

Zircar Zirconia ZYC Zirconia Cylinders Insulation

Category : Ceramic , Machinable Ceramic , Oxide , Zirconium Oxide

Material Notes:

Zircar Zirconia Cylinders Type ZYC are rigid, free standing refractory structures composed of yttria stabilized zirconia fibers that are bonded with silica. The material is evenly bonded, allowing intricate shapes to be machined with tight tolerances. Type ZYC Cylinders possess low thermal conductivity and good resistance to thermal shock and are ideally suited for thermal insulation and protection applications under conditions of ultra-high temperatures and severe environments. ZYC is dimensionally stable to 1650°C although it can be used at higher temperatures in areas where additional sintering can be tolerated or as back-up insulation. It has good hot strength up to 1400°C. ZYC is resistant to attack by most molten metals and has a high resistance to reaction with other oxide materials. ZYC Cylinders are phase stabilized with yttria and therefore do not undergo the usual phase transitions associated with zirconia. Electrical conductivity at elevated temperatures is also minimized with low density Zirconia fibers whereas dense Zirconia is an effective conductor at elevated temperatures. ZYC does not couple with radio frequency (RF) radiation used in induction heating, but does couple with microwave energy. ZYC has no organic binders and will produce no smoke or odor when heated. Features: Rigid and Machinable Silica Bond for Thermal Shock Resistance Our Most Economical ZrO₂ Cylinder Fibers Stabilized with ~10 wt% yttria Low Thermal Conductivity Can be Cemented with Zircar Cement Type ZR-CEM Can be Surface Hardened with Zirconia Rigidizer Type ZR-RIG Pre-fired and Organic Free Information provided by Zircar Zirconia.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Zircar-Zirconia-ZYC-Zirconia-Cylinders-Insulation.php

Physical Properties	Metric	English	Comments
Bulk Density	0.480 g/cc	0.0173 lb/in ³	
Porosity	91 %	91 %	
Outgassing - Total Mass Loss	0.00 %	0.00 %	In vacuum

Mechanical Properties	Metric	English	Comments
Flexural Strength	0.550 MPa	79.8 psi	Parallel to thickness
Compressive Yield Strength	0.210 MPa	30.5 psi	Parallel to thickness @ 10% compression

Thermal Properties	Metric	English	Comments
CTE, linear	9.00 µm/m-°C	5.00 µin/in-°F	
	@Temperature 20.0 - 950 °C	@Temperature 68.0 - 1740 °F	
Thermal Conductivity	0.0800 W/m-K	0.555 BTU-in/hr-ft ² -°F	
	@Temperature 400 °C	@Temperature 752 °F	
	0.110 W/m-K	0.763 BTU-in/hr-ft ² -°F	

Thermal Properties	@Temperature 800 °C Metric	@Temperature 1470 °F English	Comments
	0.140 W/m-K	0.972 BTU-in/hr-ft²-°F	
	@Temperature 1100 °C	@Temperature 2010 °F	
	0.190 W/m-K	1.32 BTU-in/hr-ft²-°F	
	@Temperature 1400 °C	@Temperature 2550 °F	
	0.230 W/m-K	1.60 BTU-in/hr-ft²-°F	
	@Temperature 1650 °C	@Temperature 3000 °F	
Melting Point	2200 °C	3990 °F	
Maximum Service Temperature, Air	1650 °C	3000 °F	Continuous
	1700 °C	3090 °F	Intermittent
Softening Point	950 °C	1740 °F	Dilatometric @ 10psi
Shrinkage	2.50 %	2.50 %	perpendicular to thickness
	@Temperature 1650 °C, Time 3600 sec	@Temperature 3000 °F, Time 1.00 hour	
	4.00 %	4.00 %	perpendicular to thickness
	@Temperature 1650 °C, Time 86400 sec	@Temperature 3000 °F, Time 24.0 hour	

Component Elements Properties	Metric	English	Comments
HfO2	1.0 - 2.0 %	1.0 - 2.0 %	
Y2O3	10 %	10 %	
ZrO2	83 - 84 %	83 - 84 %	

Contact Songhan Plastic Technology Co.,Ltd.

Website : www.lookpolymers.com

Email : sales@lookpolymers.com

Tel : +86 021-51131842

Mobile : +86 13061808058

Skype : lookpolymers

Address : United North Road 215,Fengxian District, Shanghai City,China