



9347 - 193 Street, Surrey, B.C. V4N 4E7 Canada

Phone: (604) 888-3084 Toll Free: 1-800-201-8822

Fax: (604) 888-7754 Toll Free: 1-800-708-9888

ISO 9001 Registered Quality System QMI Certificate # 004008 Burlington, Ontario, Canada

# Thermally Conductive Epoxy Encapsulating and Potting Compound

Cat. No. 832TC

## Product Description and Features

100% solids. Formulated with undiluted Bis F resin for superior physical properties, and pigmented with high purity aluminum oxide pigment to provide excellent thermal conductivity at reasonable cost. Pigmented black for excellent thermal absorption and emission.

- Provides superior protection from impact, shock, conductivity, moisture, abuse, chemicals, and analysis
- Two part epoxy, with a 1 to 1 mixing ratio by volume.
- Two hour working time
- Suitable for large production runs
- Cures in 2 days at room temperature or one hour at 65

## Specifications

### Uncured Properties - Resin [Part A]

Viscosity at 25 °C (77 °F), 30 RPM 17,920 cps

Specific Gravity 1.8019

Color Black

### Uncured Properties - Hardener [Part B]

Viscosity at 25 °C (77 °F), 20 RPM 23,070 cps

Specific Gravity 1.5036

Color Black

### Cured Properties - PHYSICAL

#### Test Method

Mixed Viscosity at 25 °C (77 °F), 10 RPM 38,000 - 40,000 cps

Mixed Specific Gravity 1.6156

Volume Mix Ratio (resin:hardener) 1:1

Working time (100 g) 120 min.

Cure Time (150 g) at 20 °C 96 hours

at 45 °C 8 hours

at 55 °C 4 hours

at 65 °C 2 hours

Shore Hardness 82 Shore D

Tensile strength ASTM-D-638-02A 2734 psi

Elongation ASTM-D-638-02A 1.87 %

Compressive Strength	ASTM-D-695-02A	4,088 psi
Flexural Strength	ASTM-D-790-03	5,352 psi
Cantilever Beam (IZOD) Impact	ASTM-D-256-02 E1	0.80 ft lb ft / in
Shear Strength	ASTM-E-831-03	3.224 psi
<b>Cured Properties - TEMPERATURE</b>		<b>Test Method</b>
Constant Service Temperature		200 - 225 °C (392 - 437 °F)
Heat Deflection Temperature	ASTM-D-648-01	35.35 °C (95.6 °F)
Maximum Withstand Temperature		250 °C (482°F)
<b>Cured Properties - ELECTRICAL</b>		<b>Test Method</b>
Dielectric Constant	ASTM-D-150-98	4.41
Dissipation Factor	ASTM-D-150-98	0.0113
Volume Resistivity	ASTM-D-257-99	2.58 x 10 <sup>15</sup> ohm · cm
Surface Resistivity	ASTM-D-257-99	3.16 x 10 <sup>16</sup> ohm · cm
<b>Cured Properties - THERMAL</b>		<b>Test Method</b>
Thermal Conductivity		0.682 W/m*K
Thermal Diffusivity		0.38 mm <sup>2</sup> /s
Volumetric Specific Heat		1.9MJ/m <sup>3</sup> *K
Thermal Expansion	ASTM-E-831-03	148.3x10 <sup>-6</sup> mm/mm°C
<b>Chemical and Solvent Resistance</b>		<b>Change after 3 days:</b>
Hydrochloric Acid		< 0.50%
Isopropyl Alcohol		~ 0%
Ethyl Lactate		< 1 %
Acetone		< 3%
Xylene		< 2%
Iso hexanes		~ 0%
Mineral spirits		~ 0%

## Usage Instructions

1. Individually stir Part A and Part B
2. Thoroughly mix 1 parts of A to 1 part of B by volume. Never mix more than 500 grams at one time or flash curing may occur.
3. Let stand for 30 minutes to allow air that has been mixed in to release. Gently stir once more to remove any foam that has accumulated on top.
4. Pour directly onto the surface to be encapsulated
5. Let stand for 96 hours or for best results heat cure at 65°C / 149 °F for 2 hours.

## Availability

Catalog Number	Sizes Available	Description
832TC-450ML	450 mL kit (16 oz)	Liquid
832TC-2L	2 L kit (0.5 gal)	Liquid
832TC-40L	40 L kit (10 gal)	Liq

### Note:

This information is believed to be accurate. It is intended for professional end users having the skills to evaluate and use the data properly. M.G. Chemicals Ltd. Does not guarantee the accuracy of the data and assumes no liability in connection with damages incurred while using it.

