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

Flame Retardant Epoxy Encapsulating and Potting Compound

Cat. No. 833FRB

Product Description and Features

A two component self extinguishing epoxy compound. Provides insulation and protects sensitive components and circuits from: static discharge, impact, heat, shock, conductivity, abuse, vibration, moisture, fresh and salt water, chemicals and analysis.

- UL Recognized, Flame Class 94V-0, category QMFZ2 (File # E334302)
- Specifications verified as per UL746A
- Hard durable surface
- Extreme resistance to water and humidity
- Strong chemically resistance
- Physically strong and impact resistant
- Vibration Resistant
- Provides strong electrical insulation
- VOC Free
- Solvent Free

Specifications

Standards		
UL Registered	Flame Class 94V-0, category QMFZ2	file # E334302
Uncured Properties - Resin [Part A]		
<u>Viscosity</u>	@ 24°C Brookfield 30 RPM Spindle 4	4000 cps
Phase		Liquid
Color		Black
Specific Gravity		1.24
Odor		Mild
Flash Point		190 °C
Uncured Properties - Hardener [Part B]		
<u>Viscosity</u>	@ 24°C Brookfield 30 RPM Spindle 4	14000 cps
Phase		Liquid
Color		Grey
Specific Gravity		1.13

Odor		Musty
Flash Point		105 °C
Uncured Properties – Mixed		
<u>Viscosity</u>	@ 20°C Brookfield 50 RPM Spindle 4	11500 cps
Specific Gravity		1.21
Color		Black
Mixing Ratio (Part A & B)		
Volume Mixing Ratio		2 (resin): 1 (hardener)
Mass Mixing Ratio		2 (resin): 1 (hardener)
Working Time		1 hour
Curing Time (100 g)		
@ room temperature		24 hours
@ 65°C / 149 °F		60 minutes
@ 80°C / 176 °F		45 minutes
@ 100°C / 212 °F		35 minutes
Cured Properties - Physical		
Tensile Impact @ 0.117 " thickness	ASTM D1822 UL 746A	20.54 kJ/m ²
Izod Impact	ASTM D256 Method A or ISO 180	1.10 kJ/m ²
Flexual Strength	ASTM D790 or ISO 178	40.2 Mpa
Compressive Strength	ASTM D695	1310 kg/cm ²
Lap shear Strength	ASTM 790 or ISO 178	59.3 kg/cm ²
Hardness (shore D)		83-84
Cured Properties - Electrical		
Surface Resistivity @ 23°C/35%RH	ASTM D257	2 x 10 ¹⁵ Ohms/square
Volume Resistivity @ 23°C/50%RH	ASTM D257 UL 746A	2.71 x 10 ¹⁵ Ohms- cm
Dielectric Strength (tested @1.730mm)	ASTM D149 UL 746A	19.37 kV/mm
Dielectric Constant / Dissipation Factor (tested @ 161")	ASTM D150-98	
@ 60 Hz		3.45 / 0.018
@ 1 KHz		3.40 / 0.012
@ 10 KHz		3.31 / 0.013
@ 100 KHz		3.25 / 0.014
@ 1 MHz		3.18 / 0.014
Comparative Tracking Index @ 3 mm thickness	ASTM D3638 UL 746A	322 V
High Voltage Arc Tracking	ASTM D 3874 UL 746A	52.83 Seconds
High Voltage Arc Resistance to Ignition	UL 746A	48.1 mm/min
High Current Arc Ignition	UL 746A	94.80 Arcs
High Voltage, low current, Dry Arc Resistance	ASTM D495 UL 746A	37.6 Seconds
High voltage Arc resistance to Ignition	UL 746A	4.67 Seconds
Flame Class	UL 746A	94 V-0

Cured Properties - Thermal

Tg (Glass Transition Temp.)	ASTM D3418	56 °C
HDT (Heat Deflection Temp.)	ASTM D648, ISO 75	51.9 °C
Maximum withstand temp.		225 °C
Constant Service temp.		175 °C

Cured Properties - Additional Properties

Outgassing	ASTM E595	
Total mass loss (TML)		1.45 %
Collected Volatile condensable Material (CVCM)		0.03 %
Water Vapour Regain (WVR)		0.10 %
Ash content	ISO 3451/1	1.27 %

Usage Instructions

1. Individually stir Part A and Part B
2. Thoroughly mix 2 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 24 hours or for best results heat cure at 65°C / 149 °F for one hour.

Availability

Catalog Number	Sizes Available	Description
833FRB-375ML	375 mL (12 oz)	Liquid
833FRB-3L	3 L (0.8 gallon)	Liquid
833FRB-60L	60 L (16 gallons)	Liquid

*Drum size kits available upon request

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.