



ALMATIS

PREMIUM ALUMINA



Provisional Product Data

Bonite

Chemical Analysis [%]		Typical
Al₂O₃		90
CaO		8.5
Fe₂O₃		0.09
SiO₂		0.9
Fe Magnetic		0.01
Physical properties		
Bulk Specific Gravity [g/cm³]		3.0
Apparent Porosity [%]		8.5
Water Absorption [%]		2.7
Phase Composition	CA ₆ (CaO • 6 Al ₂ O ₃)	Major
	α - Al ₂ O ₃	Minor

Available Sizes:
3 – 6 mm
1 – 3 mm
0.5 – 1 mm
0 – 1 mm
0 – 0.5 mm
– 45 micron
– 20 micron

All data are based upon Almatris standard test methods.
The typical properties are based upon the actual averages from production data.

Think alumina, think Almatris.

PP-RCP/002/R02/1207/MSDS 1223



Bonite

Bonite is a new synthetic dense refractory aggregate based on the mineralogical phase calcium hexaluminate, CA6. It is pre-reacted by high temperature sintering and thus shows no volume increase due to the formation of new phases during heat-up. Calcium hexaluminate is described in the literature as a refractory material that exhibits:

- very high refractoriness (onset of melting 1830 °C)
- low solubility in iron containing slag
- high stability in reducing atmospheres, e.g. CO
- high chemical resistance in alkaline environment
- low wettability by molten metals and slag (ferrous and non-ferrous)
- thermal expansion coefficient similar to corundum

Bonite combines the above described characteristics of CA6, resulting in advantages e.g. in the aluminium industry (low wettability by molten aluminium), the cement industry (high chemical resistance in alkaline environment), the steel industry (high refractoriness and low solubility in iron containing slag) and in the petrochemical industry (stability in reducing atmospheres).



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