832B

Black Epoxy, Encapsulating & Potting Compound

832B is a general purpose, rigid, 2-part black epoxy that provides extreme environmental, mechanical and physical protection for printed circuit boards and electronic assemblies.

Due to its low mixed viscosity, 832B can easily penetrate small gaps and cavities. It also provides excellent electrical insulation and protects components from static discharge, vibration, abrasion, thermal shock, environmental humidity, salt water, fungus, and many harsh chemicals.



Features & Benefits

- Low mixed viscosity of 3 300 cP
- Extremely high compressive and tensile strength
- Excellent 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
- Solvent-free

Available Packaging

Cat. No.	Packaging	Net Vol.	Net Wt.
832B-375ML	2 Bottle kit	375 mL	403 g
832B-450ML	Dual cartridge	450 mL	484 g
832B-3L	3 Can kit	2.55 L	2.74 kg
832B-60L	3 Pail kit	60 L	64.6 kg

Contact Information

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Cured Properties

Resistivity		5.3 x 10^{12}	Ω·cm
Breakdown Voltage		51 900	V
Dielectric Strength		472	V/mil
Dissipation Factor @ 1 MHz		0.02	
Dielectric Constant @ 1 MHz		2.8	
Hardness		80	D
Tensile Strength		57	N/mm^2
Compressive Strength		155	N/mm^2
Lap Shear (stainless steel)		17	N/mm^2
(aluminum)		16	N/mm^2
Glass Transition Temperature	(T_g)	49	˚C
CTE Prior T_g		79	ppm/˚C
CTE After T_g		196	ppm/˚C
Thermal Conductivity @ 25 ˚C		0.3	W/(m·K)
Service Temperature Range		-40 – 140	˚C
Intermittent Temperature		175	˚C

Usage Parameters

Working Time	1 h
Mix Ratio by Volume	2:1
Mix Ratio by Weight	2.3:1

Uncured Properties

Mixed Density		1.1	g/mL
Density	(A)	1.1	g/mL
	(B)	1.0	g/mL
Viscosity @ 25 ˚C	(A)	2.5	Pa·s
	(B)	5.3	Pa·s

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Application Instructions

Read the product SDS and Application Guide for more detailed instructions before using this product (downloadable at www.mgchemicals.com).

Recommended Preparation

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

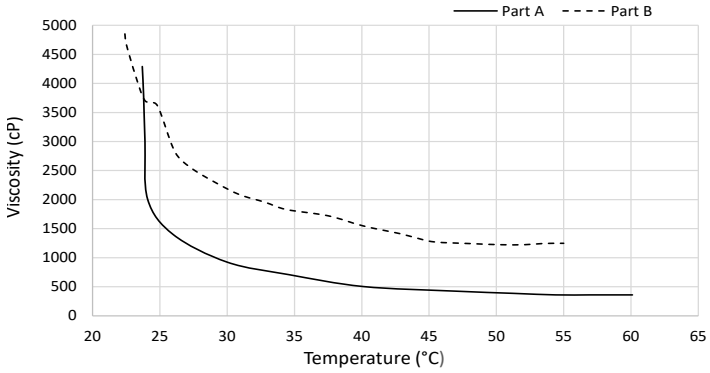
Mixing

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 2 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.

Cartridge

1. Twist and remove the cap from the cartridge. Do not discard cap.
2. Dispense a small amount to ensure even flow of both parts.
3. (Optional) Attach a static mixer to the 832B-450ML.
   a. Dispense and discard 5 to 10 mL of the product to ensure a homogeneous mixture.
   b. After use, dispose of static mixer.
4. Without a static mixer, dispense material on a mixing surface or container, and thoroughly mix parts A and B together.
5. To stop the flow, pull back on the plunger.
6. Clean nozzle to prevent contamination and material buildup. Replace the cap on the cartridge.

Viscosity vs. Temperature



If crystallization/solidification occurs, reconstitute the product by warming to between 55 and 65 °C until it becomes fully re-liquified. Let the material cool to room temperature before mixing, to prevent flash cure.

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.

Dispensing Accessories

Consult the table below for accessory selection. See the Dispensing Accessories Application Guide for usage instructions.

Cat. No.	Dispensing Gun	Static Mixer
832B-450ML	8DG-450-2-1	8MT-450

Cure Instructions

Allow to cure at room temperature for 24 hours, or cure in an oven at one of these time/temperature options:

Temperature	65 °C	80 °C	100 °C
Time	1 h	30 min	20 min

Storage and Handling

Store between 16 and 27 ˚C in a dry area, away from sunlight (see SDS). Storage below 16 °C can result in crystallization. This product has a 5 year shelf life.

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.