

## Zircar Zirconia ZYW-30A Zirconia Cloth Insulation

Category : Ceramic , Machinable Ceramic , Oxide , Zirconium Oxide

### Material Notes:

Zirconia Cloths Type ZYW are flexible textiles composed of yttria stabilized zirconia fibers that offer extreme temperature and chemical resistance in a flexible form. Type ZYW cloths provide the lowest thermal conductivity of any commercially available refractory material in their class. Type ZYW cloths are true textiles, manufactured using the Zircar process where an organic cloth is converted into an inorganic replica. The fabrics are constructed of continuous individual filaments mechanically interlocked in a woven structure. ZYW ceramic textiles are ideal for temperatures up to 2200°C and are suitable for applications such as high energy battery separators, thermal insulation in crystal growing furnaces, and hot gas filtration. The fine capillary and pore structure of ZYW, in combination with the hydrophilic nature of zirconia, impart excellent wetting, solution retention, and wicking characteristics, to these materials. The cloths require neither binders nor supporting wires to maintain their construction and will comply somewhat to both tensile and compressive forces due to the mechanical interlocking of the fibers. Elongation of 4 to 8% before breaking allows ZYW to conform to irregular surfaces. ZYW can be compressed up to two-thirds of its normal thickness and still recover a major fraction of its original dimension with little fiber damage. Zirconia Cloth Type ZYW is available in two formats; Type ZYW-15 and Type ZYW-30A. Type ZYW-15 is a square weave cloth nominally 0.015" thick composed of yttria-stabilized zirconia fibers. Type ZYW-30A is a satin weave cloth nominally 0.025" thick. Features: Low Thermal Conductivity High Porosity Offered in Two Constructions: Square Weave and Satin Weave Extreme High Temperature Stability Fibers Stabilized with ~10 wt% Yttria Can be Cemented with Zircar Zirconia Cement Type ZR-CEM Can be Rigidized with Zircar Zirconia Rigidizer Type ZR-RIG Easily Cut to Size Available 'off the shelf' Information provided by Zircar Zirconia.

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_Zircar-Zirconia-ZYW-30A-Zirconia-Cloth-Insulation.php](http://www.lookpolymers.com/polymer_Zircar-Zirconia-ZYW-30A-Zirconia-Cloth-Insulation.php)

Physical Properties	Metric	English	Comments
Bulk Density	0.940 g/cc	0.0340 lb/in <sup>3</sup>	
Porosity	83 %	83 %	Bulk
Thickness	635 microns	25.0 mil	
Vapor Pressure	1.07e-14 bar @Temperature 2498 °C	8.00e-12 torr @Temperature 4528 °F	

Thermal Properties	Metric	English	Comments
Specific Heat Capacity	0.544 J/g-°C @Temperature 93.3 °C	0.130 BTU/lb-°F @Temperature 200 °F	
	0.753 J/g-°C @Temperature 2370 °C	0.180 BTU/lb-°F @Temperature 4298 °F	
Melting Point	2590 °C	4690 °F	
Maximum Service Temperature, Air	2200 °C	3990 °F	Continuous

Thermal Properties	Metric	English	Comments
Shrinkage	@Temperature 899 °C, Time 3600 sec	@Temperature 1650 °F, Time 1.00 hour	1 hour isothermal soak at 1650 F

Component Elements Properties	Metric	English	Comments
HfO2	1.0 - 2.0 %	1.0 - 2.0 %	
Y2O3	10 %	10 %	
ZrO2	88 - 89 %	88 - 89 %	

Descriptive Properties	Value	Comments
Tensile Strength per Unit Width	872 gram/cm width	
Weight Per Area	772 g/m2	

## Contact Songhan Plastic Technology Co.,Ltd.

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