ELECTROLUBE
THE SOLUTIONS PEOPLE

PROVISIONAL TDS

ER6010
X-Ray Shielding Epoxy Resin

ER6010 x-ray shielding resin is a two-part, epoxy encapsulation resin which has primarily been developed for the encapsulation of mission critical applications where protecting the design is crucial.

- After encapsulating the circuit, when x-rayed the circuit components and design cannot be seen
- Good flow characteristics to allow the potting of difficult and complex geometries
- Good thermal conductivity; assists with dissipating heat out of the unit
- Wide operating temperature range; good high temperature resistance

Typical Properties

Liquid Properties:	Base Material	Epoxy
	Density Part A - Resin (g/ml)	2.34
	Density Part B - Hardener (g/ml)	0.99
	Part A Viscosity (mPa s @ 23ºC)	10000-15000
	Part B Viscosity (mPa s @ 23ºC)	1500-3000
	Mixed System Viscosity (mPa s @ 23ºC)	2000-3000
	Mix Ratio (Weight)	9.00 : 1
	Mix Ratio (Volume)	3.88 : 1
	Usable Life (20°C)	60 mins
	Gel Time (23°C)	150 mins
	Cure Time (23°C)	24 hours
	Cure Time (60°C)	3 hours
	Cure Time (80°C)	1 hour
	Cure Time (100°C)	30 mins
	Colour Part A - Resin	Beige
	Colour Part B - Hardener	Brown
	Storage Conditions	Dry Conditions: Above 15°C, Below 35°C
	Shelf Life	12 months
	Shrinkage	<1%

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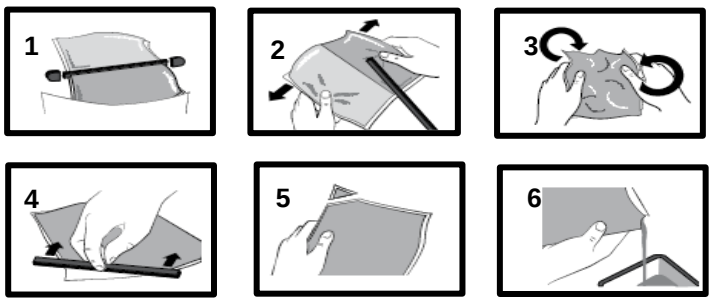
Cured System:	Cured Density (g/ml)	2.04
	Temperature Range (°C)	-40 to +160
	Max Temperature (Short Term (°C)/30 mins) (Application and Geometry Dependent)	180ºC
	Colour (Mixed System)	Beige
	Thermal Conductivity (W/m.K)	0.53
	Hardness (23°C)	D70
	Dielectric Strength (kV/mm)	12
	Volume Resistivity (ohm-cm)	10^{12}
	Water Absorption (10 days @ 20ºC)	<0.30%
	Water Absorption (1 hour @ 100°C)	<0.30%

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.



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.

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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 cold conditions (<15°C), the resin 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: Nov 2019

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