



**TECHNICAL BULLETIN #3123 – INSULGEL 70CC FR NS**  
**SEMI-FLEXIBLE, LOW C.T.E., EPOXY COMPOUND, SUPERIOR THERMAL SHOCK**  
**RESISTANCE, UL 94 V-0**

Revised: 11/2019

**PRODUCT DESCRIPTION**

**INSULGEL 70 CC FR NS** is an epoxy compound which exhibits superior thermal shock resistance by making use of an inherently flexible epoxy resin and special filler technology. It provides reduced shrinkage and low coefficient of thermal expansion resulting in decreased stress and improved adhesion. In addition, a significant portion of the product is manufactured from environmentally sustainable raw materials. **INSULGEL 70 CC FR NS** is UL recognized under file E86165 & meets the flammability requirement of 94 V-0.

**PROPERTIES UNCURED**

	PART A	PART B	
COLOR, VISUAL	Black	Amber	-
VISCOSITY @ 25°C, cps	16,000	125	ASTM D 2393
SPECIFIC GRAVITY	1.61	0.98	-
MIX RATIO (by wt.)	100:10-11		-
MIXED VISCOSITY, cps	3,000		-
POT LIFE (100 gr) @ 25°C, hrs	0.5-0.75		-
SHELF LIFE @ 25°C, months	12	12	-

**PROPERTIES CURED**

PHYSICAL		
HARDNESS, DUROMETER (Shore D)	50	ASTM D 2240
TENSILE STRENGTH, psi	1,200	ASTM D 638
TENSILE ELONGATION, %	90	ASTM D 638
COEFFICIENT OF THERMAL EXPANSION, °C	90x10 <sup>-6</sup>	-
THERMAL CONDUCTIVITY, BTU-in/(ft <sup>2</sup> )(hr)(°F)	3.6	-
THERMAL CONDUCTIVITY, W/m °K	0.518	-
SERVICE TEMPERATURE, °C:	-40 to +105	-
GLASS TRANSITION TEMPERATURE , °C	4 to 9	-

**ELECTRICAL**

DIELECTRIC STRENGTH, volts/mil	400	ASTM D 149
DIELECTRIC CONSTANT, 1 KHz	4.1	ASTM D 150
DISSIPATION FACTOR, 1 KHz	0.08	ASTM D 150
VOLUME RESISTIVITY, ohm-cm: @25°C	7 x 10 <sup>12</sup>	ASTM D 257
VOLUME RESISTIVITY, ohm-cm: @100°C	10 <sup>10</sup>	ASTM D 257

**USE INSTRUCTIONS**

1. Premix **INSULGEL 70 CC FR NS** base in original container being certain to re-incorporate any fillers that may have settled during shipment or storage. Due to the nature of the fillers, settling may be difficult to re-mix without the use of mechanical agitation or drum rollers.
2. Weigh out amount of **INSULGEL 70 CC FR NS** required.
3. Weigh out appropriate amount of curing agent.
4. Mix both materials thoroughly, being certain to carefully scrape sides and bottom of container to insure homogenous mix.
5. For absolutely void-free casting, evacuate for 5-10 minutes @29" Hg.

**CURE SCHEDULE**

Room temperature (25°C) - 16 to 24 hours

**STORAGE REQUIREMENTS**

**This product will 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.**



ITW Polyethylene Resins  
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ITW Performance Polymers Europe  
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