

INSULGEL 70CC FR NS

Flexible Epoxy with Superior Thermal Shock Resistance

More User-friendly Replacement for Many Urethanes When Flexibility and a UL 94V-0 Rating are a Requirement

INSULGEL 70CC 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, INSULGEL 70CC FR NS provides reduced shrinkage and low coefficient of thermal expansion. This results in decreased stress and improved adhesion. In addition, a significant portion of the product is manufactured from environmentally sustainable raw materials.

Key Product Benefits

- Flexible (50D)
- Room Temp Cure
- UL 94V-0 Certified
- Low Viscosity
- Thermally Conductive
- Low Cost

Specific Advantages Compared to Urethanes

- More Forgiving Mix Ratio
- Superior Mechanical Strength
- Improved Chemical Resistance
- Better Adhesion
- Less Concern Regarding Respiration and Skin Sensitivity



For samples, technical advice or a distributor near you call:
800.645.7546 or 215.855.8450. www.insulcast.com

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ENCAPSULANTS, POTTING MATERIALS & SILICONE GREASES

INSULGEL 70CC FR NS

SEMI-FLEXIBLE, LOW C.T.E., EPOXY COMPOUND,
SUPERIOR THERMAL SHOCK RESISTANCE, UL 94 V-0

Technical Bulletin # 3123

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

	<u>Part A</u>	<u>Part B</u>	
COLOR, VISUAL:	Black	Amber	
VISCOSITY @ 25°C, cps:	16,000	125	ASTM D2393
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 D2240
TENSILE STRENGTH, psi:	1,200	ASTM D638
TENSILE ELONGATION, %:	90	ASTM D638
COEFFICIENT OF THERMAL EXPANSION, °C:	90×10^{-6}	
THERMAL CONDUCTIVITY, BTU-in/(ft ²)(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 D149
DIELECTRIC CONSTANT, 1 KHz:	4.1	ASTM D150
DISSIPATION FACTOR, 1 KHz:	0.08	ASTM D150
VOLUME RESISTIVITY, ohm-cm: @25°C	7×10^{12}	ASTM 257
VOLUME RESISTIVITY, ohm-cm: @100°C	10^{10}	ASTM 257

ITW POLYMER TECHNOLOGIES

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ITW Philadelphia Resin
Registered to ISO 9001:2008
File No. A3799



ITW Performance Polymers Europe
ISO 9001:2008
Q 06420

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.

Date 01/2011

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.