

Alumina 94

Description:

Alumina is one of the most widely used materials for applications requiring high performance in structural, chemical, electrical, wear and erosion resistant applications. High purity alumina is also capable of very fine surface finishes suitable for valves, pump components and seals.

Composition:

Al ₂ O ₃ :	94 %	Glassy Phase:	Balance
Binders:	Proprietary	Additives:	Proprietary

Specifications:

		Units
Colour	White	
Compressive (Crushing) Strength	2100	MPa
Density	3.62	g/cm ³
Hardness	78	R45N
Dielectric Constant (Relative Permittivity)	9.1	N/A
Dielectric Strength (Breakdown Potential)	8.3	kV/mm
Elastic (Young's, Tensile) Modulus	303	GPa
Electrical Resistivity Order of Magnitude	1x10 ¹⁴	Ω-m
Flexural Strength	350	MPa
Fracture Toughness	4	MPa
Poisson's Ratio	0.21	N/A
Specific Heat Capacity	880	J/kg-K
Tensile Strength Ultimate (UTS)	190	MPa
Thermal Conductivity	22.4	W/m-K
Thermal Expansion	8.2	µm/m-K

Features:

- Low porosity, various surface finishes
- Excellent resistance to chemicals.
- High electrical insulation
- High mechanical strength
- High volume resistivity

Applications:

- Crucibles
- Pump parts and seals
- Nozzles and igniters
- Feed-throughs and standoffs
- Insulators for laser applications

Production Capabilities:

- Isostatic and dry pressing, injection moulding and green machining
- Various shapes and sizes as per requirement
- Prototype, batch and volume production

These values represent typical properties of standard materials.
Values should be used only for comparison and should not be used as a warranty.