

## Glassbond Sauereisen Electrotemp Cement Powder No. X52

### Characteristics

- High electrical resistance
- Heat conductive and thermal shock resistant
- Withstands temperatures to 2,400°F (1,316°C)
- Low shrinkage
- Chemical set
- Odourless

### Recommended For

Heating elements  
Induction coils  
Lamp assemblies  
Resistors

### Description

Glassbond Sauereisen Cement N°X52 is primarily used where high electrical insulation and thermal conductivity are desired. Cement N°X52 is a phosphate-bonded material that cures by a chemical-set and is ideal for potting applications subject to high temperature and/or thermal shock. Formulated as an alumina-filled cement, Cement N°X52 is non-corrosive and compatible for applications with ceramics, glass and most metals. The material is supplied in Powder form and mixes with water to form a cement paste.

### Physical Properties

|                                      |  |
|--------------------------------------|--|
| Colour                               | Off white  |
| Coefficient of thermal expansion     | 5.0 x 10 <sup>-6</sup> / °F (9.0 x 10 <sup>-6</sup> /°C)   |
| Compressive strength                 | 2500 psi (175.8 kg/cm <sup>2</sup> )   |
| Density                              | 146 pcf (2.34 gm/cm <sup>3</sup> )   |
| Dielectric constant                  | 6.86   |
| Dielectric strength @ 70°F (21°C)    | 55-63 Volts/mil (2090-2394 Volts/mm)   |
| Maximum service temperature          | 2400°F (1316°C)  |
| Mix ratio (powder: water, by weight) | 100:16   |
| Pot life                             | 30 minutes   |
| Thermal conductivity                 | 16.2-9.7 Btu.in/ft <sup>2</sup> .hr.°F (5.47 - 3.27 x 10 <sup>-3</sup> Cal.cm/cm <sup>2</sup> .sec.°C) |
| Tensile strength                     | 300 psi (21.1 kg/cm <sup>2</sup> )   |
| Volume resistivity @ 70°F (21°C)     | 10.8 x 10 <sup>11</sup> 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** - The cement powder should be thoroughly mixed before using. Weigh approximately 100 parts powder into a clean mixing container and add 16 parts water. Add the 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.

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APPLICATION - Porous substrates may require dampening with Thinning liquid N°14 prior to cement application. 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.

## **Setting/Curing**

Cement N°X52 hardens with an internal chemical-setting action after 18-24 hours at ambient temperature. Working time of Cement N°X52 when Powder is mixed with water is approximately 30 minutes at 70°F (21°C). If it is desired to accelerate the cure, low temperature oven drying at 180°F (82°C) can be used. Avoid steaming while drying. Proper curing of N°X52 is critical to developing maximum strengths. If the cement will be exposed to elevated temperatures, constant water immersion or steam environments, consult Sauereisen for an appropriate drying schedule recommendation.

For higher humidity resistance where it is impractical to fire the 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 N°X52 cures. If removal is required after cure, consult Glassbond for recommendations.

## **Packaging**

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

## **Shelf Life**

Cement N°X52 powder has a shelf life of twelve (12) months when stored in un-opened, tightly sealed containers in a dry location at 70°F (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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