

## PX806C

Hard, tough, epoxy resin with high electrical resistance

### Application

- Electrical potting
- Encapsulation
- Transformers

### Key Properties

- High electrical insulating characteristics
- High thermal conductivity
- Good impact strength
- Long pot life
- UL 94V-0 approved at 3mm

### Description

- Basic Two-component system
- Resin RX806C
- Hardener HX806C

| Physical Data (approx. – values) | Resin  | Hardener | Mixed |
|----------------------------------|--------|----------|-------|
| Colour                           | Black  | Orange   | Black |
| Specific Gravity                 | 1.87   | 0.98     | 1.73  |
| Viscosity (mPas) @ 25°C          | 70,000 | 400      | 7,000 |

| Cure Schedule (150ml) | Working Life | Gel Time  | Light Handling | Full Cure |
|-----------------------|--------------|-----------|----------------|-----------|
| Temperature           | (minutes)    | (minutes) | (hours)        | (hours)   |
| 25°C                  | 35           | 150-200   | 24             | 48        |
| 60°C                  | -            | -         | 2              | 4         |

### Processing

Mix ratio by weight 10.6 : 1 (Resin : Hardener)  
 Mix ratio by volume 5.6 : 1 (Resin : Hardener)

| Typical Properties                                   | Result                | Unit                                  |
|--|-----------------------|---------------------------------------|
| Water Absorption (30 days, 20°C)                     | 0.21                  | %                                     |
| Thermal Conductivity                                 | ~1.0                  | W/mK                                  |
| Operating Temperature Range                          | -40 to +150           | °C (Application & geometry dependant) |
| Dielectric Strength                                  | 18                    | kV/mm                                 |
| Hardness   | 80                    | Shore D                               |
| Tensile Strength                                     | 9.5                   | MPa                                   |
| Tensile Elongation                                   | 8.3                   | %                                     |
| Surface Resistivity                                  | $2.77 \times 10^{15}$ | $\Omega$                              |
| Volume Resistivity                                   | $1.07 \times 10^{14}$ | $\Omega\text{cm}$                     |
| Flexural Strength                                    | 34.4                  | MPa                                   |
| Flexural Modulus                                     | 2.32                  | GPa                                   |
| Volume Shrinkage                                     | 2.83                  | %                                     |
| Impact Strength (Izod, notched)                      | 3.05                  | kJ/m <sup>2</sup>                     |
| Coefficient of Thermal Expansion (T<T <sub>g</sub> ) | 30-40                 | ppm/°C                                |
| Flame Retardancy                                     | Approved at 3mm       | UL 94V-0                              |
| Maximum Glass Transition Temperature                 | 47.5                  | °C                                    |
| Comparative Tracking Index (CTI)                     | 600                   | V                                     |

