



Description:

PPC181 is a low viscosity resin system that cures to a flame retardant, flexible product with good adhesion to a wide variety of substrates

Features:

- Low viscosity
- Long pot life
- Low embedment stress
- Easy to use and process

Specifications:

Property	Mixed
	PPC181
Colour	Grey
Specific Gravity g/ml	1.47
Viscosity m.Pa.s @ 25°C	2,000
Mix Ratio by Volume	6.5: 1
Mix Ratio by Weight	7.8: 1
Usable Life (250g @ 23°C)	20 minutes
Gel Time (No Flow - 150g)	90 minutes
Potting Compound Type	Polyurethane
Weight	350g
Dispensing Method	Twin Pack

Cure Schedule:

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

Peak Exotherm (250g @ 20°C)	60
Shrinkage % (Volume)	0.6
Thermal Conductivity	0.35 W/mK
Operating Temperature	-40°C to + 125°C (application & geometry dependent)
Tensile Strength	~ 8 mPa
Dielectric Strength	16kV/mm
Volume Resistivity	1012Ω
Shore A Hardness	80 - 70
Heat Deflection	Flexible
Flame Retardency	Yes
Loss Tangent @ 50 Hz	0.04
Permittivity @ 50 Hz	3.9
Comparative Tracking Index	>600
Water absorption	1.36% (30 days @ 25°C)
Elongation at Break	~ 50%
Compressive Yield Strength	< 10 mPa
Tear Resistance	Medium
Lap Shear Strength	High
Coefficient of Linear Expansion	50 – 75 ppm/°C
Surface Resistivity	13 – 15 Log10Ω

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 ~ 1 minute for PPC181 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.

For further details please visit.

Bulk Material:

PPC181 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 being used.

Failure to do so may result in defective product.

Long-term sedimentation will be aggravated by storage above 35°C and should be avoided.

Light sediment may be re-dispersed by carefully warming (to avoid distortion of the clip and rail) and kneading the pack; or if in bulk or kit form gently mixing with a paddle or spatula.

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.

Robnor Resins 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

Storage and Shelf Life:

Material stored in the original unopened containers under cool dry conditions between 15° and 25°C will have a shelf life of 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
Encapsulant, Flame Retardent, 500g	PPC181

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