

## Zircar Ceramics ZAL-45AA 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-45AA-Alumina-Insulation.php](http://www.lookpolymers.com/polymer_Zircar-Ceramics-ZAL-45AA-Alumina-Insulation.php)

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

Mechanical Properties	Metric	English	Comments
Flexural Strength	6.62 MPa	960 psi	Load Applied Parallel to Fiber Plane, Strain = load deformation in mils for 0.5"*0.5"*4" sample
	@Strain 7.00 %	@Strain 7.00 %	
	6.62 MPa	960 psi	Load Applied Normal to Fiber Plane, Strain = load deformation in mils for 0.5"*0.5"*4" sample
	@Strain 13.0 %	@Strain 13.0 %	
Compressive Yield Strength	1.45 MPa	210 psi	Load Applied Normal to Fiber Plane
	@Strain 3.00 %	@Strain 3.00 %	
	2.62 MPa	380 psi	Load Applied Parallel to Fiber Plane
	@Strain 14.0 %	@Strain 14.0 %	
	3.38 MPa	490 psi	Load Applied Normal to Fiber Plane
	@Strain 14.0 %	@Strain 14.0 %	
	4.14 MPa	600 psi	Load Applied Parallel to Fiber Plane
	@Strain 3.00 %	@Strain 3.00 %	

Thermal Properties	Metric	English	Comments
CTE, linear	7.50 $\mu\text{m}/\text{m}\cdot^\circ\text{C}$	4.17 $\mu\text{in}/\text{in}\cdot^\circ\text{F}$	
	@Temperature 20.0 - 1000 $^\circ\text{C}$	@Temperature 68.0 - 1830 $^\circ\text{F}$	
Specific Heat Capacity	1.05 J/g- $^\circ\text{C}$	0.250 BTU/lb- $^\circ\text{F}$	
Thermal Conductivity	0.160 W/m-K	1.11 BTU-in/hr-ft <sup>2</sup> - $^\circ\text{F}$	parallel to thickness; ASTM C177-76
	@Temperature 250 $^\circ\text{C}$	@Temperature 482 $^\circ\text{F}$	

Thermal Properties	0.430 W/m-K Metric	2.98 BTU-in/hr-ft <sup>2</sup> -°F English	Comments Thickness; ASTM C177-76
	@Temperature 1650 °C	@Temperature 3000 °F	
Melting Point	1870 °C	3400 °F	
Maximum Service Temperature, Air	1550 °C	2820 °F	Continuous
	1600 °C	2910 °F	Intermittent
Shrinkage	2.00 % @Temperature 1500 °C, Time 3600 sec	2.00 % @Temperature 2730 °F, Time 1.00 hour	Perpendicular to Thickness
	6.00 % @Temperature 1600 °C, Time 3600 sec	6.00 % @Temperature 2910 °F, Time 1.00 hour	Perpendicular to Thickness

Component Elements Properties	Metric	English	Comments
Al2O3	97 %	97 %	
SiO2	3.0 %	3.0 %	

Descriptive Properties	Value	Comments
Color	White	

## Contact Songhan Plastic Technology Co.,Ltd.

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