ER1448
Epoxy Resin

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 colour is black, although a range of colours is available. The system may be supplied in bulk, kit or resin pack form.

- 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	**RoHS Compliant (2015/863/EU):**	**Yes**
	UL Approval:	**No**

Typical Properties

Liquid Properties:	Base Material	Epoxy
	Density Part A - Resin (g/ml)	1.09
	Density Part B - Hardener (g/ml)	0.95
	Part A Viscosity (mPa s 23°C)	200
	Part B Viscosity (mPa s 23°C)	300
	Mixed System Viscosity (mPa s 23°C)	250
	Mix Ratio (Weight)	2.51:1
	Mix Ratio (Volume)	2.17:1
	Usable Life (20°C)	20 minutes
	Gel Time (23°C)	25 minutes
	Cure Time (23 °C)	12 hours
	Cure Time (50 °C)	2 hours
	Cure Time (80 °C)	30 minutes
	Colour Part A - Resin	Black
	Colour Part B - Hardener	Dark Amber
	Storage Conditions	Dry Conditions: Above 15ºC, Below 35ºC
	Shelf Life	24 Months (Resin packs – 18 months)

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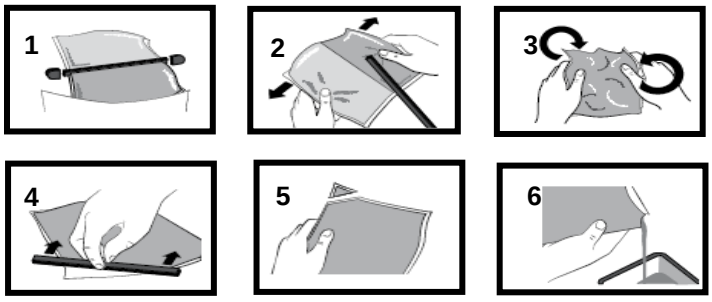
Cured System:	Thermal Conductivity (W/m.K)	0.35
	Cured Density (g/ml)	1.10
	Temperature Range (°C)	-50 to +150ºC
	Dielectric Strength (kV/mm)	12
	Volume Resistivity (ohm-cm)	10^{14}
	Shore Hardness	D45 – D60
	Colour (Mixed System)	Black
	Flame Retardancy	No
	Coefficient of Expansion (ppm/°C)	70 - 80 ppm/.C
	Loss Tangent @ 10 Hz	0.08 +/-20%
	Permittivity @ 10 Hz	4.7 +/-20%

Mixing Procedures

Resin Packs

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.



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

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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. Electrolube's 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.

Health & Safety: Always refer to the Health & Safety data sheet before use. These can be downloaded from www.electrolube.com

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