POLYMER GROUP LTD
SOLUTIONS FOR EXTREME ENVIRONMENTS

Product Data Sheet

EnduraPack EP221

LOW VISCOSITY COLD POUR ENCAPSULATING RESIN

ENDURAPACK EP221 is a cold pour and cold curing, two component epoxy system, exhibiting low shrinkage and good penetration. Applications include the sealing of cable joints, and potting and encapsulation of electrical and electronic componentry. Both resin and hardener are solvent free and can be mixed and cured at room temperature.

Neither component presents any unusual health risk if handled correctly and in adequately ventilated work areas. However, our **Safety Product Data Sheet** should always be referred to before use.

Properties of the Components	**Resin**	**Hardener**
Type of Compound	Solvent free modified epoxy	Amine
Appearance	Clear straw coloured liquid	Amber liquid
Density at 23°C	1.15 g/ml	1.01 g/ml
Viscosity at 20°C	2,200-2,500 cPs	130-160 cPs
Flash Point	> 200°C	> 200°C
Storage	24 months Store in closed containers at below 25°C away from direct sunlight.	24 months Store in closed containers at below 25°C away from direct sunlight.

MIX: The resin and hardener must be mixed at room temperature for at least 3 minutes using a wide stirrer to avoid air entrapment.

Properties of the Mix	
Ratio	100 Resin : 50 Hardener by volume Or 100 Resin : 44 Hardener by weight
Viscosity at 20°C	Initially 775-875 cPs
Cure time	24 hours at 20°C or 2 - 4 hours at room temperature plus a further 2 - 4 hours at 80°C

TECHNICAL INFORMATION

Typical Properties of the Cured System	**Test Measurements**
Density	1.11 g/ml
Shrinkage	ca. 2% by volume
Shore hardness	80 Shore D
Tensile strength	55 mPa
Water absorption	< 0.5% (40°C, 40 days)
Dielectric strength (DIN 53481)	17 - 19 kV/mm
Volume resistivity (DIN 53482)	2 x 10^{15} ohm-cm
Dielectric constant (DIN 53483)	3.6 @ 50HZ, 25°C

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PACKAGING

1.5L kit
Resin: 1 x 1 Litre;
Hardener: 1 x 500mL.

6L kit
Resin: 1 x 4 litre;
Hardener: 1 x 2 Litre.

MIXING:
Condition components to 20ºC prior to use.
Pre-mix both components via shaking prior to measuring out.
Mix at the correct mix ratio of 2 : 1 by volume (Resin to Hardener).
Mix with a stirrer trying not to include air into the mix.
Pour mixture into a new container. And repeat mixing. Mix for a total of up to 2 minutes.
De-aerate if possible, using a vacuum chamber (or alternatively place the “potted” item into the vacuum chamber).
Pour the mixed material into the housing or mould.

STORAGE AND HANDLING PRECAUTIONS

ALL CHEMICALS MUST BE USED BY TRAINED PERSONNEL.

Kits have a nominal storage life of at least 12 months at a recommended temperature of 18-25°C.
Keep out of direct sunlight.

DISPOSAL: Replace the lids tightly and then dispose according to local and national regulations.

HEALTH AND SAFETY ADVICE

Refer to Polymer Group Safety Data Sheets for individual products.

This kit is classified as hazardous according to criteria in the Hazardous Substances (Minimum Degrees of Hazard) Regulations 2001.

Hazard:
Harmful if swallowed and inhaled
Causes skin irritation
May cause an allergic skin reaction
Causes serious eye burns & eye damage
May cause allergy or asthma symptoms or breathing difficulties if inhaled
Toxic to aquatic life with long lasting effects

Prevention:
Keep out of reach of children
Read Safety Data Sheet before use
Wash hands and face thoroughly after handling
Do not eat, drink or smoke when using this product
Wear protective gloves/clothing, eye/face protection
Avoid breathing any dust, fumes, gas, mist, vapours, spray
Use only outdoors or in a well-ventilated area
In case of inadequate ventilation wear respiratory protection
Contaminated work clothing should not be allowed out of the workplace
Avoid release to the environment

Resin component:

Hardener component:

Rev 03