MacDermid Alpha ELECTRONICS SOLUTIONS

TECHNICAL DATA SHEET

Electrolube® ER2218

Epoxy Resin

DESCRIPTION

Electrolube® ER2218 is a low viscosity, flame retardant, two part potting and encapsulating compound. The product has been specifically designed for compatibility with reflow applications, therefore remaining stable for short term, high temperature excursions.

READ ENTIRE TECHNICAL BULLETIN BEFORE USING THIS PRODUCT

FEATURES AND BENEFITS

- Exceptionally low viscosity; ideal for applications with complex geometries or limited spacing
- Combines UL approved flame retardancy with ease of application; efficient potting processes
- Excellent thermal stability; can withstand short term excursions at high temperatures
- Does not contain abrasive fillers; low wear on dispensing machinery

APPROVALS

Standard	Status
RoHS Compliant (2015/863/EU)	Yes
UL Approval	UL94 V-0 (File: E100107)

PRODUCT INFORMATION

Please contact your customer service representative for information on available package sizes.

PHYSICAL PROPERTIES

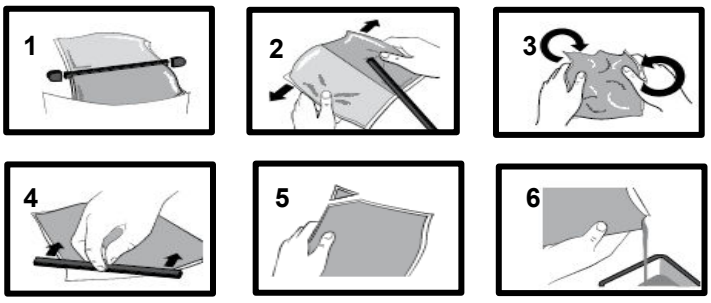
Category	Results
Liquid Properties	
Base Material	Epoxy
Color Part A - Resin Part B - Hardener	 Black Amber
Density Part A - Resin (g/mL) Part B - Hardener (g/mL)	 1.22 0.96
Viscosity (mPa s 20 to 23 °C) Part A Part B Mixed System	 800 400 500
Mix Ratio Weight Volume	 3.58:1 2.82:1
Usable Life (20 °C)	40 minutes
Gel Time (23 °C)	50 minutes
Cure Time 23 °C 60 °C 100 °C	 24 hours 4 hours 30 minutes
Storage Conditions	Dry Conditions: Above 15 °C, Below 35 °C
Shelf Life	24 Months – Bulk (Resin Pack – 18 Months)
Exotherm (Measured on 100 mL sample, cylinder of diameter 49.4 mm @ 23 °C)	<90 °C
Shrinkage	<1.0%
Cured System	
Color (Mixed System)	Black
Thermal Conductivity (W/m.K)	0.35

Category	Results
Cured Density (g/mL)	1.16
Temperature Range (°C)	-50 to 150
Max Temperature Range (Short Term (°C)/5 Mins) (Application and Geometry Dependent)	+246
Volume Resistivity (ohm-cm)	10^{14}
Dielectric Strength (kV/mm)	21.8
CTI ASTM D368-12	574V
Shore Hardness	D55 / A90
Flame Retardancy	Yes
Coefficient of Expansion (ppm/°C)	80 to 100
Water Absorption (9.7 mm thick disk, 51 mm diameter) 10 days @ 20 °C / 1 hour @ 100 °C	< 1.5% / < 0.5%

APPLICATION GUIDELINES – RESIN PACKS

Mixing Procedures

When in Resin pack form, the resin and hardener are mixed by removing the clip and moving the contents around inside the pack until thoroughly mixed. To remove the clip, remove both end caps, grip each end of the pack and pull apart gently. By using the removed clip, take special care to push unmixed material from the corners of the pack. Mixing normally takes from three to four minutes depending on the skill of the operator and the size of the pack. Both the resin and hardener are evacuated prior to packing so the system is ready for use immediately after mixing. The corner may be cut from the pack so that it may be used as a simple dispenser. There is also a YouTube video (Epoxy Mixing Instructions) available on the Electrolube channel to show the mixing process.



APPLICATION GUIDELINES - BULK

Bulk Mixing

When mixing, care must be taken to avoid the introduction of excessive amounts of air. Automatic mixing equipment is available which will not only mix both the resin and hardener accurately in the correct ratio but do this without introducing air. Containers of Part A (Resin) and Part B (Hardener) should be kept sealed at all times when not in use to prevent the ingress of moisture. Bulk material must be thoroughly mixed before use. Incomplete mixing or use of the wrong mix ratio will result in erratic or partial curing.

GENERAL

Sedimentation of the resin has been minimised by careful attention to the formulation. However, any sediment which may have occurred over long periods of time must be dispersed before removing any material from the container. This dispersion can be carried out (if necessary) by stirring with a broad bladed spatula or gently rolling the can. Take care not to introduce excessive amounts of air during this operation or it may be necessary to re-evacuate the resin. Sedimentation will be accelerated by storage at high temperatures. Sedimentation found in resin packs forms no problem since the sediment is re-mixed when the pack is used.

ADDITIONAL INFORMATION

Cleaning: It is far easier for machines & containers to be cleaned before the resin has been allowed to cure. RRS is suitable for cleaning machines and containers and cured resin may be slowly softened and removed by soaking in our RRS.

Curing: Do not heat cure large volumes immediately. Allow these to gel at room temperature and post-cure at high temperature if required (refer to liquid properties for details). Small volumes (250ml) may be heat cured immediately.

Storage: When storing under very cold conditions, the hardener may crystallise. If this occurs, simply warm (40°C) the container gently until all crystals have re-melted.

SAFETY & WARNING

It is recommended that the company/operator read and review the Safety Data Sheets for the appropriate health and safety warnings before use. **Safety Data Sheets are available.**

CONTACT INFORMATION

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Also read carefully warning and safety information on the Safety Data Sheet. This data sheet contains technical information required for safe and economical operation of this product. READ IT THOROUGHLY PRIOR TO PRODUCT USE . Emergency safety directory assistance: US 1 202 464 2554, Europe + 44 1235 239 670, Asia + 65 3158 1074, Brazil 0800 707 7022 and 0800 172 020, Mexico 01800 002 1400 and (55) 5559 1588

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