

Robnor Adhesive

Technical Data Sheet Epoxy Adhesive PX774D

Description

PX774D is a high performance, rubber modified epoxy resin designed for the bonding of dissimilar materials. The flow of the material has been modified to prevent 'slump' and cures to a semi-rigid finish, which is ideal to help prevent stresses in components and the bonding of materials in a dynamic environment. PX774D is available in bulk, kit, twin cartridge and twin pack form. The standard colour is Black but other colours are available on request.

Features

Excellent adhesion to a variety of metals
Non-toxic
Thixotropic
High impact resistance
Excellent rubber and plastic adhesive
RoHS and WEEE compliant

Specification

Property	Resin RX774D	Hardener HX774D	Mixed PX774D
Colour	Black	Amber	Black
Specific Gravity g/ml	1.2	0.96	1.01
Viscosity m.Pa.s @ 25°C	Thixotropic	Thixotropic	Thixotropic
Mix Ratio by Weight	0.6:1		
Mix Ratio by Volume	0.5:2		

Approvals

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

Cure Schedule	Working Life	Light Handling	Full Cure	Post Cure
Temperature	(minutes *)	(hours *)	(hours *)	(**)
10°C	25	16	32	5 days @ 25°C
20°C	20	8	16	8 hours @ 60°C
30°C	10	4	8	4 hours @ 80°C

*2mm cross sectional area

**For maximum properties

Cure time will depend on cross sectional area, ambient conditions and mixing method. 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

Shore A Hardness	90	
Operating Temperature	-50 to +140°C	(Application and geometry dependant)
Thermal Conductivity	0.25 W/mK	
Tensile Strength	18 MPa	
Compressive Yield Strength	< 10 MPa	
Coefficient of Linear Expansion	80-100 ppm/C	
Volume Resistivity	13 Log ₁₀ ohmm	
Electric Strength	22 kV/mm	
Water Absorption (7 days @ 23°C)	0.35%	

Lap shear adhesion

Aluminium to Aluminium	17.8 MPa	ABS to ABS	3.1 MPa
Copper to Copper	14.7 MPa	Nylon 6 to Nylon 6	4.3 MPa
Stainless Steel	17.3 MPa	Acrylic to Acrylic	2.6 MPa

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Buy On-line: www.resins-online.com

Packaging

50g Twin Cartridge
200g Twin Cartridge

Part number

PX774D/BK/050 TC
PX774D/BK/200 TC

Availability:

Available through distribution and www.resins-online.com

Cartridge Mixing

It is essential for best results that the cartridge is 'balanced' before use to ensure correct mixing. Loading the cartridge into the gun before attaching the mixer element and pumping the gun to push a small amount of the contents forward will achieve this. Wipe the excess from the cartridge tip and add the static mixer. The cartridge is now ready for use.

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

Bulk Material

PX774D is a filled system and formulated to avoid sedimentation.

However, 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 in cool dry condition between 10 and 25°C will have a shelf life of at least two years.

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/HX774D Health and Safety data or our Technical Service Department for individual/specific advice.

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