

CoorsTek Alumina-Zirconia Composite, AZ-25

Category : Ceramic , Oxide , Aluminum Oxide , Zirconium Oxide

Material Notes:

Information provided by CoorsTek.

Order this product through the following link:

http://www.lookpolymers.com/polymer_CoorsTek-Alumina-Zirconia-Composite-AZ-25.php

Physical Properties	Metric	English	Comments
Density	3.82 g/cc	0.138 lb/in ³	ASTM C20
Water Absorption	1.0 %	1.0 %	ASTM C373
Particle Size	5.0 µm	5.0 µm	Average Crystal Size - Thin Section Test

Mechanical Properties	Metric	English	Comments
Knoop Microhardness	10.4	10.4	1000 g load
Hardness, Rockwell 45 N	75	75	GPa
Flexural Strength	172 MPa	24900 psi	ASTM F417
Compressive Strength	2310 MPa	335000 psi	ASTM C773
Fracture Toughness	5.00 - 6.00 MPa-m ^{1/2}	4.55 - 5.46 ksi-in ^{1/2}	Notched Beam

Thermal Properties	Metric	English	Comments
CTE, linear	8.50 µm/m-°C	4.72 µin/in-°F	ASTM C372
	@Temperature 25.0 - 1000 °C	@Temperature 77.0 - 1830 °F	
Thermal Conductivity	13.0 W/m-K	90.2 BTU-in/hr-ft ² -°F	ASTM C408
Maximum Service Temperature, Air	1400 °C	2550 °F	No Load

Electrical Properties	Metric	English	Comments
Electrical Resistivity	>= 1.00e+13 ohm-cm	>= 1.00e+13 ohm-cm	ASTM D1829
	<= 1000 ohm-cm	<= 1000 ohm-cm	ASTM D1829
	@Temperature 1000 °C	@Temperature 1830 °F	
Electrical Resistivity	5.00e+7 ohm-cm	5.00e+7 ohm-cm	ASTM D1829
	@Temperature 500 °C	@Temperature 932 °F	

Electrical Properties	^{9.8} Metric	^{9.8} English	Comments
	@Frequency 1e+6 Hz	@Frequency 1e+6 Hz	
Dielectric Loss Index	0.0010	0.0010	at 25°C, 1 MHz; ASTM D2520

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