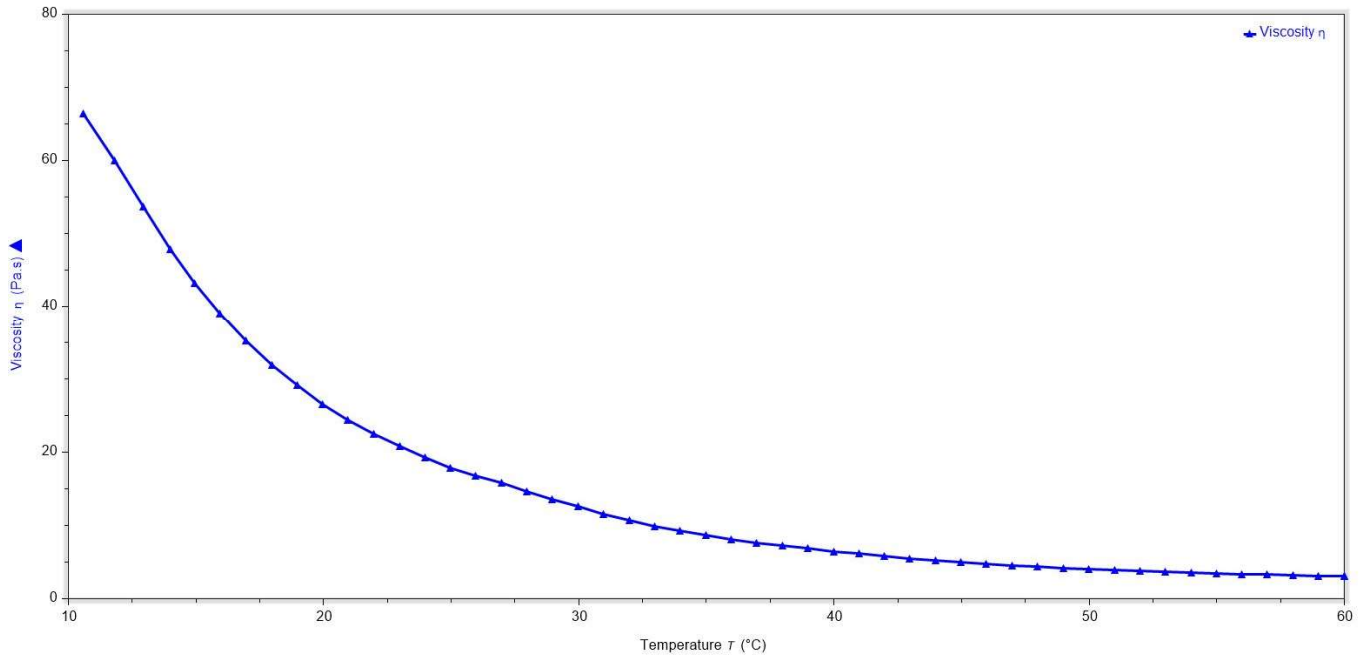
### Approvals

|                            |                                     |
|----------------------------|-------------------------------------|
| RoHS compliant             | Yes                                 |
| UL 94V-0                   | Approved at 3mm, File Number E76072 |
| REACH (SVHC concentration) | Refer to SDS                        |

\*RT is defined as 20-25°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 are suggested to avoid side effects. For maximum properties a post cure may be required – Contact our technical service department for advice.

## PX806C/BK Mixed System Viscosity vs. Temperature



### Packaging

PX806C/BK is available in Bulk, Twinpacks, Kits, and Sets on request

### Availability

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

### Twinpacks

Available on request

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 has been removed the resin and hardener is thoroughly mixed within the bag and is immediately ready for use. Mixing will normally take ~ 2 minutes due to the viscosity; but pay special attention to the corners.

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-resinlab.com](http://www.robnor-resinlab.com)

### Bulk Materials

Available on request

Both resin and hardener are supplied in 5kg, 25kg and 200ltr drums and fully evacuated and ready for use.

Care should be taken to ensure when mixing the resins air is not entrained in the mixture.

If this is unavoidable the mixed resin and hardener should be re-evacuated before dispensing.

The bulk resin and hardener materials can be dispensed from suitable dispensing machinery, details provided by Fluid Research on request.

### Kits and Sets

Available on request

Kits and Sets are provided in separate containers to the correct ratio.

In Kit form, pour the contents of the smaller container into the larger container and use it as a mixing vessel.

Stir well using an appropriate mixer until homogeneous.

Note: Incomplete mixing will be characterised by erratic or partially incomplete cure even after extended time periods.

### Cleaning

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

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

TS130 will also remove cured material provided it can soak for several hours.

## Storage and Shelf Life

12 months @25°C

Many epoxy resin systems are prone to crystallization as epoxy resin is a super-cooled fluid. This condition may give the product a gritty or grainy appearance (or hazy in clear products). Products in this state will not usually cure to normal and expected properties. In extreme cases it may appear solid and cured. Fluctuating temperatures (within 5 to 50°C) aggravate this phenomenon. Heating the individual component to 50 to 60°C while stirring can usually restore products to original state.

Storage at 25 +/- 10°C is optimum for most products

Some epoxy systems are prone to settling due to high filler content and should be inverted every two to three weeks to reduce the accumulation of the fillers on the bottom of the containers.

Inventory should be rotated on a FIFO (first in, first out) basis.

## Health and Safety

Please refer to RX/HX806C Health and Safety data or contact our Technical Service Department for individual/specific advice.

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