



TECHNICAL BULLETIN #3044 – INSULCAST 3230 LV LOW VISCOSITY, HIGH THERMAL CONDUCTIVITY, CASTING COMPOUND

Revised: 05/2018

PRODUCT DESCRIPTION

INSULCAST 3230 LV is a low viscosity, highly filled epoxy formulation which, in addition to having excellent electrical properties, has unusually high thermal conductivity with low thermal expansion. Similar to **INSULCAST 140** but lower viscosity. This system meets the NASA outgassing specifications with tolerances for TML ranging from 0.40 to 0.41% and for CVCM ranging from 0.0 to 0.1%.

PROPERTIES UNCURED

	INSULCAST 3230 LV	INSULCURE 9	INSULCURE 11B	
COLOR, VISUAL	Black	Amber	Amber	
VISCOSITY, @ 25°C, cps	18,000	55	700	ASTM D 2393
SPECIFIC GRAVITY	2.1	0.97	0.95	-
MIX RATIO (by wt.)	100	:4-5	:5-7	-
MIXED VISCOSITY, cps		6,000	12,000	ASTM D 2393
SHELF LIFE (100 gr.) @ 25°C, month	12	12	12	-
POT LIFE (100 gr.) @ 25°C, mins		75-120	150-180	-

PROPERTIES CURED

PHYSICAL	INSULCURE 9	INSULCURE 11B	
HARDNESS, DUROMETER (Shore D)	90	92	ASTM D 2240
TENSILE STRENGTH, PSI	8,000	8,500	ASTM D 638
TENSILE ELONGATION, %	1.0	1.0	ASTM D 638
COMPRESSIVE STRENGTH, psi	16,500	18,000	ASTM D 790
FLEXURAL STRENGTH, psi	13,000	13,500	ASTM D 790
COEFFICIENT OF THERMAL EXPANSION, °C	28x10 ⁻⁶	28x10 ⁻⁶	-
THERMAL CONDUCTIVITY, W/m-K	1.0 (+/-0.1)	1.0 (+/-0.1)	-
HEAT DISTORTION POINT, °C	80	150	-
SERVICE TEMPERATURE, °C	-40 to +105	-55 to +155	-

ELECTRICAL

DIELECTRIC STRENGTH, volts/mil	475	500	ASTM D 149
DIELECTRIC CONSTANT, 1 KHz	6.3	6.5	ASTM D 150
DISSIPATION FACTOR, 1 KHz	0.02	0.02	ASTM D 150
VOLUME RESISTIVITY, ohm-cm	1.3x10 ¹⁶	5x10 ¹⁶	ASTM D 257

USE INSTRUCTIONS

1. Pre-mix **INSULCAST 3230 LV** in original container before use to ensure that any settled filler is re-incorporated.
2. Weigh out the required amount of **INSULCAST 3230 LV**. Weigh out required amount of curing agent (see mix ratio).
3. Mix thoroughly, being certain to scrape sides and bottom of container.
4. De-air at 29 in. Hg for 10-15 minutes.
5. Pour into mold or cavity.

CURE SCHEDULE

INSULCURE 9: 16 to 24 hours at room temperature (25°C), or 2 hours at 65°C.

INSULCURE 11B: Overnight@85°C, followed by a post bake of 1 hour@120°C, or simply cure for 2 hours@120°C.

STORAGE REQUIREMENTS

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

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.