



GEM MINERALS SDN BHD



GARNET ABRASIVE

Gem Minerals SDN BHD is one of the potential suppliers of Garnet Abrasives. Garnet is a semi-precious stone that is derived from mined Almandite and Andradite mineral deposits. After extraction, it is processed and then screened to the grade desired.

At **Gem Minerals SDN BHD** we have named our minerals as A+ (20/40 Mesh), A (30/60 Mesh), B+ (50/80 Mesh), B (60/100 Mesh) and C (80/120 Mesh) based on its grain size distribution.



The qualities of each grade are outlined in the following table.

GRAIN SIZE COMPOSITION:

Mesh	MM	Sample Marking (Retained %)				
		Garnet A ⁺ (20/40 Mesh)	Garnet A (30/60 Mesh)	Garnet B ⁺ (50/80 Mesh)	Garnet B (60/100 Mesh)	Garnet C (80/120 Mesh)
18	1.000	0.12				
20	0.850	9.96	0.08			
30	0.600	71.80	8.52			
40	0.425	16.84	34.72	0		
50	0.300	0.48	37.22	1.5	0	
60	0.250	0.30	12.30	41	6.5	0
70	0.212	0.50	4.32	37	23	1.5
80	0.180		1.78	15	37	21.5
100	0.149			2	24.5	46
120	0.125			3	7	23
PAN			1.06	0.5	2	9

APPLICATIONS:

Sand Blasting: Abrasive blasting at high pressure is commonly used against an object to smoothen out a rough surface. Sand blasting describes the action of launching very fine components of the material at high-speed, to clean up or etch a surface. Shot blasting is used for blasting metal. Mobile shot blasting machines are most used for blasting drums, floors or walls.

Sandblasting is typically used for two different applications.

- ◆ For cleaning a surface of something that has a lot of dirt attached to it which is difficult to remove through normal cleaning methods.
- ◆ To carve or etch words or a design into glass or similar materials.

During the process, many sizes as well as types of sandblasting equipment and supplies like abrasives, nozzles, blast cabinets, blast rooms, portable sand blaster, part washers, sponge blast and air supplied hoods are used. Considerable expertise is required to carry out this process with efficiency. Our Garnet A+ and A suits well for sand blasting application and it complies all the industry standards.

Water Jet Cutting: Garnet is the preferred abrasive in water jet cutting due to its balance of hardness, toughness, and durability, making it ideal for cutting a wide range of materials. It allows for precision cutting with minimal edge distortion across diverse materials, including metals, glass, composites, and stones.



Applications of Garnet in Water Jet Cutting:

- Metals : Carbon steel, stainless steel, aluminium, copper .
- Glass : Can be cut with precision and smooth edges.
- Composites : Fiberglass reinforced polymer (FRP), carbon fibre, and composite metals.
- Stones : Granite, marble, and engineered stone.
- Other Materials : Ceramics, plastics, and even frozen materials.

Our Garnet B+, B and C are known for its Grain size composition and Durability, these property makes our garnet is the best abrasive medium for Water jet applications.

TECHNICAL DATA SHEET:

Mineralogical Properties:

Garnet	98%
Ilmenite	0.4%
Monazite	0.1%
Rutile	0.2%
Zircon	0.2%
Sillimanite	0.2%
Quartz	0.2%
Others	0.5%

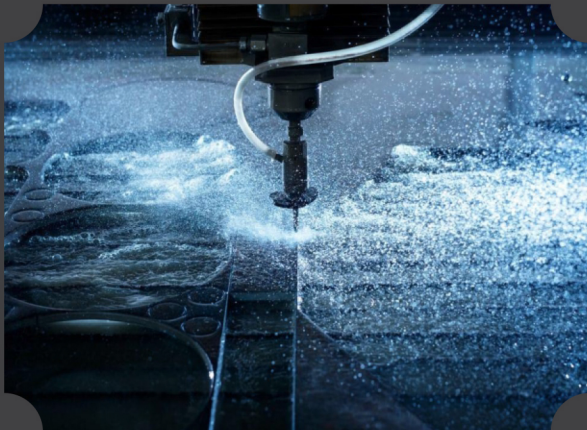
Physical Properties:

Specific Weight	4.1 g/cm ³
Average Bulk Density	2.4 g/cm ³
Hardness	8.0 (Mohs Scale)
Grain shape	Sharp Angular
Conductivity	<15 Micro Siemens/Meter
Acid Solubility (HCL)	< 1 %
Chloride level	< 25 ppm
Moisture	0.25 %
Toxic substance	None

Available Packing:

- ❖ In Jumbo Bag of 1 MT Each
- ❖ In Jumbo Bag of 2 MT Each
- ❖ In 25 kg PP/PE Bags
- ❖ In 40 Kg PP/PE Bags

APPLICATIONS



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