832FXC

Clear Flexible Epoxy, Encapsulating & Potting Compound

832FXC is a 2-part, clear, flexible epoxy potting compound with a low mixed viscosity that ensures sufficient wetting of intricate components. 832FXC offers protection from extreme environments such as high humidity and chemical exposure while also providing PCBs protection against physical stresses such as shocks and vibration.

This product was designed for applications involving delicate surface mount devices (SMDs) in mind. Unlike most epoxies, the 832FXC cures to a semi-rigid consistency, exerting little stress on board components. Its low modulus makes the 832FXC an ideal material for applications with aggressive thermal cycling or rapid changes in temperature.

Features & Benefits

Low mixed viscosity

Low modulus epoxy

Clear—allows for inspection

Strong adhesion to many substrates including metals, plastics, glass, composites, ceramics and wood

Extreme resistance to water and humidity

Cure Instructions

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

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

Available Packaging

Part #	Packaging	Net Vol.	Net Wt.
832FXC-450ML	2 Bottle kit	450 mL	468 g
832FXC-1.7L	2 Can kit	1.7 L	1.77 kg
832FXC-7.4L	2 Can kit	7.4 L	7.71 kg
832FXC-40L	2 Pail kit	40 L	41.6 kg

Storage and Handling

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

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Liquid Properties

Chemistry	Epoxy	—
Density	1.1 g/mL (Mixed) 1.0 g/mL (A) 1.0 g/mL (B)	ASTM D1475
Viscosity @ 25 ˚C	410 cP (Mixed) 485 cP (A) 192 cP (B)	Brookfield Engineering labs Inc. IPCTM-65- Method 2.4.24.4
Mix Ratio	1:1 (Volume) 1.1:1 (Weight)	—
Working Time [a]	170 min	—
Peak Exotherm [b]	32 ˚C	—
Shrinkage	2.3%	Calculated
Shelf Life	5 y	—

[a] Based on 100 g sample. Varies by volume and geometry.
[b] Based on a 250 g sample in a fixed container geometry.

Cured Properties

Flame Retardancy	No	—
Color	Pale yellow	—
Density	1.1 g/mL	Hydrostatic Weighing
% Transmittance	86%	ISO 13468-1
Service Temperature Range [c]	-80–110 ˚C	—
Intermittent Temperature	140 ˚C	—
Thermal Conductivity @ 25 ˚C Specfic Heat Capacity @ 25 ˚C Thermal Diffusivity @ 25 ˚C	0.2 W/(m·K) 1.9 J/(g·K) 0.09 mm^2/s	ASTM E1461
Glass Transition Temperature (T_g)	12 ˚C	ASTM E1545
Coefficient of Thermal Expansion (CTE)	212 ppm/˚C (Prior T_g) 260 ppm/˚C (After T_g)	ASTM E831
Hardness	60 A	ASTM D2240
Tensile Strength	2.0 N/mm^2	ASTM D638

[c] >65 ˚C may affect clarity

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Cured Properties Continued

Lap Shear	3.4 N/mm^2 (Stainless Steel) 2.6 N/mm^2 (Aluminum) 1.9 N/mm^2 (ABS) 1.7 N/mm^2 (PC)	ASTM D1002
Resistivity	1.0 x 10^{13} Ω·cm	ASTM D257
Breakdown Voltage @ 3.175 mm Dielectric Strength @ 3.175 mm	58 900 V 472 V/mil	ASTM D149
Chemical Absorption Weight Gain, 30 days @ 25 °C	30 % (IPA) 9 % (Sulphuric Acid 3%) 17 % (Acetic Acid) 0.4 % (10% NaOH) 0.2 % (10% NaCl) 0.4 % (Water) 0.1 % (Transmission Oil) 0.1 % (Transformer Oil)	—

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 homognous. Use a paint shaker if available.
2. Measure 1 part 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. Click here for a video tutorial on vacuum de-airing.
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.