



## TECHNICAL BULLETIN #3029 – INSULCAST 502 CLEAR CASTING EPOXY

Revised: 05/2018

### PRODUCT DESCRIPTION

**INSULCAST 502** is an unfilled epoxy with low viscosity for general purpose casting and impregnation, exhibiting excellent electrical and physical properties.

### PROPERTIES UNCURED

|                            | INSULCAST<br>502 | INSULCURE<br>9 | INSULCURE<br>11B |             |
|----------------------------|------------------|----------------|------------------|-------------|
| COLOR, VISUAL              | Clear            | Amber          | Amber            | -           |
| VISCOSITY, @ 25°C, cps     | 700              | 55             | 700              | ASTM D 2392 |
| SPECIFIC GRAVITY           | 1.13             | 0.97           | 0.95             | -           |
| MIX RATIO (by weight)      |                  | 100:13         | 100:18           | -           |
| MIXED VISCOSITY @ 25°C,cps |                  | 200            | 300              | ASTM D 2393 |
| POT LIFE @ 25°C, 100 grams |                  | 30 mins.       | 6 hrs.           | -           |
| SHELF LIFE @ 25°C, months  | 12               | 12             | 12               | -           |

**PROPERTIES CURED**

| PHYSICAL  | INSULCURE 9         | INSULCURE 11B       |             |
|---|---------------------|---------------------|-------------|
| HARDNESS, DUROMETER (Shore D)                           | 85                  | 87                  | ASTM D 2240 |
| TENSILE STRENGTH, psi                                   | 10,700              | 11,000              | ASTM D 638  |
| TENSILE ELONGATION, %                                   | 5.4                 | 5.0                 | ASTM D 638  |
| COMPRESSIVE STRENGTH, psi                               | 14,000              | 15,600              | ASTM D 695  |
| FLEXURAL STRENGTH, psi                                  | 17,500              | 18,000              | ASTM D 790  |
| COEFFICIENT OF THERMAL EXPANSION, °C                    | 75x10 <sup>-6</sup> | 75x10 <sup>-6</sup> | -           |
| THERMAL CONDUCTIVITY, BTU-in/(ft <sup>2</sup> )(hr)(°F) | 1.6                 | 1.6                 | -           |
| HEAT DISTORTION POINT, °C                               | 85                  | 155                 | -           |
| SERVICE TEMPERATURE, °C:                                | 105                 | 155                 | -           |

**ELECTRICAL**

|                                |                    |                    |            |
|--------------------------------|--------------------|--------------------|------------|
| DIELECTRIC STRENGTH, volts/mil | 425                | 435                | ASTM D 149 |
| DIELECTRIC CONSTANT, 1 KHz     | 4.0                | 4.0                | ASTM D 150 |
| DISSIPATION FACTOR, 1 KHz      | 0.023              | 0.023              | ASTM D 150 |
| VOLUME RESISTIVITY, ohm-cm     | 2X10 <sup>15</sup> | 2X10 <sup>15</sup> | ASTM D 257 |

**USE INSTRUCTIONS**

1. Weigh out required amount of **INSULCAST 502** and add:  
13 parts **INSULCURE 9** per 100 parts **INSULCAST 502**,  
OR 18 parts **INSULCURE 11B** per 100 parts **INSULCAST 502**
2. Mix curing agent in thoroughly, scraping both the sides and bottom of the container to insure proper blending.
3. Evacuate for 2-5 minutes if void-free castings are required.
4. Pour into cavity or mold, etc.

**CURE SCHEDULE**

- INSULCURE 9:** At room temperature (25°C.) for 4-8 hours  
Full properties after 24 hours
- INSULCURE 11B:** Masses 1/2 lb. or under - 2 hours at 70°C.  
Post Cure - 2 hours at 100°C.  
Masses to 2 lbs. - 2 hours at 60°C.  
Post Cure - 2 hours at 100°C  
Masses over 2 lbs. overnight at room temp. (25°C)  
Post Cure - 2 hours at 75°C or 1 hour at 100°C.

**IMPORTANT:**

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**HEALTH CAUTION:**

Avoid breathing possible fumes, mists and vapors which can cause severe respiratory damage. Use of NIOSH approved breathing apparatus is required for more than minimal exposure. Always work in areas with adequate ventilation to allow dissipation of polyamine and other chemical fumes, and where applicable, solvent fumes. Use of goggles, protective garments, rubber gloves, protective cream is required. If material gets into eyes, flush thoroughly with clean water for twenty (20) minutes; then seek medical treatment. Avoid skin contact. Material can cause contact dermatitis. Always wash exposed areas immediately, using warm water and soap, followed by rinsing with clean water. Observe all safety precautions. It is important when using solvent based materials or solvents to keep away from open flame or ignition source.

**PLEASE REFER TO MATERIAL SAFETY DATA SHEET FOR FURTHER FIRST AID INFORMATION. FOR CHEMICAL EMERGENCY, CALL CHEMTREC (DAY OR NIGHT) 800 424-9300.**