

## Glassbond Sauereisen Cement No. 31

### Characteristics

- Heat conductive and thermal shock resistant
- Adheres to practically all surfaces that are clean and free of oil and grease
- Withstands temperatures to 1750°F (954°C)
- Resists oil, electricity and most solvents
- Resists all acids (except hydrofluoric)
- Fireproof and gasproof

### Recommended For

Appliances  
Sealing  
Refractories  
Moulding  
Insulating  
Potting

### Description

Cement No. 31 is an off white, porcelain-like cement that is widely used throughout industry in a variety of applications including assembling, sealing, insulating and cementing of ceramics, porcelain, metal, and glass.

### Physical Properties

Coefficient of thermal expansion	6.5 x 10 <sup>-6</sup> in/in/°F (11.3 x 10 <sup>-6</sup> cm/cm/°C)
Colour	Off White
Absorption	13.8%
Density	121 pcf (1.94 gm/ cm <sup>2</sup> )
Compressive strength	2200 psi (154 kg/cm <sup>2</sup> )
Bond strength	200 psi (14 kg.cm <sup>2</sup> )
Linear shrinkage	(0.004 in/in) (0.004 cm/cm)
Dielectric constant	5.0 -7.0
Dielectric strength @ 70°F (21°C)	12.5 to 38.0 Volts/mil (490 to 1490 Volts/mm)
@ 750°F (399°C)	12.5 to 38.0 Volts/mil (490 to 1490 Volts/mm)
@ 1475°F (801°C)	<2.0 Volts/mil (78 Volts/mm)
Maximum service temperature	1750°F ( 954°C)
Flexural strength	455 psi (31 kg/cm <sup>2</sup> )
Shear strength	430 psi (30 kg/cm <sup>2</sup> )
Tensile strength	400 psi (28 kg/cm <sup>2</sup> )
Volume resistivity @ 70°F (21°C)	10 <sup>9</sup> – 10 <sup>11</sup> ohm-cm
@ 750°F (399°C)	10 <sup>7</sup> – 10 <sup>8</sup> ohm-cm
@ 1475°F (801°C)	10 <sup>2</sup> – 10 <sup>3</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- No. 31 is a two-part, chemical-setting cement consisting of a powder and liquid which are mixed together as used. No. 31 Powder should be thoroughly remixed before using. Weigh out No. 31 Powder and No. 31 Liquid at a ratio of 100:50. Place liquid in a clean mixing container and gradually add powder while mixing. Continue mixing until a smooth, uniform consistency is obtained. Mixing may be done with a slow speed mixer or by hand with a spatula.

No. 31 may be mixed to a thinner consistency by regulating the amount of Liquid used; however, the use of excess Liquid will reduce mechanical strength, increase shrinkage and delay set time. Failure of the cement to adhere indicates that setting has begun - discard cement. Do not attempt to re-temper by adding more liquid.

APPLICATION- Surfaces to receive the cement should be clean and free of grease and dirt. Highly porous substrates can be dampened slightly with Thinning Liquid No. 14. Priming in this manner will assist the natural anti-cavitation property of the cement and may not be necessary in all applications. Cement No. 31 may be placed by brushing, pouring or other automatic dispensing methods. Since the cement sets by a chemical process that occurs when water reacts with the No. 31 Powder, there are no maximum thickness restrictions for application.

## **Setting/Curing**

No. 31 hardens with an internal chemical setting action in 18-24 hours at ambient temperatures. Working time of No. 31, when powder and liquid are blended together is approximately 30 minutes at 21°C (70°F). If it is desired to accelerate the cure, 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. 31 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**

No. 31 Powder and Liquid have a shelf life of one (1) year when stored in unopened, tightly sealed containers in a dry location at 21°C (70°F). If there is a doubt as to the quality of the materials, consult 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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