



## TECHNICAL BULLETIN #3037 – INSULCAST 961 FR LOW DENSITY SYNTACTIC EPOXY FOAM

Revised: 05/2018

### PRODUCT DESCRIPTION

**INSULCAST 961 FR** is a low density flame retardant epoxy casting system.

**INSULCAST 961 FR** finds use in airborne or light weight equipment where thermal insulation or a low dielectric constant is required.

### PROPERTIES UNCURED

COLOR, VISUAL	Black	-
VISCOSITY, cps	17,000	ASTM D 2393
SPECIFIC GRAVITY	0.60-0.75	-
MIX RATIO	See Ratio Chart	-
MIXED VISCOSITY, cps	7,000 ± 2,000	ASTM D 2393
POT LIFE @ 25°C, hours	Varies with Curing Agent	-
SHELF LIFE @ 25°C, months	12	-

**PROPERTIES CURED**

<b>PHYSICAL</b>		
HARDNESS, DUROMETER (Shore D)	70	ASTM D 2240
TENSILE STRENGTH, psi	4,000	ASTM D 695
TENSILE ELONGATION, %	<5	ASTM D 638
FLEXURAL STRENGTH, psi	4,200	ASTM D 790
WATER ABSORPTION (24hrs), %	0.4	-
COEFFICIENT OF THERMAL EXPANSION °C	40x10 <sup>-6</sup>	-
THERMAL CONDUCTIVITY, BTU in/(ft <sup>2</sup> )(hr)(°F)	1.2	-
SERVICE TEMPERATURE, °C	105 to 155 (Depends on Insulcure)	-

**ELECTRICAL**

DIELECTRIC STRENGTH, volts/mil	375	ASTM D 149
DIELECTRIC CONSTANT, 1 KHz	3.7	ASTM D 150
DISSIPATION FACTOR, 1 KHz	0.02	ASTM D 150
VOLUME RESISTIVITY, ohm-cm	1.0x10 <sup>13</sup>	ASTM D 257

**MIXING INSTRUCTIONS**

Pre-mix **INSULCAST 961 FR** in its original container. The filler in **INSULCAST 961 FR** will float to the surface and form a light crust which readily re-disperses.

1. Weigh out the required amount of **INSULCAST 961 FR** according to ratio chart below.
2. Measure into the **INSULCAST 961 FR** the proper amount of **INSULCURE** (see chart).
3. Mix thoroughly, scraping both the sides and bottom of the container.
4. Pour into unit or cavity.

**CURING AGENT RATIO CHART**

100:11-12 with **INSULCURE 9** - Fast cure and small castings  
 100:23-25 with **INSULCURE 44** - Larger castings  
 100:12-18 with **INSULCURE 13** - Fastest cure

**CURE SCHEDULE**

**INSULCURE 9:** Overnight at room temperature (24 hrs. @ 25°C)  
**INSULCURE 44:** Overnight at room temperature (24 hrs. @ 25°C)  
**INSULCURE 13:** 2-3 hrs. @ 25°C

**STORAGE REQUIREMENTS**

This product contains lightweight glass microballoons which have a tendency to float toward the top of the container during shipment and storage. The product must be re-mixed well prior to use. Store material in a cool dry place.

**LIMITATIONS**

Do not pre-heat material during use or before material has gelled. Pre-heating will lower the viscosity and cause excessive phase separation of the glass microballoons. Some phase separation is normal as the material gels but will be more noticeable in the black version.

**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.**