

CoorsTek TTZ (Dura-Z™) MgO Partially Stabilized Zirconia

Category : Ceramic , Oxide , Zirconium Oxide

Material Notes:

Thermal Shock Delta Tc = 350°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-TTZ-Dura-Z-MgO-Partially-Stabilized-Zirconia.php

Physical Properties	Metric	English	Comments
Density	5.72 g/cc	0.207 lb/in ³	ASTM C20
Water Absorption	0.00 %	0.00 %	ASTM C373
Particle Size	35 µm	35 µm	Average Crystal Size - Thin Section Test

Mechanical Properties	Metric	English	Comments
Knoop Microhardness	11.8	11.8	1000 g load
Hardness, Rockwell 45 N	77	77	GPa
Tensile Strength, Ultimate	352 MPa	51100 psi	ACMA Test #4
Modulus of Elasticity	200 GPa	29000 ksi	ASTM C848
Flexural Strength	620 MPa	89900 psi	ASTM F417
Compressive Strength	1750 MPa	254000 psi	ASTM C773
Poissons Ratio	0.30	0.30	ASTM C848
Fracture Toughness	11.0 MPa-m ^{1/2}	10.0 ksi-in ^{1/2}	Notched Beam
Shear Modulus	77.0 GPa	11200 ksi	Calculated

Thermal Properties	Metric	English	Comments
CTE, linear	10.1 µm/m-°C @Temperature 25.0 - 1000 °C	5.61 µin/in-°F @Temperature 77.0 - 1830 °F	ASTM C372
Specific Heat Capacity	0.600 J/g-°C	0.143 BTU/lb-°F	ASTM E1269
Thermal Conductivity	2.20 W/m-K	15.3 BTU-in/hr-ft ² -°F	ASTM C408

Maximum Service Temperature, Air Thermal Properties	500 °C Metric	932 °F English	No Load Comments
Electrical Properties	Metric	English	Comments
Electrical Resistivity	>= 1.00e+13 ohm-cm	>= 1.00e+13 ohm-cm	ASTM D1829
	<= 100 ohm-cm	<= 100 ohm-cm	ASTM D1829
	@Temperature 1000 °C	@Temperature 1830 °F	
	50000 ohm-cm	50000 ohm-cm	ASTM D1829
	@Temperature 500 °C	@Temperature 932 °F	
Dielectric Constant	28	28	
	@Frequency 1e+6 Hz	@Frequency 1e+6 Hz	
Dielectric Strength	9.40 kV/mm	239 kV/in	ac; ASTM D116
Dielectric Loss Index	0.0010	0.0010	at 25°C, 1 MHz; ASTM D2520
Descriptive Properties	Value	Comments	
Color	Ivory		

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