834BLV

Flame Retardant Epoxy

834BLV is a 2-part, low-viscosity, black, flame-retardant epoxy potting compound. It cures to a rigid finish, which protects circuits from physical stresses such as shocks, impacts and vibration. Unlike most flame-retardant epoxies, 834BLV has a very low mixed viscosity, enabling superior wetting and encapsulation of intricate circuit geometries.

The epoxy has some thermal conductivity, facilitating improved thermal management over general-purpose compounds. It also provides excellent electrical insulation and protects components from static discharge, thermal shock, environmental humidity, salt water, fungus, and many harsh chemicals.

Features & Benefits

- Meets UL94 V-0 standard—flame retardant
- Convenient 2:1 volume mix ratio
- Mixed viscosity 3 000 cP
- Excellent adhesion to a variety of substrates, including plastics, composites, ceramics, metal and glass
- Excellent electrical insulating characteristics
- Contains non-halogenated flame retardant fillers
- Solvent-free

Available Packaging

Cat. No.	Packaging	Net Vol.	Net Wt.
834BLV-450ML	Dual cartridge	450 mL	579 g
834BLV-3L	3 Can Kit	2.5 L	3.28 kg

Contact Information

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Cured Properties

Resistivity	1.6 x 10^{13}	Ω·cm
Breakdown Voltage @ 2.6 mm	40 300	V
Dielectric Strength @ 2.6 mm	395	V/mil
Dielectric Constant @ 1 MHz	2.9	
Dissipation Factor @ 1 MHz	0.1	
Hardness	87	D
Tensile Strength	20	N/mm^2
Compressive Strength	90	N/mm^2
Lap Shear (stainless steel)	15	N/mm^2
(aluminum)	19	N/mm^2
Glass Transition Temperature (T_g)	74	˚C
CTE Prior T_g	78	ppm/˚C
CTE After T_g	111	ppm/˚C
Thermal Conductivity @ 25 ˚C	0.5	W/(m·K)
Service Temperature Range	-80–200	˚C
Intermittent Temperature	200	˚C
Weight Loss @ 155 °C (600 hrs)	2.5 %	
Shrinkage	4.6%	

Usage Parameters

Working Time	2 h
Mix Ratio by Volume	2:1
Mix Ratio by Weight	2.1:1

Uncured Properties

Mixed Density		1.4 g/mL
Density	(A)	1.3 g/mL
	(B)	1.3 g/mL
Viscosity @ 25 ˚C	(Mixed)	3 000 cP
	(A)	3 900 cP
	(B)	2 500 cP
Shelf Life		5 y

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Application Instructions

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

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 2 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.
3. (Optional) Insert the static mixer into the cartridge nozzle. Secure into place by fitting the cap over the mixing tip and twisting onto the cartridge.
   a. Dispense and discard the length of the static mixer 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.

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
834BLV-450ML	8DG-450-2-1	8MT-450

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	20 min

Storage and Handling

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

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.