

SAUEREISEN

ELECTRIC INSULATING CEMENT NO. 12

Excellent dielectric strength for:

Embedding Resistor Assembling **Encapsulating Elements Potting**

Sauereisen Electric Insulating Cement No. 12 is an inorganic cement used for applications requiring high dielectric strength and volume resistivity through 2200°F. No. 12 offers low shrinkage and coefficient of thermal expansion making it an excellent cement for bonding or potting high-alumina ceramics.

CHARACTERISTICS

- High dielectric strength
- Heat conductive and thermal shock resistant
- Resists temperatures to 2200°F (1204°C).
- Oil and solvent resistant
- Specialty developed for potting and encapsulation.
- Excellent bond strength
- Extremely hard surface upon setting/excellent abrasion resistance.
- Chemically setting at room temperature.
- Odorless

MIXING/APPLICATION

Sauereisen No. 12 is a two-part, chemical-setting cement consisting of a Powder and Liquid which are mixed together as used. No. 12 Powder should be thoroughly remixed before using. Weight out 75% of No. 12 Powder and 25% of No. 12 Liquid. 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.

PHYSICAL PROPERTIES

Coefficient of thermal expansion (ASTM C372)	3.1 x 10 ⁻⁶ in/in/°F (5.58 x 10 ⁻⁶ cm/cm/°C)
Color	Off White
Compressive strength (ASTM C579)	4000 psi (281 kg/cm ²)
Density (ASTM C20)	180 pcf (2.88 gm/cm ³)
Dielectric Strength (ASTM D149)	76-80 Volts/mil
Maximum service temperature	2200°F (1204°C)
Modulus of rupture (ASTM C580)	510 psi (35 kg/cm ²)
Shrinkage	<0.8%
Tensile strength (ASTM C307)	290 psi (20 kg/cm ²)
Thermal conductivity	9.8 - 7.3 Btu·in/ft ² ·hr·°F 3.3 - 2.46 x 10 ⁻³ Cal·cm/cm ² ·sec·°C)
Volume Resistivity (ASTM D1829)	10.8·10 ¹⁰

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.

No. 12 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 retemper by adding more Liquid. Porous substrates may require dampening with No. 12 Liquid before applying the mixed cement.

SETTING/CURING

No. 12 hardens with an internal chemical-setting action in 18-24 hours at ambient temperatures. Working time of No. 12 when Powder and Liquid are blended together is approximately 30 minutes at 70°F. If it is desired to accelerate the cure, oven drying at 180°F can be used. Avoid steaming while drying. If the cement will be exposed to elevated temperatures, contact Sauereisen 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

PACKAGING

Liquid: 1-qt. and 1-gal. cans;
50-lb. pails; 600-lb. drums

Powder: 1-qt. and 1-gal. cans;
50-lb. bags

CLEAN-UP

All equipment should be cleaned with soap and water before No. 12 cures. If removal is required after the cure, consult Sauereisen for recommendations.

SHELF LIFE

Sauereisen Electric Insulating Cement No. 12 Powder and Liquid have a shelf life of one (1) year when stored in unopened, tightly sealed containers in a dry location at 70°F. If there is a doubt as to the quality of the material, consult Sauereisen.

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

160 Gamma Drive
Pittsburgh, PA 15238-2989 USA
Phone 412/963-0303 Fax 412/963-7620
Email: questions@sauereisen.com
www.sauereisen.com