

# SAUEREISEN

## PLASTIC PORCELAIN NO. 30

An expanding ceramic cement for:

**Assembling  
Conduits  
Cutlery  
Sealing  
Switches**

Sauereisen Plastic Porcelain No. 30 is an inorganic, chemically-setting, magnesium oxide base material which expands slightly while hardening to a porcelain-like body. No. 30 is used for assembling silverware and cutlery, insulating lead wires on electrical fixtures and sealing conduits to prevent the spread of explosive gas.

A thermally conductive and electrically insulating cement, it resembles a durable ceramic upon curing and will resist high temperatures. The expanding curing property makes No. 30 a good candidate for potting applications and for filling other hollow cavities.

Cement No. 30 is supplied in a powder form and is mixed with water to apply. Due to its inorganic composition, Plastic Porcelain Cement is very stable and will neither outgas, nor cause skin irritations like many other adhesives.

### CHARACTERISTICS

- Heat conductive and thermal shock resistant.
- Safely insulates electricity.
- Stable within temperature range of -100°F (-73°C) to 900°F (482°C).
- Resists water, oil, acids & solvents.
- Non-toxic and odorless.
- Hardens like porcelain.
- Non-shrink.
- Compatible with the finest metals.

### PHYSICAL PROPERTIES

Coefficient of thermal expansion	5.0 x 10 <sup>-6</sup> /F° (9.0 x 10 <sup>-6</sup> /C°)
Color	Tan
Compressive strength @ 7 days	3,500 psi (246 kg/cm <sup>2</sup> )
Density	125 pcf (2 gm/cm <sup>3</sup> )
Expansion	0.2%
Maximum service temperature	900°F (482°C)
Mix ratio (powder to water, by weight)	5:1
Modulus of elasticity	1.44 x 10 <sup>6</sup> psi (1.01 x 10 <sup>5</sup> kg/cm <sup>2</sup> )
Tensile strength	200 psi (14 kg/cm <sup>2</sup> )
Thermal conductivity	5-6 BTU · in/ft <sup>2</sup> · hr · °F

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.

### INSTRUCTIONS

#### Mixing

Sauereisen No. 30 Powder should be thoroughly remixed prior to use. The mix ratio of No. 30 should include 5 parts Powder to one part potable water, by weight. Place warm water into a clean mixing container and gradually add Powder while mixing. Continue mixing until a uniform, flowable consistency is obtained. Mixing may be done with a slow-speed mixer or by hand with a spatula. Minimal amounts of extra water should be used as excess water will reduce mechanical strength, increase shrinkage and delay set time.

#### Application

*Potting Assembly* - Surfaces to receive the cement should be clean and free of grease and dirt. Porous substrates should be dampened slightly with Sauereisen Thinning Liquid No. 14 prior to application.

Plastic Porcelain No. 30 is chemically-setting and does not require exposure to air to cure. Placement of the cement is most commonly done with the use of hand held dispensing units or a squeeze bottle. Cement No. 30 can also be poured.

Failure of the cement to adhere indicates that setting has begun. At this point, a new batch of cement should be mixed. Do not attempt to retemper by adding more water.

*Flatware Assembly* - A convenient batch size includes a mixture of 62 ounces of No. 30 Powder and 12 fluid ounces of warm (approximately 100°F) water. Blend in a slow speed portable mixer for 5 to 10 minutes.

The mixed cement is then placed into a filling machine which utilizes a power driven screw to force the cement through a small diameter tube and into the metal handle. When the handle is completely filled, the dispenser is removed and the blade and handle are held in alignment by a special clamping device. The assembly is then passed through a water spray to remove the excess cement.

## SETTING/CURING

No. 30 hardens with an internal chemical-setting action in 18-24 hours at ambient temperature. Working time of No. 30 when Powder is mixed with water is approximately 30 minutes at 70°F.

If it is desired to accelerate the cure, low temperature oven drying at 180°F can be used. Avoid steaming while drying. If the cement will be exposed to elevated temperatures that may approach or briefly exceed the recommended service limits, contact Sauereisen for appropriate drying schedule recommendations.

A heat cure is also suggested where humidity resistance is required. In addition, a moisture-resistant lacquer or silicone coating may be applied to the exposed surfaces.

## PACKAGING

No. 30: 1-quart and 1-gallon cans;  
50-lb. bags on stretchwrapped  
pallets.

## CLEAN-UP

All equipment should be cleaned with soap and water before No. 30 cures. If removal is required after cure, consult Sauereisen for recommendations.

## SHELF LIFE

Sauereisen No. 30 has a shelf life of one year when stored in unopened, tightly sealed containers in a dry location at 70°F. If there is doubt as to the quality of the material, consult Sauereisen.

## CAUTION

Consult 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. We are glad to offer suggestions or to refer you to customers using Sauereisen cements and compounds for a similar application. Users shall determine the suitability of the product for intended application before using, and users assume all risk and liability whatsoever in connection therewith regardless of any suggestions as to application or construction. In no event shall we be liable hereunder or otherwise for incidental or consequential damages. Our liability and your exclusive remedy hereunder or otherwise, in law or in equity, shall be expressly limited to our replacement of nonconforming goods at our factory or, at our sole option, to repayment of the purchase price of nonconforming goods.

**Information concerning government safety regulations available upon request.**

**Sauereisen also manufactures products for corrosion resistance, electrostatic discharge protection and machinery grouting.**

**SAUEREISEN** ...since 1899

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