Glassbond Sauereisen Insa-Lute Adhesive Cement No. 1 Paste & P-1 Powder

Characteristics

- Heat conductive and thermal shock resistant.
- Safely insulates electricity.
- Withstands temperatures to 1,800°F (982°C).
- Resists oil, solvents and most acids.
- Non-toxic and odourless.
- Adheres to metal, ceramics, glass and other surfaces.
- Good mechanical bond.
- Available in paste or powder form.

Recommended For

Appliances
Assembling
Ceramics
Insulating
Metals
Sealing

Description

Insa-Lute Adhesive Cement No. 1 is specified throughout the automotive, appliance and assembly industries for bonding, insulating and encapsulating applications. A thermally conductive and electrically insulating cement paste, the material bonds well to metal, ceramics and glass. Upon curing, the cement resembles a durable ceramic and will resist high temperatures. No. 1 is also used to replace sealing wax, bolts, nuts, screws and mica because of its ability to readily adhere to practically any clean, non-plastic surface.

Insa-Lute Adhesive Cement is also available in powder form known as Cement No. P-1. When mixed with water at the proper ratio, No. P-1 has the same characteristics as the No. 1 Paste.

Working properties of the cement exhibit a virtually unlimited pot life prior to exposure to air. This feature makes Nos. 1 & P-1 ideal for automated applications using dispensing equipment. Due to its inorganic composition, Insa-Lute Adhesive Cement is very stable and will neither outgas, nor cause skin irritations like many other adhesives.

Physical Properties

Coefficient of thermal expansion	8.0 x 10^{-6}/F° (14.4 x 10^{-6}/C°)
Colour	Off White
Compressive strength @ 7 days	3,900 psi (274 kg/cm²)
Dielectric constant	3.5 – 6.0
Dielectric strength	
@ 70°F (21°C)	12.5 to 51.0 Volts/mil (490 to 2,000 Volts/mm)
@ 750°F (399°C)	≤ 15.0 Volts/mil (588 Volts/mm)
@ 1,475°F (801°C)	≤ 1.3 Volts/mil (51 Volts/mm)
Maximum service temperature	1,800°F (982°C)
Modulus of rupture	460 psi (32 kg/cm²)
Shear strength	710 psi (49 kg/cm²)
Tensile strength	410 psi (28 kg/cm²)
Volume resistivity	
@ 70°F (21°C)	10^{8} – 10^{9} ohm-cm
@ 700°F (°C)	10^{4} – 10^{5} ohm-cm
@ 1,475°F (801°C)	10^{2} – 10^{3} 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.

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Application / Instructions

Mixing

No. 1 should be thoroughly remixed to a smooth, uniform consistency prior to use. If necessary, Thinning Liquid No. 14 can be used where the cement is required in a more fluid consistency. Minimal amounts of extra liquid should be used as excess liquid will reduce mechanical strength, increase shrinkage and delay set time.

Application

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

Setting / Curing

Insa-Lute Adhesive Cement Nos. 1 & P-1 are air setting and should be used in thin applications. Avoid applying in a thickness more than ¼ inch. If necessary, multiple coats may be applied to build thickness. Placement of the cement may be done by brushing, dipping or spraying.

Nos. 1 & P-1 cure by air drying at room temperature. Drying time depends on the consistency and thickness of the application. Normally 18-24 hours drying at ambient temperature is sufficient. 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

This material is supplied in various types and sizes of containers. See price list for details.

Shelf Life

No. 1 Paste and No. P-1 Powder have a shelf life of six (6) months when stored in unopened, tightly sealed containers in a dry locations at 21°C. If there is doubt as to the quality of the material, 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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