



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

Revised: 04/2021

PRODUCT DESCRIPTION

INSULCAST 3230 LV is a low viscosity, highly filled epoxy formulation that in addition to excellent electrical properties, has unusually high thermal conductivity, with low thermal expansion – similar to **INSULCAST 140FR**, but with lower viscosity. This system meets 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	
COLOUR, VISUAL	Black	Amber	Amber	
VISCOSITY, @ 25°C, cPs	18,000	55	200	ASTM D2393
SPECIFIC GRAVITY	2.1	0.97	0.95	-
MIXRATIO (by wt.)	100	4-5	5-7	-
MIXED VISCOSITY, cPs		6,000	12,000	ASTM D2393
SHELF LIFE, 100g @ 25°C, month	12	12	12	-
POT LIFE 100g @ 25°C, min.		45	300	-

PROPERTIES CURED

PHYSICAL	INSULCURE 9	INSULCURE 11B	
HARDNESS, DUROMETER (Shore D)	90	92	ASTMD 2240
TENSILE STRENGTH, psi / MPa	8,000 / 55	8,500 / 59	ASTMD 638
TENSILE ELONGATION, %	1	1	ASTMD 638
COMPRESSIVE STRENGTH, psi / MPa	16,500 / 114	18,000 / 124	ASTMD 790
FLEXURAL STRENGTH, psi / MPa	13,000 / 90	13,500 / 93	ASTMD 790
COEFFICIENT OF THERMAL EXPANSION, m/mK	28x10 ⁻⁶	28x10 ⁻⁶	-
THERMAL CONDUCTIVITY, W/mK	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 / V/m	475 / 1.87x10 ⁷	500 / 1.97x10 ⁷	ASTMD 149
DIELECTRIC CONSTANT, 1 kHz	6.3	6.5	ASTMD 150
DISSIPATION FACTOR, 1 kHz	0.02	0.02	ASTMD 150
VOLUME RESISTIVITY, ohm-cm	1.3x10 ¹⁶	5x10 ¹⁶	ASTMD 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. Deair at 29 in.Hg (0.98bar) 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 at 120°C, or 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:

Refer to the SDS prior to use. The use of NIOSH or CE approved respiratory protection may be required. Avoid breathing possible fumes, mists and vapors which can cause severe respiratory damage. 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.