

# 832FX



## Black Flexible Epoxy, Encapsulating & Potting Compound

832FX is a black, 2-part, flexible epoxy that offers extreme environmental, mechanical and physical protection for printed circuit boards and electronic assemblies.

This product is designed for applications where minimizing the physical stress on components is critical. It performs well in low temperature and arctic environments, as well as applications that involve temperature cycling or rapid temperature changes. It provides the functionality of silicone, but with the durability and cost-effectiveness of epoxy.

## Features & Benefits

Very low mixed viscosity of 700 cP

Good adhesion to a wide variety of substrates, including metals, composites, glass, ceramics, and many plastics

Excellent electrical insulating characteristics

Extreme resistance to water and humidity (allows for submersion where needed)

Solvent-free

## Cure Instructions

Allow to cure at room temperature for 48 hours, or cure in an oven at one of these time/temperature options:

Temperature	45 °C	65 °C	80 °C	100 °C
Time	5 h	2 h	1 h	30 min



## Available Packaging

Part #	Packaging	Net Vol.	Net Wt.
832FX-450ML	2 Bottle kit	450 mL	475 g
832FX-1.7L	2 Can kit	1.7 L	1.79 kg
832FX-40L	2 Pail kit	40 L	42.2 kg

## Storage and Handling

Store between 16 and 27 °C in a dry area, away from sunlight (see SDS).

## Liquid Properties

Chemistry	Epoxy	—
Density	1.1 g/mL (Mixed) 1.1 g/mL (A) 1.0 g/mL (B)	ASTM D1475
Viscosity @ 25 °C	700 cP (Mixed) 800 cP (A) 170 cP (B)	Brookfield Engineering labs Inc. IPCTM-65- Method 2.4.24.4
Mix Ratio	1:1 (Volume) 1.22:1 (Weight)	—
Working Time <sup>a</sup>	2 h	—
Peak Exotherm <sup>b</sup>	67 °C	—
Shrinkage	2.6%	Calculated
Shelf Life	5 y	—

<sup>a</sup>Based on 100 g sample. Varies by volume and geometry.

<sup>b</sup>Based on 250 g sample in a fixed container geometry.

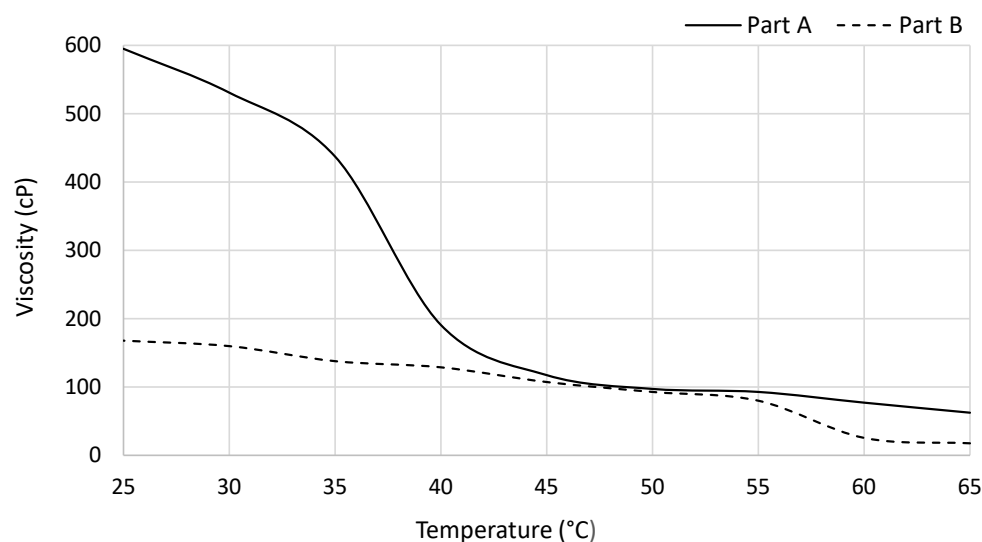
## Cured Properties

Flame Retardancy	No	—
Color	Black	—
Density	1.1 g/mL	Hydrostatic Weighing
Service Temperature Range	-40–140 °C	—
Intermittent Temperature	-50–150 °C	—
Thermal Conductivity @ 25 °C	0.3 W/(m·K)	ASTM E1461
Specific Heat Capacity @ 25 °C	2.7 J/(g·K)	
Thermal Diffusivity @ 25 °C	0.1 mm <sup>2</sup> /s	
Glass Transition Temperature (T <sub>g</sub> )	8.8 °C	ASTM E1545
Coefficient of Thermal Expansion (CTE)	114 ppm/°C (Prior T <sub>g</sub> ) 218 ppm/°C (After T <sub>g</sub> )	ASTM E831
Hardness	88 A	ASTM D2240
Tensile Strength	9.6 N/mm <sup>2</sup>	ASTM D638

## Cured Properties Continued

Lap Shear	2.5 N/mm <sup>2</sup> (Stainless Steel) 3.4 N/mm <sup>2</sup> (Aluminum) 1.5 N/mm <sup>2</sup> (ABS) 2.4 N/mm <sup>2</sup> (PC)	ASTM D1002
Resistivity	5.8 x 10 <sup>12</sup> Ω·cm	ASTM D257
Breakdown Voltage @ 3.175 mm	40 900 V	ASTM D149
Dielectric Strength @ 3.175 mm	330 V/mil	
Dielectric Constant @ 1 MHz	3.1	ASTM D150
Dissipation Factor @ 1 MHz	0.05	
Chemical Absorption	30 % (IPA)	—
Weight Gain, 30 days @ 25 °C	9 % (Sulphuric Acid 3%) 17 % (Acetic Acid) 04 % (10% NaOH) 0.2 % (10% NaCl) 0.4 % (Water) 0.1 % (Transmission Oil) 0.1 % (Transformer Oil)	

## Viscosity vs. Temperature



## Application Instructions

Read the product SDS and Application Guide for more detailed instructions before using this product.

## Recommended Preparation

Clean the substrate with 824 99.9% Isopropyl Alcohol, so the surface is free of oils, dust, and other residues.

## Mixing

1. Scrape settled material free from the bottom and sides of the part A container; stir the contents until homogenous. Use a paint shaker if available.
2. Measure 1 parts by volume of the part A and pour into the mixing container. Ensure all contents are transferred by scraping the container.
3. Measure 1 part by volume of the part B and pour into the mixing container. Ensure all contents are transferred by scraping the container.
4. Thoroughly and gently mix parts A and B together. Avoid introducing air bubbles.
5. To de-air, let sit for 15 minutes or put in a vacuum chamber at 25 inHg for 2 minutes.
6. If bubbles are present at the top, break them gently with the mixing paddle.
7. Pour the mixture into a container holding the components to be protected.
8. Close the part A and B containers tightly between uses to prevent skinning.

Mixing >500 g at a time decreases working time and can lead to a flash cure. Limit the size of hand-mixed batches. For large production volumes, contact MG Chemicals Technical Support for assistance.

**Disclaimer:** This information is believed to be accurate. It is intended for professional end-users who have the skills required 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.