



## TECHNICAL BULLETIN #3021 – INSULCAST 333 SELF-EXTINGUISHING EPOXY COMPOUND. FLAME CLASS 94 V-O

Revised: 11/2019

### PRODUCT DESCRIPTION

**INSULCAST 333** is a moderate viscosity, self-extinguishing, epoxy potting/casting compound which is recognized under the component program of Underwriters Laboratories' Flame Class 94V-O.

### PROPERTIES UNCURED

	INSULCAST 333	INSULCURE 9	INSULCURE 20	INSULCURE 11B	
COLOR, VISUAL	Black	Amber	Amber	Amber	-
VISCOSITY @ 25°C, cps	13,000	55	700	700	ASTM D 2393
SPECIFIC GRAVITY	1.55	0.97	0.98	0.95	-
MIX RATIO (by wt.)		:6	100:12-16	100:8	-
MIXED VISCOSITY, cps		2,000	3,000	3,000	ASTM D 2393
POT LIFE (100 grams), 25°C, min		45	60	300	-
SHELF LIFE @ 25°C, months	12	12	12	12	-

**PROPERTIES CURED**

PHYSICAL	INSULCURE 9	INSULCURE 20	INSULCURE 11B	
HARDNESS, DUROMETER (Shore D)	85	85	85	ASTM D 2240
TENSILE STRENGTH, psi	11,500	11,500	12,000	ASTM D 638
TENSILE ELONGATION, %	2.75	2.75	3.75	ASTM D 638
FLEXURAL STRENGTH, psi	17,500	17,500	19,500	ASTM D 790
COMPRESSIVE STRENGTH, psi	14,000	14,000	14,500	ASTM D 695
COEFFICIENT OF THERMAL EXPANSION, °C	48x10 <sup>-6</sup>	48x10 <sup>-6</sup>	48x10 <sup>-6</sup>	-
THERMAL CONDUCTIVITY, BTU-in/(ft <sup>2</sup> )(hr)(°F)	4.3	4.3	4.2	-
FLAMMABILITY RATING 94 V-O	Pass	Pass	Pass	-
HEAT DISTORTION POINT, °C	80	80	155	-
SERVICE TEMPERATURE, °C	-40 to +105	-40 to +105	-55 to +155	-

**ELECTRICAL**

DIELECTRIC STRENGTH, volts/mil	410	410	430	ASTM D 149
DIELECTRIC CONSTANT, 1 KHz	4.4	4.4	4.5	ASTM D 150
DISSIPATION FACTOR, 1 KHz	0.02	0.02	0.02	ASTM D 150
VOLUME RESISTIVITY, ohm-cm	1x10 <sup>15</sup>	1x10 <sup>15</sup>	1x10 <sup>15</sup>	ASTM D 257

**USE INSTRUCTIONS**

1. Premix **INSULCAST 333** in original container being certain to reincorporate any fillers that may have settled.
2. Weigh out required amount of **INSULCAST 333**.
3. Weigh into **INSULCAST 333**, the proper amount of curing agent according to the ratios indicated.
4. Mix thoroughly, being careful to scrape sides and bottom of container to ensure proper blending.
5. Evacuate for 2-5 minutes if void-free castings are required.
6. Pour into cavity or mold.

**CURE SCHEDULE**

**INSULCURE 9 & 20:** 8-12 hours at room temperature (25°) or 2 hours at 50°C.

**INSULCURE 11B:** 2 hours at 100°C, (212°F) for masses less than 1/2 lb. For masses above 1/2 lb. cure 2 hours at 80°C, (177°F) plus 2 hours at 100°C (212°F). For optimum high temperature properties, post cure 1 hour at 150°C (302°F).

**STORAGE REQUIREMENTS**

This product has a tendency to settle upon shipment or storage. The product should be re-mixed well prior to use. Store material in a cool dry place.

**IMPORTANT:**

The following supersedes any provision in your company's forms, letters and papers. ITW PERFORMANCE POLYMERS makes NO WARRANTY, WHETHER EXPRESSED OR IMPLIED, INCLUDING WARRANTIES OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE FOR THIS PRODUCT. No statements or recommendations contained in the product literature are to be construed as inducements to infringe any relevant patent, now or thereafter in existence. UNDER NO CIRCUMSTANCES SHALL ITW PERFORMANCE POLYMERS BE LIABLE FOR INCIDENTAL, CONSEQUENTIAL OR OTHER DAMAGES FROM ALLEGED NEGLIGENCE, BREACH OF WARRANTY, STRICT LIABILITY OR ANY OTHER THEORY, ARISING OUT OF THE USE OR HANDLING OF THIS PRODUCT. The sole liability of ITW PERFORMANCE POLYMERS for any claims arising out of the manufacture, use or sale of its products shall be to refund the buyer's purchase price, provided such products have been demonstrated in ITW PERFORMANCE POLYMERS sole opinion, to justify such refund.

**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.**

**ITW PERFORMANCE POLYMERS**