

Zircar Refractory Composites RS-100 Refractory Sheet

Category : Ceramic , Oxide , Aluminum Oxide

Material Notes:

ZIRCAR Refractory Sheet Type RS-100 is a ceramic fiber reinforced structural alumina composite material with useful properties to 1260°C (2300°F). It has exceptional flexural and compressive strengths in the range of high temperature reinforced plastics such as G-7 and G-10 laminates and retains strength and utility to levels far exceeding maximum use temperatures of plastics. Mechanical properties of Type RS-100 sheet far exceed those of Transite TM and other asbestos-cement materials and is an excellent replacement for these rigid asbestos-containing products. Type RS-100 can also be employed at much higher temperatures than these types of products. Information provided by ZIRCAR Refractory Composites, Inc. (ZRCI)

Order this product through the following link:

http://www.lookpolymers.com/polymer_Zircar-Refractory-Composites-RS-100-Refractory-Sheet.php

Physical Properties	Metric	English	Comments
Density	2.10 g/cc	0.0759 lb/in ³	
Loss On Ignition	1.00 - 2.00 % @Temperature 982 °C	1.00 - 2.00 % @Temperature 1800 °F	
Porosity	35 %	35 %	

Mechanical Properties	Metric	English	Comments
Hardness, Shore D	90	90	
Modulus of Rupture	0.0550 GPa @Temperature 600 °C, Time 14400 sec	7.98 ksi 5.22 ksi @Temperature 1110 °F, Time 4.00 hour	parallel to thickness parallel to thickness
Compressive Yield Strength	69.0 MPa	10000 psi	at 2% compression parallel to thickness

Thermal Properties	Metric	English	Comments
CTE, linear	6.00 µm/m-°C @Temperature 20.0 - 400 °C	3.33 µin/in-°F @Temperature 68.0 - 752 °F	
Specific Heat Capacity	1.172 J/g-°C @Temperature 600 °C	0.2801 BTU/lb-°F @Temperature 1110 °F	
Thermal Conductivity	0.634 W/m-K @Temperature 200 °C	4.40 BTU-in/hr-ft ² -°F @Temperature 392 °F	parallel to thickness

Thermal Properties	0.638 W/m-K Metric	4.43 BTU-in/hr-ft ² -°F English	Comments
	@Temperature 600 °C	@Temperature 1110 °F	
	0.648 W/m-K	4.50 BTU-in/hr-ft ² -°F	parallel to thickness
	@Temperature 1200 °C	@Temperature 2190 °F	
Melting Point	1500 °C	2730 °F	
Maximum Service Temperature, Air	1260 °C	2300 °F	
Flammability Test	0.00	0.00	Nil
Shrinkage	1.00 - 2.00 %	1.00 - 2.00 %	perpendicular to thickness
	@Temperature 1200 °C, Time 14400 sec	@Temperature 2190 °F, Time 4.00 hour	

Component Elements Properties	Metric	English	Comments
Al2O3	75 %	75 %	
Other	9.0 %	9.0 %	
SiO2	16 %	16 %	

Electrical Properties	Metric	English	Comments
Volume Resistivity	7.20e+11 ohm-cm	7.20e+11 ohm-cm	
Surface Resistance	2.30e+11 ohm	2.30e+11 ohm	
Dielectric Strength	2.80 kV/mm	71.0 kV/in	
Dielectric Breakdown	7300 V	7300 V	1/8 in. thick
Arc Resistance	>= 420 sec	>= 420 sec	

Processing Properties	Metric	English	Comments
Moisture Content	0.00 - 2.0 %	0.00 - 2.0 %	105°C

Descriptive Properties	Value	Comments
Color	White to Tan	

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