

PX804C

A non-toxic general purpose flame retardant potting and encapsulating compound

Application

- PCB potting and encapsulation
- Capacitors
- Transformers
- Deep sea electronics

Key Properties

- High electrical insulating characteristics
- Non-toxic
- Low shrinkage
- Good thermal conductivity
- High adhesion
- UL94 V-0 @ 3mm
- Good chemical and water resistance

Description

- Basic Two-component epoxy system
- Resin RX804C
- Hardener HX804C

Physical Data (approx. – values)	Resin	Hardener	Mixed
Colour	Black	Amber	Black
Specific Gravity	1.8	1.00	1.7
Viscosity (mPas) @ 25°C	60000	500	9000

Cure Schedule (150ml sample)				
Temperature	Working Life (minutes)	Gel Time (minutes)	Light Handling (hours)	Full Cure (hours)
RT	90	360	24	48
60°C	-	-	2	4
80°C	-	-	1	2

*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

Mix ratio by weight 8.6:1
Mix ratio by volume 4.8:1

Typical Properties		
Test	Result	Unit
Peak exotherm (150g @ 25°C)	40	°C
Shrinkage (volume)	0.3	%
Thermal conductivity	0.85	W/m K
Thermal expansion	35-55	
Operating temperature range	-55 to +130	°C (application & geometry dependent)
Electric strength	18	kV/mm
Volume Resistivity	10 ¹²	ohm.cm
Hardness	80	Shore D
Flammability	Approved (follow link below)	UL94 V-0
Glow wire Flammability	850-960	°C
Oxygen Index	27.5	%
Opacity of smoke (non-renewed atmosphere)	189.2 358	VOS ₄ Dmax
Tensile strength	50	MPa
Compressive strength	60	MPa
Deflection Temperature	50	°C
Co-efficient of expansion	35-55	ppm/°C
Loss Tangent	0.060	50Hz
Permittivity	4.8	50 Hz
Comparative tracking index	>850	V (Method IEC 60112)
Water absorption (30 days @ 20°C)	0.3	%
Elongation at break	2-5	%
Tg	60-80	°C

Approvals	
RoHS compliant	Yes
UL94 V-0	http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/showpage.html?name=QMFZ2.E76072&ccnshorttitle=Plastics+-+Component&objid=1073830268&cfqid=1073741824&version=versionless&parent_id=1073827222&sequence=1
REACH (SVHC concentration)	0%

Railway Approvals

F & I Rating Summary Report
 In accordance with NF F 16-101 railway rolling stock and STM-S-001.
 The final classifications are F1 & I4

Packaging

PX804C is available in Bulk, Twinpacks, kits and sets

Availability

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

Twinpacks – Part Numbers

PX804C/BK/025	PX804C/RD/1000
PX804C/BK/050	
PX804C/BK/100	
PX804C/BK/250	
PX804C/BK/500	
PX804C/BK/750	
PX804C/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.co.uk

Bulk Materials – Part Numbers

RX804C/BK/4.5KG	HX804C/NC/525G
RX804C/BK/5KG	HX804C/NC/5KG
RX804C/BK/25KG	HX804C/NC/10KG
	HX804C/NC/25KG

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

PX804C/BK/1KGKIT	
PX804C/BK/25KGKIT	

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

In Kit form, 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 erratic or partially incomplete cure even after extended time periods.

Storage and Shelf Life

Material stored in the original unopened containers under cool dry condition between 15° and 25°C will have a shelf life of at least 12 months.

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

Please note

"This product may crystallise and become solid. If this occurs simply re-liquefy resin by warming the unopened pack. Duration may vary according to temperature. Maximum re-heating temperature 50°C. Product properties will remain unaffected."

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 is allowed to soak for a number of hours.

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, or where vapour levels are likely to exceed the occupational exposure limits appropriate respiratory protection must be worn. Local exhaust ventilation (LEV) may be required especially for curing ovens or where large volumes of material are curing. The above is given as a guide only; please refer to RX/HX804C Health and Safety data or our Technical Service Department for individual/specific advice.

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The results and information above does not constitute a specification and is given in good faith and without warranty. The information is derived from test/or extrapolations believed to be reliable and is quoted for guidance only. The product is offered for evaluation on the understanding the customer satisfies himself that the product is suitable for the intended application by proper evaluation and testing.

Contact Details

Robnor Resins Limited	Tel:	+44 (0) 1793 823741
31 Athena Avenue	Fax:	+44 (0) 1793 827033
Elgin Industrial Estate		
Swindon	Email:	support@robnor.co.uk
SN2 8EJ	Web:	www.robnor.co.uk
United Kingdom	Buy Online:	www.resins-online.com (UK only)