



99% Al₂O₃ Alumina Ceramic

Physical, mechanical, thermal and electrical properties

Physical Properties

Material	99% Al ₂ O ₃ alumina ceramic
Colour	White or black
Density	3.85 g/cm ³
Alumina content	99%
Water absorption	0
Gas permeability	0

Mechanical Properties

Rockwell hardness	92 HRA
Flexural strength at 20 C	330 MPa
Compressive strength at 20 C	2000 MPa
Fracture toughness at 20 C	4 MPa m ^{1/2}
Modulus of elasticity	350-400 GPa

Thermal Properties

Thermal conductivity 20-400 C	27.5 W/m K
Thermal expansion coefficient	7.6 x 10 ⁻⁶ per degree C
Thermal shock resistance	200 delta T degrees C
Maximum use temperature	1650 degrees C

Electrical Properties

Dielectric strength	greater than 10 kV/mm
Dielectric constant	9.1
Dielectric loss angle at 1 MHz	0.0002-0.0003
Volume resistivity at 20 C	greater than 10 ¹⁴ ohm cm

Ordering

Minimum order quantity	1 pc
Sample time	4-7 working days
Production lead time	15-30 days when not in stock