

## CeramTec Rubalit® IS 95 Alumina

Category : Ceramic , Oxide , Aluminum Oxide

### Material Notes:

Rubalit® IS 95 is a high-performance alumina ceramic. Aluminas exhibit good mechanical properties such as hardness, compressive and tensile strength, and elastic modulus. They perform well at elevated temperatures.

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_CeramTec-Rubalit-IS-95-Alumina.php](http://www.lookpolymers.com/polymer_CeramTec-Rubalit-IS-95-Alumina.php)

Physical Properties	Metric	English	Comments
Density	3.73 g/cc	0.135 lb/in <sup>3</sup>	DIN EN 623-2
Porosity	5.0 %	5.0 %	closed (approximate vol. %)
Weibull Modulus	>= 15	>= 15	DINV ENV 843-5

Mechanical Properties	Metric	English	Comments
Vickers Microhardness	1100	1100	HV 0.5; DINV ENV 843-4
Tensile Modulus	330 GPa	47900 ksi	Young's; DINV ENV 843-2
Flexural Strength	330 MPa	47900 psi	DIN EN 843-1
Compressive Strength	3400 MPa	493000 psi	DIN 51067T1
Poissons Ratio	0.23	0.23	DINV ENV 843-2
Fracture Toughness	4.00 MPa-m <sup>1/2</sup>	3.64 ksi-in <sup>1/2</sup>	K <sub>IC</sub> ; DIN 51109
Shear Modulus	134 GPa	19400 ksi	Calculated

Thermal Properties	Metric	English	Comments
CTE, linear	6.50 µm/m-°C	3.61 µin/in-°F	DIN EN 821-1
	@Temperature 20.0 - 200 °C	@Temperature 68.0 - 392 °F	
	7.10 µm/m-°C	3.94 µin/in-°F	DIN EN 821-1
	@Temperature 20.0 - 400 °C	@Temperature 68.0 - 752 °F	
7.50 µm/m-°C	4.17 µin/in-°F	DIN EN 821-1	
@Temperature 20.0 - 600 °C	@Temperature 68.0 - 1110 °F		
8.10 µm/m-°C	4.50 µin/in-°F	DIN EN 821-1	
@Temperature 20.0 -	@Temperature 68.0 -		

Thermal Properties	1000 °C Metric	1830 °F English	Comments
Specific Heat Capacity	0.900 J/g-°C @Temperature 20.0 - 100 °C	0.215 BTU/lb-°F @Temperature 68.0 - 212 °F	DINV ENV 821-3
Thermal Conductivity	24.0 W/m-K @Temperature 20.0 - 100 °C	167 BTU-in/hr-ft <sup>2</sup> -°F @Temperature 68.0 - 212 °F	DIN EN 821-2
Maximum Service Temperature, Air	1300 °C	2370 °F	
Maximum Service Temperature, Inert	1300 °C	2370 °F	

Electrical Properties	Metric	English	Comments
Volume Resistivity	>= 1.00e+7 ohm-cm @Temperature 800 °C	>= 1.00e+7 ohm-cm @Temperature 1470 °F	IEC 672-1
	>= 1.00e+11 ohm-cm @Temperature 400 °C	>= 1.00e+11 ohm-cm @Temperature 752 °F	IEC 672-1
	>= 1.00e+14 ohm-cm @Temperature 20.0 °C	>= 1.00e+14 ohm-cm @Temperature 68.0 °F	IEC 672-1
Dielectric Constant	10 @Frequency 1.00e+7 Hz	10 @Frequency 1.00e+7 Hz	IEC 672-1
Dielectric Strength	20.0 kV/mm	508 kV/in	IEC 672-1
Dielectric Loss Index	0.0010 @Frequency 1.00e+7 Hz	0.0010 @Frequency 1.00e+7 Hz	IEC 672-1

Descriptive Properties	Value	Comments
Color	White	
Thermal Shock Resistance R1 (K)	118	R1 = [s? (1-μ)] / (a-E)

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