

## TECHNICAL DATASHEET Epoxy Resin PX697C

### Description

PX697C is a general-purpose hot or cold cure flame retardant encapsulating system specifically suited to large castings due to the low exothermic temperature rise during cure. PX697C has been specifically formulated for use in the electronics industry where components are required to meet BS415. Due to the internal flexibility of the system, PX697C is suitable for the encapsulation of components with dissimilar coefficients of thermal expansion, large metal inserts and applications involving high levels of thermal shock. As PX697C has been found suitable for large coils and transformers. RoHS and WEEE compliant

### Specification

#### Property

	<b>Resin RX697C</b>	<b>Hardener HX697C</b>	<b>Mixed PX697C</b>
Colour	Beige Black	Brown Brown	Beige Black
Specific Gravity g/ml	1.9	1.00	1.6
Viscosity m.Pa.s @ 25°C	60000	10000	30000
Mix Ratio by Weight	4.2: 1		
Mix Ratio by Volume	2.2: 1		
Usable Life	240 minutes (150g @ 25°C)		
Gel time	360 minutes (150g @ 25°C)		

### Approvals

RoHS compliant	Yes
UL94-V0	No
REACH (SVHC concentration)	0%

### Cure Schedule

#### Minimum Cure

36 hrs @ 20°C  
4 hrs @ 60°C  
2 hr @ 80°C

#### Full Cure

60 hrs @ 20°C  
8 hrs @ 40°C  
2 hrs @ 80°C

The above are typical values and will vary depending on the cured mass and application. Hotter temperatures may be used for faster cure but will result in higher post cure shrinkage and higher cure exotherm. Experimentation and testing is suggested to avoid side effects.

For maximum properties a post cure may be required - call Robnor Technical Service Department for advice.

### Typical Properties

Peak Exotherm (150g @ 25°C)	40
Shrinkage % (Volume)	0.3
Thermal conductivity	0.49 W/mK
Operating temperature range*	-40 to +130°C - application & geometry dependent
Dielectric strength	18 kV/mm
Volume Resistivity	14 ohm.cm
Shore D hardness	70
Flame Retardancy	Approvable to UL94-V0
Tensile strength	60 mPa
Compressive strength	80 mPa
Deflection temperature	50°C
Co-efficient of expansion	60-80 ppm/°C
Loss Tangent	0.045 @ 50 Hz
Permittivity	5.9 @ 50 Hz
Continuous tracking index	>850 V
Water absorption	0.6% (30 days @ 20°C)
Elongation at break	3-5%

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Buy On-line: [www.resins-online.com](http://www.resins-online.com)

## **Packaging**

PX697C is available in Bulk, Twinpacks & kits

## **Availability:**

Available through [sales@robnor.co.uk](mailto:sales@robnor.co.uk)

## **Twinpacks**

Twinpacks are pre-weighed resin and hardener components contained in a tough flexible film, separated by a removable clip and rail.

Once the clip and rail is removed the resin and hardener can be thoroughly mixed within the bag and is then ready for use.

Mixing will normally take ~ 3 minutes depending on the operator and viscosity of the material.

Twinpacks are ideal for small to medium production runs, prototyping and on-site or field use.

The twinpack weight/volume may also be tailored to a specific size on request.

For further details please visit [www.robnor.co.uk](http://www.robnor.co.uk)

## **Bulk Material**

PX697C is a filled system and formulated to avoid sedimentation.

If sediment is found after storage, this must be re-dispersed in the original container before use.

Failure to do so may result in defective product.

Long-term sedimentation will be aggravated by storage above 25°C and should be avoided.

In bulk or kit form gentle mixing with a paddle or spatula will homogenise the material.

In bulk or kit form evacuation may be necessary for best results.

## **Kits**

In kit form, resin and hardener are provided in separate containers to the correct ratio.

In most cases, pour the hardener into the larger resin container and use it as a mixing vessel.

Stir well using an appropriate mixer until homogeneous.

**Note:** Incomplete mixing will be characterised by variable/partial cure (even after extended time periods).

## **Cleaning**

All equipment contaminated with mixed material should be cleaned before the material has hardened.

Robnor Resins TS130 is suitable non-flammable cleaning agent, although other solvents may be found suitable.

TS130 will also remove cured material provided it is allowed to soak for a number of hours.

## **Storage and Shelf Life**

Material stored in the original unopened containers under cool dry conditions between 10 and 25°C will have a shelf life of at least one-year.

Once used the containers must be kept sealed to prevent effects from water, air or contaminants.

## **Health and Safety**

Epoxy resin systems may cause sensitisation by skin contact or inhalation may be corrosive, harmful or toxic.

It is therefore strongly recommended that skin and eye contact is avoided by the using of appropriate personal protective equipment such as gloves, safety glasses or goggles and overalls.

Wash any contamination from the skin immediately and thoroughly and do not eat, smoke or drink in the working vicinity.

Under normal working conditions a good source of ventilation is adequate, however if the material is heated then local exhaust ventilation (LEV) may be required especially for curing ovens.

The above is given as a guide only; please refer to RX/HX697C Health and Safety data or our Technical Service Department for individual/specific advice.

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