832HD

Black 1:1 Epoxy, Encapsulating & Potting Compound

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

Due to its low mixed viscosity, 832HD 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 4 100 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.
832HD-25ML	Dual syringe	25 mL	26.2 g
832HD-50ML	Dual cartridge	46 mL	48.3 g
832HD-400L	Dual cartridge	380 mL	399 g
832HD-7.4L	2 Can kit	7.4 L	7.77 kg
832HD-40L	2 Pail kit	40 L	42.0 kg

Contact Information

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Cured Properties

Resistivity		1.4 x 10^{13}	Ω·cm
Breakdown Voltage		41 700	V
Dielectric Strength		400	V/mil
Dissipation Factor @ 1 MHz		0.04	
Dielectric Constant @ 1 MHz		2.5	
Hardness		80	D
Tensile Strength		32	N/mm^2
Compressive Strength		75	N/mm^2
Lap Shear (stainless steel)		21	N/mm^2
(aluminum)		14	N/mm^2
Glass Transition Temperature	(T_g)	41	˚C
CTE Prior T_g		73	ppm/˚C
CTE After T_g		207	ppm/˚C
Thermal Conductivity @ 25 ˚C		0.3	W/(m·K)
Service Temperature Range		-40–150	˚C
Intermittent Temperature		-50–175	˚C

Usage Parameters

Working Time	45	min
Mix Ratio by Volume	1:1	
Mix Ratio by Weight	1.22:1	

Uncured Properties

Mixed Density		1.0	g/mL
Density	(A)	1.1	g/mL
	(B)	1.0	g/mL
Viscosity @ 25 ˚C	(A)	5.9	Pa·s
	(B)	2.3	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.

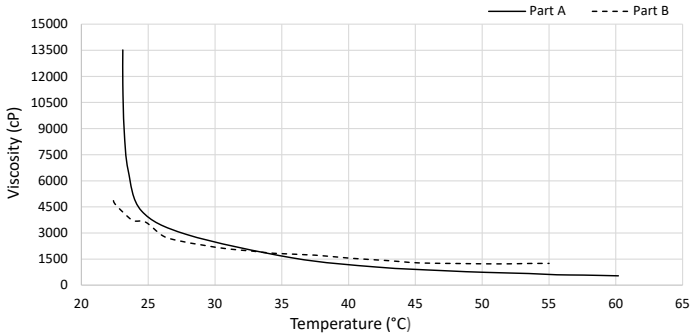
Mixing

1. Scrape settled material free from the bottom and sides of the part A and B container; stir the contents until homogenous. 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.
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.

Syringe or Cartridge

1. Twist and remove the cap from the syringe or cartridge. Do not discard cap.
2. Dispense a small amount to ensure even flow of both parts.
3. (Optional) Attach a static mixer.
   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.
7. Replace the cap on the syringe or cartridge.

Viscosity vs. Temperature



If crystallization/solidification occurs, reconstitute the product by warming to between 55 and 65 °C. 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
832HD-25ML	N/A	8MT-25, 8MT-50
832HD-50ML	8DG-50-1-1	8MT-25, 8MT-50
832HD-400ML	8DG-400-1-1	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	2 h	1 h	20 min

Storage and Handling

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