

Zircar Zirconia ZYF-A2.13 Zirconia Felt Insulation

Category : Ceramic , Machinable Ceramic , Oxide , Zirconium Oxide

Material Notes:

Zirconia Felt is a true ceramic textile formed by the unique ZIRCAR process for replicating organic structures in inorganic materials. The zirconia felt structure is a 'needled felt' which retains its fibrous nature to 2480°C. The stabilized zirconia composition permits the advantages of fibrous insulations to be extended into temperature regions well above the melting temperatures of siliceous and alumina insulation materials. Zirconia Felt Type ZYF-A2.13 is ZYF-150 in which the zirconia fibers have been surface treated with colloidal alumina, refired, and face milled to provide a very uniform thickness. This post processing results in a stiff sheet. Features: Low Thermal Conductivity High Porosity High Purity Extreme High Temperature Stability Fibers Stabilized with ~ 10 wt% Yttria Custom Fillers and Coatings Available Can be Cemented with Zircar Zirconia Cement Type ZR-CEM Can be Rigidized with Zircar Zirconia Rigidizer Type ZIR-RIGE Easily Cut to Size Available "Off the Shelf" Application Information: This thicker, rigidized felt was developed for use as a diffusion burner membrane for fuel fired heaters installed in long-haul trucks and high end passenger cars. In this application the liquid fuel, gasoline or diesel, is pumped onto one surface of a disk of felt. The fuel then wicks through to the opposite surface which is located in a combustion chamber and evaporates. The evaporated fuel is mixed with air and ignited providing an 'instant-on' heat in the vehicle which is independent of the engine heat. ZYF-A2.13 is also used as a setter plate for vacuum sintering flat sheets of powdered metal materials. The felt remains flat during sintering because of its rigid structure. Information provided by Zircar Zirconia.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Zircar-Zirconia-ZYF-A213-Zirconia-Felt-Insulation.php

Physical Properties	Metric	English	Comments
Bulk Density	0.3204 g/cc	0.01158 lb/in ³	
Porosity	94 %	94 %	Bulk
Thickness	3000 - 3510 microns	118 - 138 mil	

Mechanical Properties	Metric	English	Comments
Compressive Yield Strength	0.0896 MPa	13.0 psi	At 10% compression

Thermal Properties	Metric	English	Comments
Shrinkage	1.50 % @ Temperature 1650 °C, Time 3600 sec	1.50 % @ Temperature 3000 °F, Time 1.00 hour	1 hour isothermal soak at 3000°F

Component Elements Properties	Metric	English	Comments
Al ₂ O ₃	1.0 - 3.0 %	1.0 - 3.0 %	
HfO ₂	1.0 - 2.0 %	1.0 - 2.0 %	
SiO ₂	<= 0.020 %	<= 0.020 %	

Component Elements Properties	Metric	English	Comments
Descriptive Properties		Value	Comments
Tensile Strength per Unit Width		7 lb/in width	
Weight Per Area		.21 lb/ft2	
Wrapping Diameter Before Breaking		>3 feet	

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