

CoorsTek Mullite, S2

Category : Ceramic , Oxide , Aluminum Oxide

Material Notes:

Thermal Shock Delta Tc = 300°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. Corrosion: Although all Coors Ceramics are highly resistant to chemical attack, Coors recommends obtaining specific application data from Coors before design finalization. Data Provided by the manufacturer, Coors Ceramics Co.

Order this product through the following link:

http://www.lookpolymers.com/polymer_CoorsTek-Mullite-S2.php

Physical Properties	Metric	English	Comments
Density	2.80 g/cc	0.101 lb/in ³	ASTM C20
Water Absorption	0.00 %	0.00 %	ASTM C373
Particle Size	10 µm	10 µm	Average Crystal Size - Thin Section Test

Mechanical Properties	Metric	English	Comments
Knoop Microhardness	7.4	7.4	1000 g load
Hardness, Rockwell 45 N	70	70	GPa
Modulus of Elasticity	150 GPa	21800 ksi	ASTM C848
Flexural Strength	170 MPa	24700 psi	ASTM F417
Compressive Strength	550 MPa	79800 psi	ASTM C773
Poissons Ratio	0.25	0.25	ASTM C848
Fracture Toughness	2.00 MPa-m ^{1/2}	1.82 ksi-in ^{1/2}	Notched Beam
Shear Modulus	60.0 GPa	8700 ksi	Calculated

Thermal Properties	Metric	English	Comments
CTE, linear	5.30 µm/m-°C @Temperature 25.0 - 1000 °C	2.94 µin/in-°F @Temperature 77.0 - 1830 °F	ASTM C372
Specific Heat Capacity	0.950 J/g-°C	0.227 BTU/lb-°F	ASTM E1269
Thermal Conductivity	3.50 W/m-K	24.3 BTU-in/hr-ft ² -°F	ASTM C408
Maximum Service Temperature, Air	1700 °C	3090 °F	No Load

Electrical Properties	Metric	English	Comments
Electrical Resistivity	$\geq 1.00 \times 10^{13}$ ohm-cm	$\geq 1.00 \times 10^{13}$ ohm-cm	ASTM D1829
	300000 ohm-cm	300000 ohm-cm	ASTM D1829
	@Temperature 1000 °C	@Temperature 1830 °F	
Dielectric Constant	5.00e+12 ohm-cm	5.00e+12 ohm-cm	ASTM D1829
	@Temperature 500 °C	@Temperature 932 °F	
Dielectric Strength	6.0	6.0	ac; ASTM D116
	@Frequency 1e+6 Hz	@Frequency 1e+6 Hz	
Dielectric Loss Index	9.80 kV/mm	249 kV/in	at 25°C, 1 MHz; ASTM D2520

Descriptive Properties	Value	Comments
Color	Tan	

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