SAUEREISEN

ZIRCON POTTING CEMENT NO. 13

Superior electrical insulation for:

Appliances
Furnaces
Heating elements
Lamp assemblies
Resistors

Sauereisen Zircon Potting Cement No. 13 is primarily used where high electrical insulation and thermal conductivity are desired. No. 13 cures by a chemical-set and is ideal for potting applications subject to high temperature and/or thermal shock. Formulated as an economical, zircon-based cement, No. 13 is non-corrosive and compatible for applications with ceramics, glass and most metals. The material is supplied in Powder form and need only be mixed with water to apply.

PHYSICAL PROPERTIES

Coefficient of thermal expansion (ASTM C372)	2.6 x 10^{-6}/F° (4.68 x 10^{-6}/C°)
Color	Off white
Compressive strength (ASTM C579)	3,200 psi (225.0 kg/cm^2)
Density (ASTM C20)	160 pcf (2.56 gm/cm^3)
Dielectric constant (ASTM D150)	6.86
Dielectric strength (ASTM D149) @ 70°F (21°C)	55-60 Volts/mil (2090-2280) Volts/mm)
Dissipation factor	<0.2209
Flexural strength (ASTM C580)	1,300 psi (91.4 kg/cm^2)
Maximum service temperature	2,600°F (1,426°C)
Mix ratio (Powder:water, by weight)	100:13
Pot life	80 minutes
Thermal conductivity	8 -11 Btu·in/ft^2·hr·°F
	(2.7 - 3.8 x 10^{-3} Cal·cm/cm^2·sec·°C)
Tensile strength (ASTM C307)	740 psi (52.0 kg/cm^2)
Volume resistivity (ASTM D1829) @ 70°F (21°C)	10^6 to 10^{11} 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.

CHARACTERISTICS

- ☐ Provides maximum electrical resis tance.
- ☐ Heat conductive and thermal shock resistant.
- ☐ Withstands temperatures to 2,600°F (1,426°C).
- ☐ Easy to mix and apply.
- ☐ Ideal for potting applications.
- ☐ Chemical set.
- ☐ Odorless.

APPLICATION

Sauereisen No. 13 Powder should be thoroughly remixed before using. Weigh approximately 100 parts Powder and 13 parts water. Place Powder in a clean mixing container. Add 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.

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. Porous substrates may require dampening with Sauereisen Thinning Liquid No. 14 prior to cement application.

SETTING/CURING

Zircon Potting Cement No. 13 hardens with an internal chemical-setting action after 18-24 hours at ambient temperature. Pot life of No. 13 when Powder is mixed with water is approximately 80 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. Proper curing of No. 13 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 cement, a moisture-resistant lacquer or silicone coating should be applied to the exposed surfaces.

PACKAGING

Zircon Potting Cement No. 13 is packaged in 1-quart cans, 1-gallon cans, 50-pound bags, and 50-pound plastic pails.

CLEAN-UP

All equipment should be cleaned with soap and water before No. 13 cures. If removal is required after cure, consult Sauereisen for recommendations.

SHELF LIFE

Zircon Potting Cement No. 13 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 non-conforming goods at our factory or, at our sole option, to repayment of the purchase price of non-conforming goods.

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

☐ **Sauereisen also produces compounds for corrosion resistance, electrostatic discharge and grouting.**

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