

Supalox N5003 Alumina Powder

Grade: Supalox N5003

Formula: Al₂O₃

Percentage Purity: 99.999%

Particle Size D10: 0.3µmµm

Particle Size D50: 0.45µmµm

Particle Size D90: 0.6µmµm

Weight: 10000g

Phase: Alpha

Colour: White

CAS Number: 1344-28-1

UOM Code: 175-103-97

SKU: 1000023666-group

Product Code: AL60-PD-000135

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	9-10.1
Dielectric strength(kV mm ⁻¹)	Oct-35
Volume resistivity(Ohmcm)	>10 ¹² @25

Physical Properties

Element	Value
Apparent porosity(%)	0
Water absorption - saturation(%)	0

Element	Value
Density(gcm ³)	3.9

Thermal Properties

Element	Value
Melting point(C)	2100
Upper continuous use temperature(C)	1700
Specific heat(J K ⁻¹ kg ⁻¹)	850-900@25°C
Thermal conductivity(W m ⁻¹ K ⁻¹)	26-35@20°C
Coefficient of thermal expansion(x10 ⁻⁶ K ⁻¹)	8@20-1000°C

Mechanical Properties

Element	Value
Tensile modulus(GPa)	300-400
Hardness - Knoop(kgf mm ⁻²)	2100
Hardness - Vickers(kgf mm ⁻²)	1500-1650
Shear strength(MPa)	330
Tensile strength(MPa)	260-300

Pultrusions

Element	Value
Compressive strength(MPa)	2200-2600