



TECHNICAL BULLETIN #3064 – INSULGEL 70 CC SEMI-FLEXIBLE, LOW COEFFICIENT OF EXPANSION EPOXY COMPOUND - SUPERIOR THERMAL SHOCK RESISTANCE

Revised: 05/2018

PRODUCT DESCRIPTION

INSULGEL 70 CC 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** 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** 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.

PROPERTIES UNCURED

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

PROPERTIES CURED

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

ELECTRICAL

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

MIXING INSTRUCTIONS

1. Premix **INSULGEL 70 CC** 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** 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-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

This product has a tendency to settle upon shipment or storage. The product should be re-mixed well prior to use. The use of mechanical agitation or drum rollers may be necessary. Store material in a cool dry place.

ITW PERFORMANCE POLYMERS

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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.