AZ Garnet

Technical Data Sheet (TDS)

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Section 1 – Product Overview

AZ Garnet Almandine is a high-purity, naturally occurring abrasive mineral. Ideal for industrial applications:

- Sandblasting
- Water-jet cutting
- Water treatment and wastewater filtration
- Production of abrasive papers and stones

Non-toxic, does not absorb water, minimal dust formation, contains no heavy metals or radioactive particles. The grains are hard, euhedral crystal, and durable, providing long-lasting performance.

Section 2 – Chemical Composition

Chemical Name	%	Notes
SiO_2 (no free silica)	36.2	Safe, non-toxic
Fe_2O_3	40.4	Contributes to hardness
Al_2O_3	20.9	Provides durability
MgO	0.90	Trace element
MnO	0.75	Trace element
CaO	0.85	Minor content

Section 3 – Physical Properties

Property	Value
Hardness	7.0 – 7.5 Mohs
Grain Shape	Euhedral Crystal
Melting Point	1250–1315 °C
Specific Gravity	4.0 – 4.2 g/cm^3
Bulk Density	1.2 – 1.5 g/cm^3
Moisture	<0.3%

Section 4 – Packaging

- 20 kg / 30 kg bags on pallets
- Bulk packaging available (1-ton jumbo bags)
- Custom packaging available upon request

Section 5 – Available Sizes (Mesh / Grain Size)

Mesh	Average Grain Size (mm)	Recommended Use
12/20	0.84 – 1.68	Standard sandblasting & Water filtration
20/40	0.42 – 0.84	Standard sandblasting
30/60	0.25 – 0.6	Standard sandblasting & Waterjet cutting
80	0.18 – 0.35	High-pressure waterjet cutting

Section 6 – Advantages & Technical Notes

- High-purity, durable grains for long-lasting use
- Angular grains provide efficient cutting and edge quality
- Consistent grain size prevents nozzle or tube blockages
- Reduces wear and tear on equipment, increasing service life
- Low dust and minimal fines reduce material loss

Section 7 – Industrial Applications

Waterjet Cutting Industries:

- Metalworking, Manufacturing, Aerospace, Automotive, Defense
- Stone cutting, Glass cutting, Copper cutting, Ceramics, Aluminum, Carbon Steel, Stainless Steel, Rubber, Wood

Sandblasting Industries:

- Shipyards, Oil & Petrochemical maintenance, Chemical plants
- Bridges, Building facades, Monuments
- Stainless Steel, Turbine blades, Tanks & containers

Section 8 – Technical Support

AZ Garnet provides guidance for:

- Optimal mesh selection
- Handling and storage
- Best practices for waterjet and sandblasting applications