

CeramTec 547 Cordierite (2MgO-2Al₂O₃-5SiO₂)

Category : Ceramic , Oxide , Aluminum Oxide , Magnesium Oxide , Silicon Oxide

Material Notes:

Te value is 670°C. Hasselman Thermal Shock value is 800 K.Data provided by CeramTec North America.

Order this product through the following link:

[http://www.lookpolymers.com/polymer_CeramTec-547-Cordierite-2MgO-2Al₂O₃-5SiO₂.php](http://www.lookpolymers.com/polymer_CeramTec-547-Cordierite-2MgO-2Al2O3-5SiO2.php)

Physical Properties	Metric	English	Comments
Density	2.30 g/cc	0.0831 lb/in ³	
Water Absorption	5.0 - 7.0 %	5.0 - 7.0 %	

Mechanical Properties	Metric	English	Comments
Vickers Microhardness	640	640	HV 0.5
Tensile Strength, Ultimate	25.5 MPa	3700 psi	ACMA Test #4
Modulus of Elasticity	128 GPa	18600 ksi	Ultrasonic
Flexural Strength	82.6 MPa	12000 psi	20 x 40 mm
Compressive Strength	275 MPa	39900 psi	ASTM C773-88
Poissons Ratio	0.28	0.28	ASTM C-1 259-94
Shear Modulus	51.0 GPa	7400 ksi	Ultrasonic

Thermal Properties	Metric	English	Comments
CTE, linear	2.30 µm/m-°C	1.28 µin/in-°F	
	@Temperature 25.0 - 300 °C	@Temperature 77.0 - 572 °F	
	3.00 µm/m-°C	1.67 µin/in-°F	
	@Temperature 25.0 - 700 °C	@Temperature 77.0 - 1290 °F	
	3.20 µm/m-°C	1.78 µin/in-°F	
	@Temperature 25.0 - 1001 °C	@Temperature 77.0 - 1834 °F	
Specific Heat Capacity	0.700 J/g-°C	0.167 BTU/lb-°F	
Thermal Conductivity	1.60 W/m-K	11.1 BTU-in/hr-ft ² -°F	
Maximum Service Temperature, Air	1100 °C	2010 °F	

Electrical Properties	Metric	English	Comments
Electrical Resistivity	780000 ohm-cm	780000 ohm-cm	
	@Temperature 700 °C	@Temperature 1290 °F	
	1.00e+14 ohm-cm	1.00e+14 ohm-cm	
	@Temperature 25.0 °C	@Temperature 77.0 °F	
Dielectric Constant	5.2	5.2	
	@Frequency 1e+6 Hz	@Frequency 1e+6 Hz	
Dielectric Strength	6.772 kV/mm	172.0 kV/in	
	@Thickness 6.35 mm	@Thickness 0.250 in	
Dissipation Factor	0.010	0.010	
	@Frequency 1e+6 Hz	@Frequency 1e+6 Hz	
Dielectric Loss Index	0.052	0.052	1 MHz; 20°C

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