

Semi-Flexible, Low Coefficient of Expansion
Epoxy Compound – Superior Thermal Shock Resistance

Technical Bulletin # 3065

Product Description

INSULGEL 70 CC NS is an epoxy compound exhibiting low shrinkage and thermal shock resistance. By making use of an inherently flexible epoxy resin and special filler technology, **INSULGEL 70 CC NS** provides reduced shrinkage and low coefficient of thermal expansion. This results in decreased stress and improved adhesion to components. Several curing agents for **INSULGEL 70 CC NS** are offered to satisfy such diverse requirements as fast cure for small components, extended pot life for uses involving large mixed quantities, and a heat cure hardener for higher temperature requirements. This product is identical to INSULGEL 70 CC with better anti-settling properties and storage stability.

Properties Uncured

	<u>INSULGEL 70 CC</u>	<u>PART B</u>	<u>PART B-1</u>	<u>INSULCURE 9</u>	<u>INSULCURE 11 B</u>	
COLOR, VISUAL:	Black	Amber	Amber	Amber	Amber	
VISCOSITY @ 25°C, cps:	16,000	125	<20	55	700	ASTM D 2393
SPECIFIC GRAVITY:	1.53	0.98	0.98	1.00	0.95	
MIX RATIO (by wt.):	100	:10-11	:9-10	:3½-4	:5½-6	
POT LIFE (100 G) @ 25°C, hrs:		½-¾	8-10	½-¾	2-2½	
SHELF LIFE, months:	12	12	12	12	12	

Properties Cured

PHYSICAL

HARDNESS, DUROMETER (Shore D):	50	43	75	80	ASTM D 2240
TENSILE STRENGTH, psi:	1,200	1,000	1,900	2,500	ASTM D 638
TENSILE ELONGATION, %:	90	120	30	20	ASTM D 638
COEFFICIENT OF THERMAL EXPANSION, °C:	38x10 ⁻⁶	38x10 ⁻⁶	31x10 ⁻⁶	32x10 ⁻⁶	
THERMAL CONDUCTIVITY, BTU-in/(ft ²)(hr)(°F):	3.6	3.6	4.3	4.2	
SERVICE TEMPERATURE, °C:	105	105	130	155	

Electrical

DIELECTRIC STRENGTH, volts/mil:	400	400	400	425	ASTM D 149
DIELECTRIC CONSTANT, 1 KHz:	4.1	3.9	4.5	4.5	ASTM D 150
DISSIPATION FACTOR, 1 KHz:	0.08	0.08	0.30	0.38	ASTM D 150
VOLUME RESISTIVITY					
@ 25°C:	7X10 ¹²	7X10 ¹²	10 ¹⁴	10 ¹⁵	ASTM D 257
@ 100°C:	10 ¹⁰	10 ¹⁰	10 ¹¹	10 ¹³	

Use Instructions

1. Premix **INSULGEL 70 CC 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 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

Part B	Room temperature (25°C) - 16 to 24 hours
Part B-1	Room temperature (25°C) - 16 to 24 hours Post Cure 12 hours @ 50°C
INSULCURE 9	Room temperature (25°C) - 16 to 24 hours
INSULCURE 11B	2 hours @ 100°C, Post Cure for 1 hour @ 150°C

Storage Requirements

The product should be re-mixed well prior to use. Store material in a cool dry place.

Date

08/2006

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.