

Zircar Zirconia ZR-CEM Zirconia Cement

Category : Ceramic , Machinable Ceramic , Oxide , Zirconium Oxide

Material Notes:

Zircar Zirconia Cement Type ZR-CEM is an off white single part yttria-stabilized zirconia adhesive with a useful temperature limit of 2200°C. ZR CEM is formulated specifically for bonding Zircar Zirconia Felts, Boards and Cylinders to themselves or to back-up thermal insulations such as porous firebrick, alumina fiber and alumino-silicate fiber boards. ZRCEM is composed of yttria-stabilized zirconia milled fibers and sub-micron particles. Potassium silicate and zirconium acetate binders are added to enhance bonding characteristics. ZR-CEM will not bond to non-porous surfaces such as glass or steel. ZR-CEM is mildly acidic (pH 5.4) and forms a strong bond upon removal of the water solvent. For most furnace applications, the articles bonded together are ready for placing in service once the cement has dried. Curing at 426°C (800°F) or more may be desirable to eliminate the acetate prior to use. The cured bond joint is stronger than the tensile strength of 30 pound per cubic foot density Zircar Zirconia insulation material Types ZYFB-3, ZYZ-3 and ZYC. Pull out or delamination due to excessive mechanical or thermal stresses will usually first occur in the insulation material itself. ZR-CEM has the consistency of a thick paint and should be mixed thoroughly before using. ZR-CEM may be applied by dipping, brushing, or rolling. If ZR-CEM becomes thickened by evaporation, de-ionized or distilled water can be used to bring the cement back to its original consistency. ZR-CEM is non-flammable and is not affected by freezing. For a 0.01 inch thick bond, a pint of cement will cover about 7 square feet of joint surface. Features: High Temperature Stability to 2200°C Withstands Water and Steam after curing Safe to Use – Non-Flammable Excellent Thermal Shock Resistance Low Shrinkage, High Strength Available 'Off the Shelf' Single Part System Information provided by Zircar Zirconia.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Zircar-Zirconia-ZR-CEM-Zirconia-Cement.php

Physical Properties	Metric	English	Comments
Bulk Density	2.00 g/cc	0.0723 lb/in ³	As supplied
	3.10 g/cc	0.112 lb/in ³	After drying
Solids Content	60 %	60 %	
Viscosity	1200 cP	1200 cP	
	@Temperature 25.0 °C	@Temperature 77.0 °F	

Thermal Properties	Metric	English	Comments
Melting Point	2430 °C	4410 °F	
Maximum Service Temperature, Air	2200 °C	3990 °F	Continuous

Component Elements Properties	Metric	English	Comments
HfO ₂	1.0 - 2.0 %	1.0 - 2.0 %	
K ₂ O	1.2 %	1.2 %	
SiO ₂	3.6 %	3.6 %	

Component Elements Properties	Metric	English	Comments
ZrO2	83 - 84 %	83 - 84 %	

Descriptive Properties	Value	Comments
Trace Inorganics	<0.3%	
Weight Per Pint	953 grams	

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