ER2165
Epoxy Resin

ER2165 is a low viscosity specialty epoxy resin that is designed to offer excellent flame retardant and electrical insulation properties. The low viscosity of the system coupled with its long useable life allows it to flow in to the most complex systems and form minimal voids. The hard nature of this material means it will withstand high levels of mechanical pressure applied to the system.

- Highly Flame retardant material has passed UL-V0 standard
- High volume resistivity perfect for electrical applications
- Low viscosity assists in potting complicated systems
- Excellent adhesion to a wide variety of substrates

Approvals	**RoHS-2 Compliant (2015/863/EU):**	**Yes**
	UL Approval:	**Yes**

Typical Properties

Liquid Properties:	Base Material	Epoxy
	Density Part A - Resin (g/ml)	1.48
	Density Part B - Hardener (g/ml)	1.04
	Part A Viscosity (mPa s @ 23ºC)	222
	Part B Viscosity (mPa s @ 23ºC)	5
	Mixed System Viscosity (mPa s @ 23ºC)	24
	Mix Ratio (Weight)	2.59:1
	Mix Ratio (Volume)	1.83:1
	Usable Life (20°C)	40 minutes
	Gel Time (23°C)	60 minutes
	Cure Time (23°C)	24 hours
	Cure Time (60 °C)	2 hours
	Cure Time (100 °C)	1 hour
	Colour Part A - Resin	Grey
	Colour Part B - Hardener	Clear Amber

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Electrolube cannot be held responsible for the performance of its products within any application determined by the customer, who must satisfy themselves as to the suitability of the product.

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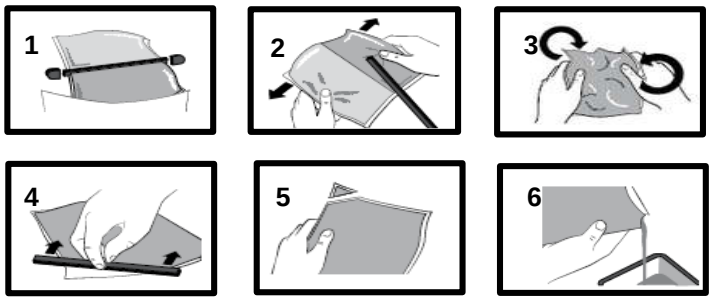
Cured System:	Shore Hardness	D80
	Cured Density (g/ml)	1.4
	Temperature Range (°C)	-50 to +130
	Max Temperature Range (Short Term (°C)/30 Mins) (Application and Geometry Dependent)	+140
	Volume Resistivity (ohm-cm)	10^{16}
	Colour (Mixed System)	Grey
	Flame Retardancy	UL94 – V0
	Tensile Strength (MPa)	50
	Deflection Temperature (°C)	45
	Permittivity @ 50 Hz	4.5

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 two 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.



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 will result in erratic or partial curing.

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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. 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

Revision 0 May 2016

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