Sapphire Balls

Sapphire ball offering extreme hardness, optical clarity, and chemical inertness for high?precision systems. Used as ball lenses, durable bearings, and contact interfaces in biomedical and MEMS applications. **SKU:** 1000012336-group
Product Code: AL66-SP-000105

Material Properties for Ceramics

Chemical Resistance

Element	Value
Acids - concentrated	Good
Acids - dilute	Good
Alkalis	Good
Halogens	Good
Metals	Good

Electrical Properties

Element	Value
Dielectric constant	7.5-11.5
Dielectric strength(kV mm?¹)	15-50
Volume resistivity(Ohmcm)	>10¹?@25

Physical Properties

Element	Value
Refractive index	1.71-1.79
Useful optical transmission range	200-5500nm
Apparent porosity(%)	0
Water absorption - saturation(%)	0
Density(gcm?³)	3.985

Thermal Properties

Element	Value
Melting point(C)	2050

Element	Value
Upper continuous use temperature(C)	1800-1950
Specific heat(J K?¹ kg?¹)	750@25°C
Thermal conductivity(W m?¹ K?¹)	35-40@20°C
Coefficient of thermal expansion(x10?? K?¹)	5.8@20-1000°C

Mechanical Properties

Element	Value
Tensile modulus(GPa)	350-390
Hardness - Knoop(kgf mm?²)	2000
Hardness - Vickers(kgf mm?²)	1600-1800
Tensile strength(MPa)	250-400

Pultrusions

Element	Value
Compressive strength(MPa)	2100