

## **ER1450 Epoxy Resin**

**Product Code: ER1450**

### **PRODUCT DESCRIPTION**

This material is a fast curing epoxy resin of low viscosity. The cured product is tough and exhibits good adhesion to a variety of substrates.

The system may be supplied in bulk, kit or resinpack form.

### **PRODUCT FEATURES**

- \* High water resistance
- \* Excellent adhesive properties
- \* Good electrical properties
- \* Non toxic
- \* Easy to use
- \* Good thermal cycling characteristics

### **HANDLING INSTRUCTIONS**

If in Resinpack form, resin and hardener are mixed by removing the clip (grip each end of the pack and pull gently) and moving the contents around inside the pack until thoroughly mixed. Take special care to push unmixed material from the corners. Mixing normally takes from two to four minutes depending on the skill of the operator. 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.

If in bulk form the resin (Part A) should be mixed with the hardener (Part B) in the ratio:

2.51 : 1 by weight  
2.17 : 1 by volume

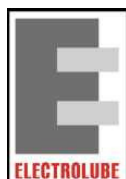
If excessive amounts of air are introduced during this mixing operation then it may be necessary to re-evacuate before use.

For best performance the mix ratio tolerance by weight should be controlled to + or - 2%

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When mixing bulk resin and hardener, once again avoid introducing excessive amounts of air. Automatic mixing equipment is available from **Electrolube** which will accurately mix resin and hardener in the correct proportions without introducing air.

Bulk material or Resinpacks must be thoroughly mixed before use - incomplete mixing will result in erratic or even partially incomplete cure.

Cure the **ER1450** system for at least:

12 hours @ 20 °C  
or 2 hours @ 50 °C  
or 0.5 hours @ 80 °C

Very small castings may be hot cured immediately - in other cases it is advisable to gel at room temperature before hot curing.

### TYPICAL PROPERTIES OF SYSTEM (@ 20 to 22°C)

#### **Part A Resin**

Appearance	White liquid
Viscosity	200 - 300 centipoise
Density	1.11 g/ml

#### **Part B Hardener**

Appearance	Amber to dark coloured liquid
Viscosity	100 - 500 centipoise
Density	0.96 g/ml

#### **Mixed System**

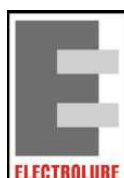
Gel time (150g sample)	20 -30 minutes
Mixed System Viscosity	100 - 300 centipoise

#### **Cured System**

Shore Hardness (BS2782 method 365B)	>A70 minimum
Dielectric Constant (BS7663, 10 kHz)	4.7
Loss Tangent (BS7663, 10 kHz)	0.08
Specific Gravity (ISO1183)	1.10
Operating Temperature range (application and geometry dependent)	-50 to +150°C
Coefficient of thermal expansion	70 - 80 ppm/.C

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### CLEANING

Machines, containers and tools, etc., are more easily cleaned before the resin has been allowed to harden. Electrolube OP9004 is a non flammable cleaner for this purpose. Cured resin may be softened and removed by soaking in OP9003 Resin Stripper. A relatively safe non toxic, but flammable machine cleaner is called OP9020. Contact Electrolube Sales Department for more information.

### STORAGE

Resinpacks stored between 20 and 30°C in a dry place will have a shelf life of at least 18 months. Bulk material stored in the original sealed containers between 20 and 30°C will have a shelf life of at least two years. The hardener used in the **ER1450** system reacts with atmospheric water, so it is especially important to keep containers tightly closed.

With prolonged storage below 15°C the hardener may crystallise resulting in a waxy / buttery texture. In extreme conditions the hardener may solidify completely. Crystallised material is recovered by heating to a maximum of 80°C for 1 to 4 hours depending on the amount of material. Loosen container seal before heating and do not breathe vapour created in this process. After heating secure lid and shake or stir contents. Allow hardener to cool before use. If crystallisation persists contact Electrolube.

### HEALTH & SAFETY NOTES

The **ER1450** resin and hardener are IRRITANT/CORROSIVE respectively, and both resin and hardener if handled carelessly can cause dermatitis. Gloves overalls and eye protection must be worn. If heating resin or hardener extract volatiles to the outside. Do not smoke and take care not to contaminate food stuffs. Contact Electrolube Sales Department for more information.

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