

Zircar Ceramics ZAL-45 Alumina Insulation

Category : Ceramic , Oxide , Aluminum Oxide

Material Notes:

ZAL-45 is an exceptionally strong low density alumina fiber product. Alumina bonded ZAL-45AA is useful in reducing conditions. Information provided by Zircar Ceramics.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Zircar-Ceramics-ZAL-45-Alumina-Insulation.php

Physical Properties	Metric	English	Comments
Density	0.720 g/cc	0.0260 lb/in ³	
Open Porosity	70 %	70 %	

Mechanical Properties	Metric	English	Comments
Flexural Strength	8.96 MPa	1300 psi	Load Applied Parallel to Fiber Plane, Strain = load deformation in mils for sample 0.5" * 0.5" * 4"
	@Strain 10.0 %	@Strain 10.0 %	
	8.96 MPa	1300 psi	Load Applied Normal to Fiber Plane, Strain = load deformation in mils for sample 0.5" * 0.5" * 4"
	@Strain 15.0 %	@Strain 15.0 %	
Compressive Yield Strength	2.62 MPa	380 psi	Load Applied Normal to Fiber Plane
	@Strain 4.00 %	@Strain 4.00 %	
	3.96 MPa	575 psi	Load Applied Normal to Fiber Plane
	@Strain 14.0 %	@Strain 14.0 %	
	4.00 MPa	580 psi	Load Applied Parallel to Fiber Plane
	@Strain 14.0 %	@Strain 14.0 %	
	7.58 MPa	1100 psi	Load Applied Parallel to Fiber Plane
	@Strain 4.00 %	@Strain 4.00 %	

Thermal Properties	Metric	English	Comments
CTE, linear	5.00 µm/m-°C	2.78 µin/in-°F	
	@Temperature 20.0 - 1000 °C	@Temperature 68.0 - 1830 °F	
Specific Heat Capacity	1.05 J/g-°C	0.250 BTU/lb-°F	
Thermal Conductivity	0.160 W/m-K	1.11 BTU-in/hr-ft ² -°F	parallel to thickness; ASTM C177-76
	@Temperature 250 °C	@Temperature 482 °F	

Thermal Properties	0.430 W/m-K Metric	2.98 BTU-in/hr-ft²-°F English	Comments
	@Temperature 1650 °C	@Temperature 3000 °F	Thickness; ASTM C177-76
Melting Point	1870 °C	3400 °F	
Maximum Service Temperature, Air	1650 °C	3000 °F	Continuous
	1700 °C	3090 °F	Intermittent
Shrinkage	0.000 % @Temperature 1500 °C, Time 3600 sec	0.000 % @Temperature 2730 °F, Time 1.00 hour	Perpendicular to Thickness
	3.00 % @Temperature 1600 °C, Time 3600 sec	3.00 % @Temperature 2910 °F, Time 1.00 hour	Perpendicular to Thickness

Component Elements Properties	Metric	English	Comments
Al2O3	85 %	85 %	
SiO2	15 %	15 %	

Descriptive Properties	Value	Comments
Color	White	

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