

CeramTec Rubalit® 708 HP Alumina, 96% (High Performance)

Category : Ceramic , Oxide , Aluminum Oxide

Material Notes:

Rubalit® 708 HP (High Performance) has been developed from Rubalit® 708S. This material shares the same chemical composition, is produced on the same plant and using the identical production technologies as in the case of Rubalit® 708S. As a result, proven paste systems can be used and product licensing is a lot easier. The improved Rubalit® 708 HP substrate generation has consistency in terms of thermal cycling resistance, thermal shock resistance, bending strength, surface quality, thermal conductivity even under extreme conditions. The high and consistent surface quality, making the substrate suitable even for thin-film applications, ensures in the case of electrical resistors, a lower noise factor, more stable resistor values, enhanced resistance to electrical shock loads, and greater reliability under laser trimming conditions. As a result, Rubalit® 708 HP substrates combine added integration density with greater power density. Rubalit® 708 HP is ideal for high-performance electronic applications, for hybrids and sensors, in the telecom, medical, aerospace, and consumer goods industries.

Order this product through the following link:

http://www.lookpolymers.com/polymer_CeramTec-Rubalit-708-HP-Alumina-96-High-Performance.php

Physical Properties	Metric	English	Comments
Density	3.78 g/cc	0.137 lb/in ³	DIN EN 993: part 2
Water Absorption	0.00 %	0.00 %	ASTM C373-88
Particle Size	3.0 - 5.0 µm	3.0 - 5.0 µm	Medium Grain (d50)

Mechanical Properties	Metric	English	Comments
Modulus of Elasticity	340 GPa	49300 ksi	DIN V ENV 843-2
Flexural Strength	500 MPa	72500 psi	Bending Strength; Double-Ring (40 mm / 20 mm / 0.63 mm); DIN EN 1288

Thermal Properties	Metric	English	Comments
CTE, linear	6.80 µm/m-°C	3.78 µin/in-°F	DIN 51045
	@Temperature 20.0 - 300 °C	@Temperature 68.0 - 572 °F	
	7.30 µm/m-°C	4.06 µin/in-°F	DIN 51045
	@Temperature 20.0 - 600 °C	@Temperature 68.0 - 1110 °F	
	8.00 µm/m-°C	4.44 µin/in-°F	DIN 51045
	@Temperature 20.0 - 1000 °C	@Temperature 68.0 - 1830 °F	
Specific Heat Capacity	0.780 J/g-°C	0.186 BTU/lb-°F	ASTM-E1269

Thermal Conductivity Thermal Properties	24.0 W/m-K Metric	167 BTU-in/hr-ft ² -°F English	DIN EN 821: part 2; Laserflash Comments
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Component Elements Properties	Metric	English	Comments
Al2O3	96 %	96 %	

Electrical Properties	Metric	English	Comments
Volume Resistivity	1.00e+8 ohm-cm	1.00e+8 ohm-cm	IEC 345
	@Temperature 600 °C	@Temperature 1110 °F	
	1.00e+11 ohm-cm	1.00e+11 ohm-cm	IEC 345
	@Temperature 400 °C	@Temperature 752 °F	
Dielectric Constant	9.8	9.8	IEC 250
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	
Dielectric Breakdown	>= 6250 V	>= 6250 V	DIN EN 60243
	@Thickness 0.250 mm	@Thickness 0.00984 in	
	>= 10000 V	>= 10000 V	DIN EN 60243
	@Thickness 0.500 mm	@Thickness 0.0197 in	

Descriptive Properties	Value	Comments
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Color	White	
Ra = Arithmetic Mean Roughness Value (µm)	Profilometer (cutoff 0.8 mm); DIN ISO 4287	

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