Technical Data Sheet
April 2021

PX774D-1

A high performance, rubber modified epoxy adhesive

Application

- Bonding of dissimilar materials

Key Properties

- Excellent adhesion to a variety of metals
- Thixotropic
- High impact resistance
- Excellent rubber and plastic adhesive

Description

- Basic Two-component epoxy system
- Resin RX774D-1
- Hardener HX774D-1

Physical Data (approx. – values)	**Resin**	**Hardener**	**Mixed**
Colour	Black	Amber	Black
Specific Gravity	1.20	0.98	1.05
Viscosity (mPas) @ 25°C	Thixotropic	Thixotropic	Thixotropic

Cure Schedule (1.5cm bead)	**Working Life**	**Gel Time**	**Tack Free**	**Light Handling**	**Full Cure**
Temperature	(minutes)	(minutes)	(hours)	(hours)	(hours)
RT	75	100	6	24	48
Usable life in nozzle	80				

Cure Schedule (150ml)	**Working Life**	**Gel Time**	**Light Handling**	**Full Cure**
Temperature	(minutes)	(minutes)	(hours)	(hours)
10°C	25	90	16	32
20°C	28-32	110-130	8	16
30°C	10	30	4	8

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 – Contact our technical service department for advice.

Processing

Mix ratio by weight 0.6:1

Mix ratio by volume 0.5:1

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

Typical Properties	**Result**	**Unit**
Hardness	85-95	Shore A
Operating Temperature	-65 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	1.3×10^{12}	ohmm.cm
Electric Strength	22	kV/mm
Thixotropy	2-4	mm
Water Absorption (7 days @ 23°C)	0.35	%

Lap Shear			
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

Packaging

Available in Bulk, Twinpacks, Kits & Cartridges

Availability

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

Cartridge Mixing Part Numbers	
PX774D-1/BK/050TC	PX774D-1/BK/200TC

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 Part Numbers	
PX774D-1/BK/010	

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

Bulk Materials Part Numbers	
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 & Sets Part Numbers	
Available on request	

Kits and Sets are provided in separate containers to the correct ratio.
In Kit form, pour the contents of the small 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

24 months at 25°C in cartridges.

12 months at 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/HX774D-1 Health and Safety data or our Technical Service Department for individual/specific advice.

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