Zircar Refractory Composites RS-202 Refractory Sheet

Category : Ceramic , Oxide , Aluminum Oxide

Material Notes:

ZRCI Refractory Sheet Type RS-202 is a fiber reinforced ceramic laminate with useful properties to 1260°C (2300°F). This high temperature product offers high strength, moderate thermal conductivity and excellent electrical insulation. It retains strength and utility to levels far exceeding maximum use temperatures of reinforced plastics and asbestos cement replacements. It is 100% inorganic, non-flammable and contains no asbestos. Its high alumina content makes it resistant to many environments including molten aluminum. RS-202 undergoes little or no outgassing on heating, is not brittle, and may be cut and machined with standard tooling. RS-202 has an as formed surface. This is ideal when the OD is crucial for liner placement. It is available in standard and custom size cylinders and are useful as induction coil liners, induction furnace components, and molten metal transport tubes.Information provided by ZIRCAR Refractory Composites, Inc. (ZRCI)

Order this product through the following link:
http://www.lookpolymers.com/polymer_Zircar-Refractory-Composites-RS-202-Refractory-Sheet.php

Physical Properties	Metric	English	Comments
Density	2.08 g/cc	0.0751 lb/in³	
Porosity	30 %	30 %	

Mechanical Properties	Metric	English	Comments
Modulus of Rupture	0.0689 GPa	9.99 ksi	
	0.0207 GPa @Temperature 1010 °C, Time 86400 sec	3.00 ksi @Temperature 1850 °F, Time 24.0 hour	
	0.0310 GPa @Temperature 510 °C, Time 86400 sec	4.50 ksi @Temperature 950 °F, Time 24.0 hour	
Compressive Strength	55.1 MPa	7990 psi	24 hrs at 510°C, parallel to thickness
	68.9 MPa	9990 psi	24 hrs at 1010°C, parallel to thickness
	89.6 MPa	13000 psi	parallel to thickness

Thermal Properties	Metric	English	Comments
CTE, linear	8.00 µm/m-°C @Temperature 20.0 °C	4.44 µin/in-°F @Temperature 68.0 °F	
Thermal Conductivity	4.30 W/m-K @Temperature 204 °C	29.8 BTU-in/hr-ft²-°F @Temperature 399 °F	parallel to thickness
	4.50 W/m-K	31.2 BTU-in/hr-ft²-°F	

Thermal Properties	Metric	English	Comments
	@Temperature 427 °C	@Temperature 801 °F	parallel to thickness
	4.60 W/m-K @Temperature 649 °C	31.9 BTU-in/hr-ft²-°F @Temperature 1200 °F	parallel to thickness
	4.70 W/m-K @Temperature 1010 °C	32.6 BTU-in/hr-ft²-°F @Temperature 1850 °F	parallel to thickness
Melting Point	1500 °C	2730 °F	
Maximum Service Temperature, Air	1260 °C	2300 °F	
Shrinkage	<= 1.00 % @Temperature 1010 °C, Time 86400 sec	<= 1.00 % @Temperature 1850 °F, Time 24.0 hour	perpendicular to thickness

Component Elements Properties	Metric	English	Comments
Al2O3	65 %	65 %	
B2O3	4.0 %	4.0 %	
CaO	8.0 %	8.0 %	
MgO	1.0 %	1.0 %	
Other	1.0 %	1.0 %	
SiO2	21 %	21 %	

Electrical Properties	Metric	English	Comments
Volume Resistivity	1.70e+12 ohm-cm	1.70e+12 ohm-cm	ASTM D257
Surface Resistance	>= 1.30e+13 ohm	>= 1.30e+13 ohm	ASTM D257
Dielectric Strength	1.02 kV/mm	26.0 kV/in	ASTM D149
Arc Resistance	>= 420 sec	>= 420 sec	ASTM D495

Descriptive Properties	Value	Comments
Color	White to buff	

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