

**RoHS  
Compliant**



## Description:

PPC180 is a cost effective general-purpose encapsulation system suitable for use in low to medium voltage applications. It is specifically designed for the cost effective application of transformers, capacitors and cable joints. PPC180 offers low viscosity, long pot life, low shrinkage and excellent adhesion and water resistance. The standard colour is Clear Amber but other colours are available on request.

## Features:

- Non-toxic
- Low exotherm
- High impact strength
- Good electrical insulation characteristics
- High penetrating viscosity

## Specifications:

Property	Mixed
	PPC180
Viscosity m.Pa.s @ 25°C	600
Mix Ratio by Volume	3.2: 1
Mix Ratio by Weight	2.5: 1
Usable Life (100g @ 25°C)	30 minutes
Gel Time (150g @ 20°C)	90 minutes
Potting Compound Type	Polyurethane
Dispensing Method	Can
Chemical Colour	Amber
Weight	350g
Cure Time Max	12Ω
Dielectric Strength	18V/m
Operating Temperature	-40°C to +125°C
Shore Hardness	60
Specific Gravity	1.02

## Cure Schedule:

Min. cure	Full cure
24 hours @ 25°C	1 week @ 25°C
4 hours @ 60°C	4 hours @ 60°C
2 hour @ 80°C	2 hours @ 80°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.

## Typical Properties:

Shore A Hardness	60	-
Flame Retardancy	No	-
Peak Exotherm	44 (250g @ 20°C)	-
Volume Resistivity	1210Ω-cm	-
Dielectric Strength	18 kV/mm	-
Heat deflection	Flexible	-
Glass Transition Temperature	-10°C	-
Water absorption	0.76% (30 days @ 25°C)	-
Operating Temperature	- 40°C to + 125°C	(application & geometry dependent)
Thermal Conductivity	0.25 W/mK	-
Tensile Strength	12 mPa	-
Elongation at Break	100°C	-
Loss Tangent	0.04 @ 50Hz	-
Permittivity	4.9 @ 50 Hz	-
Coefficient of Linear Expansion	80-100 ppm/°C	-
Comparative tracking index	>600	-

## 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 is thoroughly mixed within the bag and is immediately ready for use. Mixing will normally take 2 minutes for PPC180 due to the low 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.

## Bulk Material:

Bulk material must be kept sealed in its original containers. On prolonged storage, some crystallisation of the hardener may occur which will affect the final clarity of the system. The crystalline deposits will settle at the bottom of the container and are best avoided if a clear, transparent product is required. In minor cases, the use of crystalline deposits will not affect the end performance. In bulk or kit form evacuation may be necessary for best results. Avoid breathing vapours produced by this process.

## 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 erratic/partially incomplete cure even after extended time periods.

## Cleaning:

All equipment contaminated with mixed material should be cleaned before the material has hardened by using a suitable nonflammable cleaning agent.

## Storage and Shelf Life:

Material stored in the original unopened containers under cool dry condition between 15° and 35°C will have a shelf life of at least one-year.

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

## Health and Safety:

Polyurethane 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.

## Part Number Table

Description	Part Number
Resin, Pu, Flexible Tough, Low Visc 350g	PPC180

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