

CeramTec 975 Alumina, 99.5%

Category : Ceramic , Oxide , Aluminum Oxide

Material Notes:

975 (99.5%) offers unique technology by virtue of its optimal dispersion of the MgO phase with the alumina grains. With virtually no transgranular porosity in its microstructure, 975 exhibits high density, superior wear resistance, and moderate flexural strength. Another advantage is its highly uniform white color compared to conventional 99.5% aluminas. The material's white color remains consistent under either reducing or oxidizing conditions. It can be used for ballistic protection and ceramic armor.

Order this product through the following link:

http://www.lookpolymers.com/polymer_CeramTec-975-Alumina-995.php

Physical Properties	Metric	English	Comments
Density	3.90 g/cc	0.141 lb/in ³	DIN EN 623-2 / ASTM-C373 / ASTM-C20
Water Absorption	0.00 %	0.00 %	DIN EN 623-2 / ASTM-C373
Particle Size	2.0 - 3.0 µm	2.0 - 3.0 µm	Median Grain (d50)

Mechanical Properties	Metric	English	Comments
Vickers Microhardness	1700	1700	HV 0.5; DINV ENV 843-4
Tensile Strength at Break	172 MPa	24900 psi	ACMA Test #4 / DIN EN 843-1
Tensile Modulus	380 GPa	55100 ksi	Young's; DINV ENV 843-2 / ASTM-F417
Flexural Strength	310 MPa	45000 psi	20 x 40 mm
Compressive Strength	2400 MPa	348000 psi	ASTM C-773-88 / DIN 51067T1
Poissons Ratio	0.30	0.30	DINV ENV 843-2
Fracture Toughness	4.00 MPa-m ^{1/2}	3.64 ksi-in ^{1/2}	DIN 51109
Shear Modulus	131 GPa	19000 ksi	

Thermal Properties	Metric	English	Comments
CTE, linear	7.30 µm/m-°C	4.06 µin/in-°F	DIN EN 821-1
	5.60 µm/m-°C	3.11 µin/in-°F	
	@Temperature 20.0 - 200 °C	@Temperature 68.0 - 392 °F	
	7.00 µm/m-°C	3.89 µin/in-°F	
	@Temperature 20.0 - 600 °C	@Temperature 68.0 - 1110 °F	ASTM-C373

Thermal Properties	Metric	English	Comments
	@Temperature 20.0 - 1000 °C	@Temperature 68.0 - 1830 °F	
Specific Heat Capacity	0.900 J/g-°C	0.215 BTU/lb-°F	DINV ENV 821-3
	@Temperature 100 - 200 °C	@Temperature 212 - 392 °F	
Thermal Conductivity	35.4 W/m-K	246 BTU-in/hr-ft²-°F	DIN EN 821-2 / ASTM-C408
Maximum Service Temperature, Air	1530 °C	2790 °F	

Component Elements Properties	Metric	English	Comments
Al2O3	99.5 %	99.5 %	

Electrical Properties	Metric	English	Comments
Volume Resistivity	>= 1.00e+14 ohm-cm	>= 1.00e+14 ohm-cm	ASTM-D257
Dielectric Constant	10	10	IEC 672-1 / ASTM-C150
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	
Dielectric Strength	7.874 kV/mm	200.0 kV/in	6.35 mm (1/4") IEC 672-1
Dissipation Factor	0.00010	0.00010	
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	
Dielectric Loss Index	0.0010	0.0010	IEC 672-1 / ASTM-D149,150
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	

Descriptive Properties	Value	Comments
Color	White	
Thermal Shock Resistance R1 (K)	225	Hasselman (Experimental)

Contact Songhan Plastic Technology Co.,Ltd.

Website : www.lookpolymers.com

Email : sales@lookpolymers.com

Tel : +86 021-51131842

Mobile : +86 13061808058

Skype : lookpolymers

Address : United North Road 215,Fengxian District, Shanghai City,China