



TECHNICAL BULLETIN #3005 – INSULCAST 116 FR Revised: 04/2021
ROOM TEMPERATURE CURE, EQUAL RATIO POTTING AND CASTING COMPOUND.
INSULCAST 116 FR IS UL RECOGNIZED UNDER FILE E86165 & MEETS THE FLAMMABILITY REQUIREMENT OF UL94V-0

PRODUCT DESCRIPTION

INSULCAST 116 FR is a one to one ratio (weight or volume) epoxy potting and casting compound designed for production use. The convenient mixing ratio of the material is ideal for production line mixing as well as automatic dispensing. **INSULCAST 116 FR** is among the safest epoxy compounds available, reducing the risk of eye, skin, or respiratory problems generally associated with the use of epoxy compounds.

PROPERTIES UNCURED

	Part A	Part B	
COLOUR, VISUAL	Black	Cream	-
VISCOSITY, cPs	7,200	11,000	ASTM D 2393
SPECIFIC GRAVITY	1.5	1.45	-
MIXED VISCOSITY, cPs	8,100		-
POT LIFE, 100g mass, hr.	1.5		-
GEL TIME, 25°C, hr.	3-4		-
SHELF LIFE, 25°C, months	12		-

PROPERTIES CURED

PHYSICAL		
DUROMETER (Shore D)	75	ASTM D 2240
COMPRESSIVE STRENGTH, psi / MPa	12,500 / 86.2	ASTM D 695
TENSILE STRENGTH, psi / MPa	9,500 / 65.5	ASTM D 638
FLEXURAL STRENGTH, psi / MPa	10,000 / 69.0	ASTM D 790
TENSILE ELONGATION, %	8	ASTM D 638
COEFFICIENT OF THERMAL EXPANSION, m/mK	30x10 ⁻⁶	
THERMAL CONDUCTIVITY, W/mK	0.65	
FLAMMABILITY, UL94V-0	Pass	
HEAT DISTORTION POINT, °C	70	
SERVICE TEMPERATURE, °C	-40 to 105	

ELECTRICAL

DIELECTRIC STRENGTH, volts/mil / V/m	420/1.65x10 ⁷	ASTM D 149
DIELECTRIC CONSTANT, 1 KHZ	4.4	ASTM D 150
DISSIPATION FACTOR, 1 KHZ	0.02	ASTM D 150
VOLUME RESISTIVITY, ohm/cm	1x10 ¹⁴	ASTM D 257

USE INSTRUCTIONS

1. Premix contents of each container before use to insure uniformity. Some light settling may occur, but it will be soft and easily reincorporated.
2. Measure our equal volume or weight of each component and mix together thoroughly. Be careful to scrape sides and bottom of container to incorporate all unmixed material, or serious loss of physical and electrical properties will result.
3. De-air (if necessary) at 29 in.Hg, (0.98bar) for 10 minutes.
4. Pour into cavity or mold.
5. Recover both containers immediately after each use to prevent contamination.

CURE SCHEDULE

Allow to cure 16-24 hours at room temperature (22°C).

To accelerate cure, allow 2 hours at room temperature (22°C), then 55°C for 2 hours.

STORAGE REQUIREMENTS: IMPORTANT

This product tends to 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.

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