

SAUEREISEN

THERMAL POTTING CEMENT NO. 11

Superior electrical insulation for:

Appliances
Furnaces
Heaters
Resistors

Sauereisen Thermal Potting Cement No. 11 is primarily used where high electrical insulation and thermal conductivity are desired. No. 11 is a chemical-setting cement ideal for potting applications subject to high temperature and thermal shock.

Thermal Potting Cement No. 11 is formulated to be compatible with most metal alloys that it may contact. The cement is supplied in powder form and need only be mixed with water to apply.

CHARACTERISTICS

- High electrical resistance.
- Heat conductive and thermal shock resistant.
- Withstands temperatures to 2200°F (1204°C).
- Ideal for potting applications.
- Chemical set.
- Odorless.

INSTRUCTIONS

Mixing

Sauereisen No. 11 is supplied as a Powder and mixed with potable water as used. No. 11 Powder should be thoroughly remixed before using to ensure proper dispersion of crucial ingredients. Weigh out approximately 100 parts Powder and 15 parts water. Place measured amount of water into a clean mixing container and gradually add No. 11 Powder to water 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)	3.4 x 10 ⁻⁶ /F° (6.1 x 10 ⁻⁶ /C°)
Color	Off white
Density (ASTM C20)	123 pcf (1.97 gm/cm ³)
Dielectric constant (ASTM D150)	7.6
Dielectric strength (ASTM D149) @ 70°F (21°C)	46-54 Volts/mil (1748-2052) Volts/mil
Flexural strength (ASTM C580)	450 psi (31 kg/cm ²)
Maximum service temperature	2200°F (1204°C)
Mix ratio (powder to water, by weight)	100:15
Tensile strength (ASTM C307)	100 psi (7 kg/cm ²)
Thermal conductivity	4.9 Btu·in/ft ² ·hr·°F (1.7 x 10 ⁻³ Cal·cm/cm ² ·sec·°C)
Volume resistivity (ASTM D1829) @ 70°F (21°C)	10 ⁹ -10 ¹⁰ 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.

A 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 retemper by adding more water.

Application

Surfaces to receive the cement should be clean and free of grease and dirt. Highly porous substrates can be dampened slightly with Sauereisen Thinning Liquid No. 14. Priming in this manner will help to prevent the moisture of the curing cement from wicking into the substrate.

Thermal Potting Cement No. 11 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. 11 Powder, there are no maximum thickness restrictions for application.

SETTING/CURING

Thermal Potting Cement No. 11 takes an initial set in approximately one hour at 70°F and develops a strong mechanical bond in 18 to 24 hours at room temperature.

If it is desired to accelerate the cure, low temperature oven drying at 180°F can be used. Avoid steaming while drying. Proper curing of the cement is critical to developing maximum strengths. If the cement will be exposed to elevated temperatures that may approach or briefly exceed the recommended service limits, consult Sauereisen for further drying guidelines.

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

1-quart and 1-gallon cans; 50-lb. moisture-resistant bags on plastic-wrapped pallets.

CLEAN-UP

All equipment should be cleaned with soap and water before Sauereisen cements cure. If removal is required after the cure, a low concentration of sodium hydroxide may dissolve the cement. Consult Sauereisen for other recommendations.

SHELF LIFE

Sauereisen No. 11 Powder has a shelf life of one 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.

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 produces compounds for corrosion resistance, electrostatic discharge and grouting.

SAUEREISEN ...since 1899

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