

ER1448

Epoxy Resin

DESCRIPTION

ER1448 is a fast curing epoxy resin of low viscosity. The cured product is tough and exhibits good adhesion to a variety of substrates. The standard color is black, although a range of colors is available. The system may be supplied in bulk, kit or resin pack form.

READ ENTIRE TECHNICAL BULLETIN BEFORE USING THIS PRODUCT

FEATURES AND BENEFITS

- Good electrical properties; ideal for encapsulating radio frequency transmitter devices
- Low viscosity, fast curing system; ideal for high throughput applications
- Good thermal cycling characteristics; offers stability in applications with temperature variables
- Excellent adhesive properties and high water resistance

APPROVALS

| Standard | Status |
|------------------------------|--------|
| RoHS Compliant (2015/863/EU) | Yes |
| UL Approval | No |

PRODUCT INFORMATION

For available packaging sizes please visit:

electrolube.com

PHYSICAL PROPERTIES

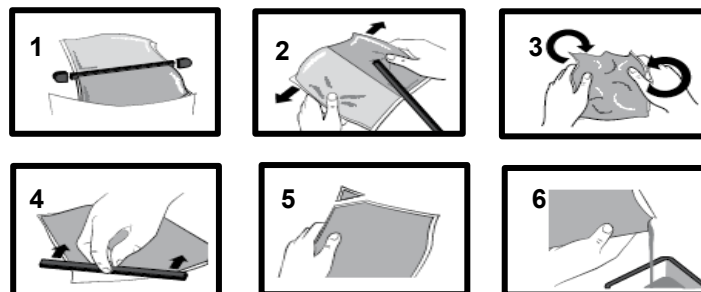
| Category | Results |
|--|--|
| Liquid Properties | |
| Base Material | Epoxy |
| Color Part A - Resin Part B - Hardener | Black Dark Amber |
| Density Part A - Resin (g/mL) Part B - Hardener (g/mL) | 1.09 0.95 |
| Viscosity (mPa s 23 °C) Part A Part B Mixed System | 200 300 250 |
| Mix Ratio Weight Volume | 2.51:1 2.17:1 |
| Usable Life (20 °C) | 20 minutes |
| Gel Time (23 °C) | 25 minutes |
| Cure Time 23 °C 50 °C 80 °C | 12 hours 2 hours 30 minutes |
| Storage Conditions | Dry Conditions: Above 15 °C, Below 35 °C |
| Shelf Life | 24 Months (Resin Packs – 18 Months) |
| Cured System | |
| Color (Mixed System) | Black |
| Thermal Conductivity (W/m.K) | 0.35 |
| Current Density (g/mL) | 1.10 |
| Temperature Range (°C) | -50 to 150 |

| Category | Results |
|---|------------------|
| Volume Resistivity (ohm-cm) | 10 ¹⁴ |
| Dielectric Strength (kV/mm) | 12 |
| Shore Hardness | D45 to D60 |
| Flame Retardancy | No |
| Tensile Strength (MPa) | 45 to 50 |
| Coefficient of Expansion (ppm/°C) | 70 to 80 |
| Loss Tangent @ 10 Hz | 0.08 +/- 20% |
| Permittivity @ 10 Hz | 4.7 +/- 20% |
| Comparative Tracking Index | Not Measured |
| Water Absorption (9.7 mm thick disk, 51 mm diameter) 10 days @ 20 °C / 1 hour @ 100 °C | < 0.5% / < 1.0% |
| Elongation at Break | 2.5% |

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.

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 crystallize. 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

To confirm this document is the most recent version, please contact
TechnicalSupportTeam@hkw.co.uk
www.electrolube.com

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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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