

Technical Bulletin # 3030

**Product Description**

**INSULCAST 504** is an unfilled 100% solids epoxy resin casting or impregnating material. The product has excellent physical and electrical properties. The standard room temperature curing agent is **INSULCURE 8** which gives fast cures and resilient castings.

**Properties Uncured**

	<b>INSULCAST 504</b>	<b>INSULCURE 8</b>	<b>INSULCURE 11B</b>	
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):		100:12	100:18	
MIXED VISCOSITY @ 25°C, cps:		175-200	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**

HARDNESS, DUROMETER (Shore D):	75-80	85	ASTM D 2240
TENSILE STRENGTH, psi:	10,700	11,000	ASTM D 638
TENSILE ELONGATION, %:	4.5	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
IZOD IMPACT, ft lbs/inch of notch	0.2	0.2	
COEFFICIENT OF THERMAL EXPANSION, °C:	61 x 10 <sup>-6</sup>	75 x 10 <sup>-6</sup>	
THERMAL CONDUCTIVITY, BTU-in/(ft <sup>2</sup> )(hr)(°F):	1.6	1.6	
HEAT DISTORTION POINT, °C:	75	155	
SERVICE TEMPERATURE, °C:	105	155	

**Electrical**

DIELECTRIC STRENGTH, volts/mil:	425	435	ASTM D 149
DIELECTRIC CONSTANT, 1 KHz:	4.0	4.2	ASTM D 150
DISSIPATION FACTOR, 1 KHz:	0.022	0.01	ASTM D 150
VOLUME RESISTIVITY, ohm-cm:	2.6 x 10 <sup>15</sup>	1 x 10 <sup>15</sup>	ASTM D 257

## Use Instructions

1. Weigh out required amount of **INSULCAST 504** and add:  
13 parts **INSULCURE 8** per 100 parts **INSULCAST 504**, OR  
18 parts **INSULCURE 11B** per 100 parts **INSULCAST 504**
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 8:** 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.

**Date** 08/2006

### **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.**