Glassbond Sauereisen Electrical Resistor Cement No. 78/3

Characteristics

- Heat conductive and thermal shock resistant
- Safely insulates electricity
- Withstands temperatures to 2600°F (1427°C)
- Resists oil, solvents and most acids (except hydrofluoric)
- Safe to use/non-toxic
- Adheres to metal, ceramics, glass and other surfaces
- Odourless

Recommended For

Elements
Heaters
Hot Plates
Irons
Ovens
Resistors

Description

Electric Resistor Cement No. 78/3 is an ideal electrical refractory cement for coating resistors, coils, electric heating elements, furnaces, and embedding resistance wire. It replaces insulating varnish, enamel, mica, etc.

Physical Properties

Coefficient of thermal expansion	7.15 x 10^{-6}/°F (3.97 x 10^{-6}/°C)
Colour	Tan to grey
Compressive strength	3300 psi (232 kg/cm²)
Dielectric constant	3.4-4.5
Dielectric strength @ 70°F (21°C)	12.5 to 51.0 Volts/mil (490 to 2000 Volts/mm)
@ 750°F (399°C)	≤ 15.0 Volts/mil (588 Volts/mm)
@ 1475°F (801°C)	≤ 1.3 Volts/mil (51 Volts/mm)
Maximum service temperature	2600°F (1427°C)
Shear strength	375 psi (26.4 kg/cm²)
Tensile strength	325 psi (22.8 kg/cm²)
Volume resistivity @ 70°F (21°C)	10^{6}-10^{8} ohm-cm
@ 750°F (399°C)	10^{5}-10^{6} ohm-cm
@ 1475°F (801°C)	10^{3}-10^{4} 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.

Application/Instructions

MIXING - No. 78/3 powder, is mixed with water at the ratio of 3.3:1, by weight. If necessary, use Thinning Liquid No. 14 to thin the cement further when a more fluid consistency is required. Minimum amounts of liquid should be used, however, because excess liquid will reduce mechanical strength, increase shrinkage and delay set time.

APPLICATION - Electrical Resistor Cement may be applied by brushing, dipping or spraying. No. 78/3 is suitable for use on production lines with mechanical dispensers because the cement will not harden in the equipment during normal operation. Surfaces to receive the cement should be clean and free of grease and dirt. Porous substrates should be dampened slightly with Thinning Liquid No. 14 prior to application of No. 78/3. As an air-setting adhesive, the cement should be used in thin applications. Avoid applying in a thickness greater than 1/4 inch.

Glassbond (NW) Ltd, West Side Industrial Estate,
Jackson Street, St Helens, Merseyside, WA9 3AT England
Tel: +44 (0)1744 730334
Fax: +44 (0)1744 451661 (General) +44 (0)1744 733588 (Sales)
Email: info@glassbond.co.uk Web: www.glassbond.co.uk

Directors: PJ Randell Managing Director, RJ Randell, DJ Randell (M.I.M)
Glassbond (NW) Ltd. Registered Office: West Side Industrial Estate.
Registered in England No. 1378679

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Setting/Curing

No. 78/3 is cured by air drying at room temperature. Drying time depends on the consistency and thickness of the application. Normally 18-24 hours drying at ambient temperature is sufficient. When the cement has limited exposure to air, or if it is desired to accelerate the cure, low temperature oven drying at 82°C (180°F) can be used. Avoid steaming while drying. If the cement will be exposed to elevated temperatures, contact Glassbond for appropriate drying schedule recommendations. If high humidity resistance is required and it is impractical to fire cement, a moisture-resistant lacquer or silicone coating should be applied to the exposed surfaces.

Cleaning

All equipment should be cleaned with soap and water before No. 78/3 cures. If removal is required after cure, consult Glassbond.

Packaging

This material is supplied in various types and sizes of containers. Please contact Glassbond Sales for further details.

Shelf Life

Electrical Cement No. 78/3 Powder has a shelf life of one year when stored in unopened, tightly sealed containers in a dry location at 21°C (70°F). If there is doubt as to the quality of the material, consult Glassbond.

Caution

Consult the Material Safety Data Sheet 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.

Manufactured under licence from Sauereisen Pittsburgh PA.

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