



MILLERS AND PROCESSORS OF BASE MINERALS

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DATA SHEET

Garnet
Grade: 0.6 – 1.0mm -150 Micron (Special Sizes upon request)
Use: Water filtration industry and solvent extraction



Chemical Analysis (%):

Typical:	SiO ₂	28.56%	Al ₂ O ₃	21.8%	CaO	3.2%	TiO ₂	2.44%
	Fe ₂ O ₃	31.2%	MnO ₂	0.7%	MgO	3.57%		

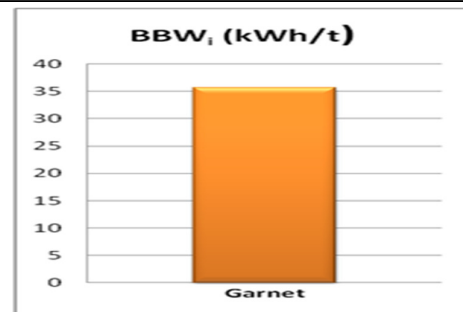
Physical Properties:

Particle Size:

- +0.5mm = 15% max
- +0.3mm = 75% min
- 0.3mm = 10% max

Garnet is a natural mineral reddish/pink in colour, predominantly almandite consisting of subangular particles mined from an alluvial resource.

Hardness	7.8 – 8 Moh
Specific Weight	approx. 4.1 g/cm ³
Dry Bulk Density	approx. 2.3 kg/l
Free Silica	< 1%
Chlorides	<30ppm
Conductivity	<50mS/m ISO 11127
Uniformity Coefficient	1.41
Effective Size	0.43mm
Bondwork Index	17.9(kWh/mt) (imperial) 19.7(kWh/mt) (metric)



The Bond Work Index is measured in Kw/hr per metric ton to indicate the materials resistance to being ground. Higher values will typically indicate the materials grinding resistance to a product size of 80% passing 100 microns. The test is undertaken using steel balls in a lab mill, size 305mmx305mm. As an indication TALC(very soft) has 1-5 Kw/mt and hard Gold Quartzite 20-22 Kw/mt. African Pegmatite's Garnet can, therefore, be regarded as very hard and durable as well as being chemically resistant.

Application:

Used in water filtration industry and solvent extraction. Non toxic and inert over wide pH range. Garnet is widely used as the bottom fraction of multimedia water filters. It has a wide pH range and good abrasion and chemical resistance. Apart from it entraps macro and micro filtrates with correct under-bedding parameters, it also has high adsorptive capacity to remove, such as copper cobalt salts in solvent extraction processes. Its Van Der Waal adsorptive capacity properties are well proven and can be considered for possible extraction of Lanthanides.

Packaging:

Packed in 40kg bags or 1 ton bulk bags. This is mined and processed in South Africa.

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