GARNET (INDUSTRIAL)[1]

(Data in metric tons unless otherwise specified)

Domestic Production and Use: In 2025, garnet for industrial use was mined by three companies—one in Montana and two in New York. One processing facility operated in Oregon and another operated in Pennsylvania. The estimated value of crude garnet production was $17 million, and refined material sold or used had an estimated value of $50 million. The major end uses of garnet were, in descending percentage of consumption, for abrasive blasting, water-filtration media, water-jet-assisted cutting, and other end uses, such as in abrasive powders, nonslip coatings, and sandpaper. Domestic industries that consume garnet include aircraft and motor vehicle manufacturers, ceramics and glass producers, electronic component manufacturers, filtration plants, glass polishing, the petroleum industry, shipbuilders, textile stonewashing, and wood-furniture-finishing operations.

Salient Statistics—United States:	2021	2022	2023	2024	2025[e]
Production:					
Crude	81,700	76,400	71,900	74,200	77,000
Refined, sold or used	155,000	172,000	168,000	146,000	150,000
Imports for consumption[2]	145,000	268,000	151,000	155,000	210,000
Exports	20,400	23,300	20,000	24,400	22,000
Consumption, apparent[3]	206,000	321,000	203,000	204,000	270,000
Price, average import unit value, dollars per metric ton	280	194	211	270	170
Employment, mine and mill, number[e]	163	171	175	165	160
Net import reliance[4] as a percentage of apparent consumption	60	76	65	64	71

Recycling: Garnet was recycled at a plant in Oregon with a recycling capacity of 16,000 tons per year and at a plant in Pennsylvania with a recycling capacity of 25,000 tons per year. Garnet can be recycled multiple times without significant degradation of its quality. Most recycled garnet is from blast cleaning and water-jet-assisted cutting operations.

Import Sources (2021–24):[e] South Africa, 59%; Australia, 21%; China,[5] 9%; India, 8%; and other, 3%.

Tariff: Item	Number	Normal Trade Relations 12–31–25
Emery, natural corundum, natural garnet, and other natural abrasives:		
Crude	2513.20.1000	Free.
Other than crude	2513.20.9000	Free.

Depletion Allowance: 14% (domestic and foreign).

Government Stockpile: None.

Events, Trends, and Issues: During 2025, estimated domestic production of crude garnet concentrates increased by 4% compared with production in 2024. U.S. garnet production was estimated to be 9% of total estimated global garnet production. The 2025 estimated domestic amount of refined garnet sold or used was 150,000 tons compared with 146,000 tons sold or used in 2024.

Garnet imports in 2025 were estimated to have increased by 37% compared with those in 2024. This increase was attributed to large increases in garnet imports from South Africa. South Africa's garnet mine suspended operations in November 2024 because of escalating debts. The imports from South Africa likely came from stocks that were previously mined. In 2025, the average unit value of garnet imports was $170 per ton, a 39% decrease compared with the average unit value in 2024. In the United States, the average price of domestically produced crude garnet concentrate was about $220 per ton. U.S. exports in 2025 were estimated to have decreased by 10%. During 2025, the United States consumed an estimated 270,000 tons of garnet, a 31% increase from that in 2024.

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The U.S. natural gas and petroleum industry is one of the leading garnet-consuming industries, using garnet for cleaning drill pipes and well casings. Natural gas and petroleum producers also use garnet as a reservoir-fracturing proppant, alone or mixed with other proppants. During 2024, the average number of drill rigs operating in the United States was 599.[6] By the end of the first week of November 2025, the average number of rigs operating had declined to 564,[6] a decrease of 6%. This indicates that less garnet was consumed in well drilling in 2025 than in 2024.

The garnet market is very competitive. To increase profitability and remain competitive with imported material, production may be restricted to only high-grade garnet ores or as a byproduct of other salable mineral products that occur with garnet, such as kyanite, marble, metallic ore minerals, mica minerals, sillimanite, staurolite, or wollastonite.

World Mine Production and Reserves: Significant revisions were made to the 2024 production for China and South Africa based on company and Government reports. Reserves for South Africa were revised based on company and Government reports.

	Mine production[e]		Reserves[7]
	2024	2025	
United States	74,200	77,000	5,000,000
Australia	[8]348,000	350,000	Moderate to large
China	[8]250,000	280,000	37,000,000
Czechia	4,000	4,000	NA
India	15,000	15,000	8,600,000
Pakistan	1,900	1,900	NA
South Africa	[8]40,000	—	1,300,000
World total (rounded)	734,000	730,000	Moderate to large

World Resources:[7] World resources of garnet are large and occur in a wide variety of rocks, particularly gneisses and schists. Garnet also occurs in contact-metamorphic deposits in crystalline limestones, pegmatites, and serpentinites and in vein deposits. In addition, alluvial garnet is present in many heavy-mineral sand and gravel deposits throughout the world. Large domestic resources of garnet also are concentrated in coarsely crystalline gneiss near North Creek, NY; other significant domestic resources of garnet occur in Idaho, Maine, Montana, New Hampshire, North Carolina, and Oregon. In addition to those in the United States, major garnet deposits exist in Australia, China, Czechia, India, Pakistan, and South Africa, where they are mined for foreign and domestic markets. Deposits in Russia and Turkey also have been mined primarily for internal markets but production data were not reported. Additional garnet resources are in Canada, Chile, Spain, Thailand, and Ukraine; small mining operations have been reported in most of these countries, but available information was inadequate to make reliable estimates of their individual output.

Substitutes: Other natural and manufactured abrasives can substitute to some extent for all major end uses of garnet. In many cases, however, using the substitutes would entail increased cost or decreased quality. Fused aluminum oxide and staurolite compete with garnet as a sandblasting material. Ilmenite, magnetite, and plastics compete as filtration media. Corundum, diamond, and fused aluminum oxide compete for lens grinding and for many lapping operations. Emery is a substitute in nonskid surfaces. Fused aluminum oxide, quartz sand, and silicon carbide compete for the finishing of plastics, wood furniture, and other products.

[e]Estimated. NA Not available. — Zero.

[1]Excludes gem and synthetic garnet. All percentages are calculated using unrounded data.

[2]Sources: U.S. Census Bureau and Trade Mining, LLC; data adjusted by the U.S. Geological Survey to represent only the garnet portion of the materials under the HTS codes.

[3]Defined as crude production + imports – exports.

[4]Defined as imports – exports.

[5]Includes Hong Kong.

[6]Source: Baker Hughes Co., 2025, 11-07-2025 North America rig count report: Baker Hughes Co. (Accessed November 11, 2025, at https://bakerhughesrigcount.gcs-web.com/na-rig-count.)

[7]See Appendix C for resource and reserve definitions and information concerning data sources.

[8]Reported.