

## One Component, Rigid, Heat Cure, Epoxy System

Technical Bulletin # 3113

### Product Description

INSULCAST 771/781 is a clear, one-component, rigid, heat cure epoxy system which exhibits high heat resistance.

### Properties Uncured

COLOR, VISUAL:	Clear	
VISCOSITY @ 25°C, cps:	700	ASTM D 2393
SPECIFIC GRAVITY:	1.17	
SHELF LIFE @ 25 °C, months:	3	
POT LIFE @ 70 °C, hours:	24	
POT LIFE @ 100 °C, hours:	1.5 - 2	
POT LIFE @ 110 °C, hours:	1 - 1.5	
POT LIFE @ 115 °C, hours:	0.75	

### Properties Cured

#### PHYSICAL

HARDNESS, DUROMETER (Shore D):	80	ASTM D 2240
TENSILE STRENGTH, psi:	8700	ASTM D 638
TENSILE ELONGATION, %:	2.0	ASTM D 638
FLEXURAL STRENGTH, psi:	12000	ASTM D 790
COEFFICIENT OF THERMAL EXPANSION, °C:	$77 \times 10^{-6}$	
THERMAL CONDUCTIVITY, BTU-in/(ft <sup>2</sup> )(hr)(°F):	1.8	
THERMAL CONDUCTIVITY, W/m °K:	0.259	
HEAT DEFLECTION TEMPERATURE, °C:	140	
SERVICE TEMPERATURE, °C:	-40 to 155*	

\*NOTE: See cure schedule requirements to achieve high temperature resistance properties

### Electrical

DIELECTRIC STRENGTH, volts/mil:	420	ASTM D 149
DIELECTRIC CONSTANT, 1 KHz:	4.0	ASTM D 150
DISSIPATION FACTOR, 1 KHz:	0.01	ASTM D 150
VOLUME RESISTIVITY, ohm-cm:	$4.0 \times 10^{14}$	ASTM D 257

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## Use Instructions

1. Preheat coil, transformer or unit for 1-2 hours @ 120°C -140°C. Allow to cool to approximately 50°C.
2. Any surfaces such as terminal leads or mounting brackets where bonding is impractical, should be coated with a suitable epoxy release agent.
3. Pour **INSULCAST 771/781** into unit or tank. If dipping application, units should be drained prior to curing.

## Cure Schedule

Dipped Units 6-8 hours @95°C for lowest shrinkage  
3-5 hours @105°C  
2-3 hours @120°C

\* Post cure 2 hours @150°C for optimum high temperature properties.

Cast Units 8-10 hours @95°C plus 1-2 hours @105°C -115°C for lowest shrinkage.

## Storage Requirements

One component epoxies are pre-catalyzed and have a limited shelf-life. Storage at elevated temperatures will result in a shortened shelf-life and premature gelation. Store material in a cool place.

**Date** 02/2009

### 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.**