

PX901C

A rigid, thermally conductive epoxy resin with excellent heat resistance and dimensional stability

Application

- Castings
- Circuit board components
- Electrical insulation applications

Key Properties

- High thermal conductivity
- High electrical insulating characteristics
- High dimensional stability
- Low shrinkage
- Excellent chemical & heat resistance
- Does not contain halogens or heavy metals
- WEEE /RoHS/REACH compliant

Description

- Basic Two-component epoxy system
- Resin RX901C
- Hardener HX901C

Physical Data (approx. – values)	Resin	Hardener	Mixed
Colour	Beige Black	Clear Clear	Beige Black
Specific Gravity	2.0-2.04	0.94	1.79-1.81
Viscosity (mPas) @ 25°C	80000-100000	40-60	5000-8000

Cure Schedule (300g)	Working Life	Gel Time	Light Handling	Full Cure
Temperature	(minutes)	(minutes)	(hours)	(hours)
RT	130-190	200-230	36	336
60°C	-	-	8	16
80°C	-	-	4	8
100°C	-	-	2	4

*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 is suggested to avoid side effects. For maximum properties a post cure may be required – Contact our technical service department for advice.

Processing	Black	Beige
Mix ratio by weight	8.2:1	8.07:1
Mix ratio by volume	3.86:1	3.74:1

Typical Properties	Result	Unit
Peak Exotherm (150ml @ 25°C)	40	°C
Shrinkage (volume)	0.3	%
Thermal Conductivity	1.2	W/mK
Operating Temperature	- 55 to + 220	°C (Application and geometry dependant)
Glass transition temperature	140 – 150	°C (After post cure)
Electric Strength	20	kV/mm
Volume Resistivity	12 x 10 ¹³	ohm.cm
Hardness	80-90	Shore D
Tensile strength	70	MPa
Compressive strength	83	MPa
Flexural Strength	90-100	MPa
Coefficient Linear Expansion	30-40	ppm/°C
Comparative tracking index	>850	V
Water Absorption (30 days @ 20°C)	0.1	%
Elongation at break	1-3	%

Approvals

RoHS compliant	Yes
UL94 V-0	No
REACH (SVHC concentration)	Refer to SDS

Packaging

PX901C is available in Bulk, Twinpacks & kits

Availability

Available through distribution and www.robnor-resinlab.com sales@robnor.co.uk

Twinpacks – Part Numbers

PX901C/BK/100	PX901C/NC/050
PX901C/BK/250	PX901C/NC/100
PX901C/BK/500	PX901C/NC/250
PX901C/BK/1000	

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 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

Bulk Materials – Part Numbers

Available on request	
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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 – Part Numbers

PX901C/BK/5KGKIT	PX901C/BK/22KGSET
PX901C/NC/1KGKIT	

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 Bulk packaging.

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/HX901C Health and Safety data or our Technical Service Department for individual/specific advice.

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