

CeramTec Rubalit® IS 95 Brown Alumina

Category : Ceramic , Oxide , Aluminum Oxide

Material Notes:

Rubalit® IS 95 brown 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-Brown-Alumina.php

Physical Properties	Metric	English	Comments
Density	3.72 g/cc	0.134 lb/in ³	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	300 GPa	43500 ksi	Young's; DINV ENV 843-2
Flexural Strength	250 MPa	36300 psi	DIN EN 843-1
Compressive Strength	3000 MPa	435000 psi	DIN 51067T1
Poissons Ratio	0.23	0.23	DINV ENV 843-2
Fracture Toughness	4.00 MPa-m ^{1/2}	3.64 ksi-in ^{1/2}	K _{IC} ; DIN 51109
Shear Modulus	122 GPa	17700 ksi	Calculated

Thermal Properties	Metric	English	Comments
CTE, linear	6.40 µm/m-°C	3.56 µin/in-°F	DIN EN 821-1
	@Temperature 20.0 - 200 °C	@Temperature 68.0 - 392 °F	
	7.20 µm/m-°C	4.00 µin/in-°F	DIN EN 821-1
	@Temperature 20.0 - 400 °C	@Temperature 68.0 - 752 °F	
	7.70 µm/m-°C	4.28 µin/in-°F	DIN EN 821-1
	@Temperature 20.0 - 600 °C	@Temperature 68.0 - 1110 °F	
	8.30 µm/m-°C	4.61 µin/in-°F	DIN EN 821-1
	@Temperature 20.0 -	@Temperature 68.0 -	

Thermal Properties	^{1000 °C} Metric	^{1830 °F} English	Comments
Thermal Conductivity	16.5 W/m-K @Temperature 20.0 - 100 °C	115 BTU-in/hr-ft ² -°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	

Descriptive Properties	Value	Comments
Color	Brown	
Thermal Shock Resistance R1 (K)	100	$R1 = [s? (1-\mu)] / (a \cdot E)$

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