Glassbond Sauereisen Electrotemp Cement No.8

Characteristics

- Provides maximum electrical resistance
- Heat conductive and thermal shock resistant.
- Withstands temperatures to 2,600°F (1,426°C)
- Easy to mix and apply
- Ideal for potting applications
- Chemical set
- Odourless

Recommended For

Appliances
Furnaces
Heating elements
Lamp assemblies
Resistors

Description

Electrotemp cement No.8 is primarily used where high electrical insulation and thermal conductivity are desired. No.8 cures by a chemical-set and is ideal for potting applications subject to high temperature and/or thermal shock. Formulated with a zircon base, the cement is non-corrosive and compatible for applications with ceramics, glass and most metals. The material is supplied in powder form and need only be mixed with water to apply.

Physical properties

Coefficient of thermal expansion	2.6 x10^{-6}/F° (4.68 x10^{-6}/C°)
Colour	Off white
Compressive strength	4,500-5,500 psi ((316 kg/cm²)
Density	160 pcf (2.56 gm/cm³)
Dielectric constant	3.0 - 4.0
Dielectric strength	
@ 70°F (21°C)	76.0 to 101.5 Volts/mil (2,900 to 3,900 Volts/mm)
@ 750°F (398°C)	25.0 to 38.0 Volts/mil (980 to 1,490 Volts/mm)
@ 1,475°F (801°C)	12.5 to 25.0 Volts/mil (490 to 980 Volts/mm)
Maximum service temperature	2,600°F (1,426°C)
Mix ratio (powder:water , by weight)	100:13
Modulus of rupture	450 psi (31.6 kg/cm²)
Tensile strength	250 psi (17.6 kg/cm²)
Thermal conductivity	8-11 Btu·in/ft²·hr·°F (2.7-3.8 X 10^{-3} Cal·cm/cm²·sec·°C)
Volume resistivity	
@ 70°F (21°C)	10^{10} – 10^{11} ohm-cm
@ 750°F (398°C)	10^{9} –10^{10} ohm-cm
@ 1,475°F (801°C)	10^{8} – 10^{9} ohm-cm

Physical properties were determined on specimens prepared under laboratory conditions using applicable ASTM procedures. Actual field conditions may vary and yield different results; therefore, data are subject to reasonable deviation. Data should not be used for specification purposes.

ST HELENS CHAMBER Member

BS EN ISO 9001 Certificate No.3607

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Application / Instructions

No.8 powder should be thoroughly remixed before using. Weigh approximately 100 parts powder and 13 parts water. Place powder in a clean mixing container. Add water to the powder at one time while mixing- do not add water gradually. Continue mixing until a smooth, uniform consistency is obtained. Mixing may be done with a slow-speed mixer or by hand with a spatula.

Minimum amount of water should be used as excess water reduces mechanical strength, increases shrinkage and delays set time. Failure of cement to adhere indicates setting has begun- discard cement. Do not attempt to re-temper by adding more water. Porous substrates may require dampening with Thinning liquid No. 14 prior to cement application.

Setting / Curing

Electrotemp cement No.8 hardens with an internal chemical-setting action after 18-24 hours at ambient temperature. Working time of No.8 when powder is mixed with water is approximately 30 minutes at 21°C. If it is desired to accelerate the cure, low temperature oven drying at 82°Ccan be used. Avoid steaming while drying. Proper curing of No.8 is critical to developing maximum strengths. If the cement will be exposed to elevated temperatures, constant water immersion or steam environments, consult Glassbond for appropriate drying schedule recommendations.

Packaging

This material is supplied in various types and sizes of containers. See price list for details.

Shelf Life

No.8 powder has a shelf life of twelve (12) months when stored in unopened, tightly sealed containers in a dry location at 21°C. If there is doubt as to the quality of the material, contact Glassbond.

Caution

Consult the 'Material Safety Data Sheets' and container label Caution Statements for any hazards in handling this material.

Warranty

We warrant that our goods will conform to the description contained in the order and that we have good title to all goods sold. WE GIVE NO WARRANTY, WHETHER OF MERCHANTABILITY, FITNESS FOR PURPOSE OR OTHERWISE, EXPRESS OR IMPLIED, OTHER THAN AS EXPRESSLY SET FORTH HEREIN. Users shall determine the suitability of the product for intended application before using.

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