Quantities are rounded to the nearest 5,000 tons to avoid disclosing proprietary data. Values are rounded to avoid disclosing proprietary data.³Includes materials for metallurgical uses and other applications.

Table 2. U.S. exports and imports for consumption of aluminum oxide, silicon carbide, and metallic abrasives.

[Data are rounded to no more than three significant digits; may not add to totals shown. Source: U.S. Census Bureau.]

Source and product	2024								2025			
	1st quarter		2nd quarter		3d quarter		4th Quarter		1st quarter–4th quarter		1st quarter	
	Quantity (metric tons)	Value ¹ (thousand dollars)	Quantity (metric tons)	Value ¹ (thousand dollars)	Quantity (metric tons)	Value ¹ (thousand dollars)	Quantity (metric tons)	Value ¹ (thousand dollars)	Quantity (metric tons)	Value ¹ (thousand dollars)	Quantity (metric tons)	Value ¹ (thousand dollars)
Exports												
Metallic abrasives	4,980	8,750	4,950	8,240	4,660	7,770	4,690	10,600	19,300	35,400	4,790	8,230
Aluminum oxide, crude	2,110	7,040	2,620	9,530	2,140	7,990	2,330	6,850	9,190	31,400	1,650	5,050
Silicon carbide												
Crude	1,450	2,300	1,170	1,450	866	1,690	919	2,630	4,410	8,080	1,030	1,290
Ground and refined	1,540	5,360	1,420	4,830	813	5,160	1,500	3,770	5,270	19,100	1,510	5,790
Imports for consumption												
Metallic abrasives	4,040	8,240	4,330	8,440	3,970	7,980	4,550	7,520	16,900	32,200	4,240	8,900
Aluminum oxide												
Crude	18,200	11,200	16,900	10,500	39,100	24,900	37,000	24,100	111,000	70,700	24,500	17,100
Ground and refined	13,300	19,100	12,300	18,900	13,500	19,000	10,800	14,700	49,800	71,700	14,400	21,500
Silicon carbide												
Crude	25,700	19,900	14,400	11,100	19,600	20,100	24,000	18,500	83,600	69,600	27,000	17,700
Ground and refined	8,270	37,100	8,010	33,500	6,890	30,000	6,000	26,900	29,200	128,000	9,330	32,200

¹Export values are free alongside ship values; import values are customs values.