ER2002 Epoxy Resin

Product Code: ER2002

PRODUCT DESCRIPTION

This material is a general purpose, flame retardant filled resin, which utilises a hardener of low dermatitic hazard. The hardener is not subject to moisture inhibition so the cured resin exhibits excellent surface appearance even when cured at low ambient temperatures. Exotherm temperature rise is very low when large volumes are cured at ambient temperatures.

A range of colours is available on request but any change in colour, away from the standard black, will result in the loss of the certified UL 94 V-O approval. The system can be supplied in both bulk or Resinpack form.

PRODUCT USE

If in Resinpack form, resin and hardener are mixed by removing the clip (grip each end of the pack and pull <u>gently</u>) 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:

8.80 : 1 by Weight 5.43 : 1 by Volume

Sedimentation of the resin has been minimised by careful attention to formulation. However, any sediment which may have formed over long time periods in bulk resin must be dispersed before removal of 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 so



TECHNICAL DATA SHEET

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ER2002 Epoxy Resin – Page 2

avoid this.

When mixing 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 ER2002 system for at least:

24 hours @ 20°C or 90 minutes @ 60°C or 20 minutes @ 100°C

Do not hot cure large volumes immediately - allow these to gel at room temperature and post-cure at high temperature if desired. Small volumes may be hot cured immediately.

PROPERTIES OF SYSTEM (@ 25°C)

Time to Double Initial Mixed System Viscosity (for 250g sample) Usable Life (for 250g sample) Gel Time (for 250g sample) Viscosity of Resin Viscosity of Hardener Viscosity of Mixed System Density of Resin Density of Hardener Density of Mixed System

50 minutes 90 - 105 minutes 165 - 180 minutes 1000 poise 20 poise 140 poise 1.83 g/ml 1.13 g/ml 1.72 g/ml

PROPERTIES OF CURED RESIN

Shore D Hardness Specific Gravity Tensile Strength Compressive Strength Deflection Temperature Coefficient of Expansion

~88 1.78 g/ml 60 MPa 80 MPa 55°C 40 ppm/°C



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ER2002 Epoxy Resin – Page 3

1 x 10⁻³ cal/sec/cm² for 1°C/cm Thermal Conductivity Maximum Operating Temperature ~115°C Continuous ~125°C Short Term Minimum Operating Temperature -40°C (Geometry + Application Dependant) Electric Strength 10 kV/mm 0.04 @ 25°C Loss Tangent @ 50 Hz Permittivity @ 50 Hz 4.0 @ 25°C 10¹⁴ ohm-cm Volume Resistivity **Comparative Tracking Index** >850 volts Water Absorption: Weight Gain after 10 Days @ 20°C 0.5% Weight Gain after 1 Hour @ 100°C 1.0% Flammability Test: (insertion of 10mm x 2mm cross section bar in propane blue bunsen flame) Extinguishing Time after 1st 10 Second Insertion 0 Seconds Extinguishing Time after 2nd 10 Second Insertion 4 Seconds Limiting Oxygen Index 34%

HEALTH & SAFETY NOTES

Machines, containers etc. are more easily cleaned <u>before</u> the resin has been allowed to harden. **Electrolube OP9004** is a relatively safe nonflammable Cleaner for this purpose. Cured resin may be slowly softened and removed by soaking in **OP9003** Resin Stripper.

Resinpacks stored in a cool dry place have a shelf life of at least 18 months. Bulk material stored in suitable closed containers will have a shelf life of at least two years.

The **ER2002** system uses a hardener of low dermatitic hazard. Skin contact must still be avoided by use of gloves and overalls. Eye protection is advisable. Any resin contamination should be washed from the skin or eyes immediately and thoroughly. Take care not to contaminate food-stuffs.

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