

CoorsTek PlasmaPure™ Alumina (nom. 99.8% Al₂O₃)

Category : Ceramic , Oxide , Aluminum Oxide

Material Notes:

Thermal Shock Delta Tc = 200°C - Thermal shock tests are performed by quenching samples in water from different elevated temperatures. Delta Tc is the change in temperature which results in a sharp decrease in the flexural strength of the sample. Data Provided by the manufacturer, CoorsTek, Inc.

Order this product through the following link:

http://www.lookpolymers.com/polymer_CoorsTek-PlasmaPure-Alumina-nom-998-Al2O3.php

| Physical Properties | Metric | English | Comments |
|---------------------|-----------|--------------------------|---------------------------|
| Density | 3.93 g/cc | 0.142 lb/in ³ | ASTM C20 |
| Water Absorption | 0.00 % | 0.00 % | ASTM 373 |
| Particle Size | 6.0 µm | 6.0 µm | Thin Section Crystal Size |

| Mechanical Properties | Metric | English | Comments |
|----------------------------|----------------------------------|-----------------------------------|--------------|
| Knoop Microhardness | 14.1 | 14.1 | 1000 g |
| Hardness, Rockwell 45 N | 83 | 83 | |
| Tensile Strength, Ultimate | 275 MPa | 39900 psi | ACMA Test #4 |
| Modulus of Elasticity | 370 GPa | 53700 ksi | ASTM C848 |
| Flexural Strength | 400 MPa | 58000 psi | ASTM F417 |
| Compressive Strength | 2680 MPa | 389000 psi | ASTM C773 |
| Poissons Ratio | 0.22 | 0.22 | ASTM C848 |
| Fracture Toughness | 4.00 - 5.00 MPa-m ^{1/2} | 3.64 - 4.55 ksi-in ^{1/2} | Notched Beam |
| Shear Modulus | 152 GPa | 22000 ksi | Calculated |

| Thermal Properties | Metric | English | Comments |
|----------------------------------|--|--|------------|
| CTE, linear | 8.20 µm/m-°C @Temperature 25.0 - 1000 °C | 4.56 µin/in-°F @Temperature 77.0 - 1830 °F | ASTM C372 |
| Specific Heat Capacity | 0.880 J/g-°C | 0.210 BTU/lb-°F | ASTM E1269 |
| Thermal Conductivity | 30.0 W/m-K | 208 BTU-in/hr-ft ² -°F | ASTM C408 |
| Maximum Service Temperature, Air | 1750 °C | 3180 °F | No Load |

| Electrical Properties | Metric | English | Comments |
|------------------------|----------------------|----------------------|---------------|
| Electrical Resistivity | >= 1.00e+14 ohm-cm | >= 1.00e+14 ohm-cm | ASTM D1829 |
| | 3.00e+6 ohm-cm | 3.00e+6 ohm-cm | ASTM D1829 |
| | @Temperature 1000 °C | @Temperature 1830 °F | |
| | 1.00e+11 ohm-cm | 1.00e+11 ohm-cm | ASTM D1829 |
| | @Temperature 500 °C | @Temperature 932 °F | |
| Dielectric Constant | 9.8 | 9.8 | ASTM D150 |
| | @Frequency 1e+6 Hz | @Frequency 1e+6 Hz | |
| Dielectric Strength | 8.70 kV/mm | 221 kV/in | AC; ASTM D116 |
| Dissipation Factor | <= 0.00010 | <= 0.00010 | ASTM D2520 |
| | @Frequency 1e+6 Hz | @Frequency 1e+6 Hz | |

| Descriptive Properties | Value | Comments |
|------------------------|-------|----------|
| Color | Ivory | |

Contact Songhan Plastic Technology Co.,Ltd.

Website : www.lookpolymers.com

Email : sales@lookpolymers.com

Tel : +86 021-51131842

Mobile : +86 13061808058

Skype : lookpolymers

Address : United North Road 215,Fengxian District, Shanghai City,China