



Features:

- Excellent long term UV stability
- Scratch and mark resistant
- Non-toxic
- Meets requirements of WEEE
- Easy to mix and process



Description:

A two-part, low viscosity room temperature curing polyurethane resin designed for the manufacture of badges and decals. has excellent outdoor weathering properties, due to the incorporation of both UV resistant base materials and the addition of UV stabilisers and antioxidants

Specification Table

Property	Mixed
Colour	Clear
Specific Gravity g / ml	1.11
Viscosity m.Pa.s at 25°C	700
Mix Ratio by Volume	1 : 1
Mix Ratio by Weight	0.92 : 1

Approvals

REACH (SVHC concentration)	0%
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Cure Schedule

Temperature	Initial Cure	Full Cure
20°C	6	24
40°C	2	4
60°C	1	2

	Usable life	Gel Time	Tack Free Cure Time
	(Minutes)	(Minutes)	(Minutes)
Thin film <2 mm at 20°C	15	30	120
Thick film >5 mm at 20°C	6	12	20

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

Water Absorption	1.17 % (30 days at 25°C)
Shore A Hardness	75
Operating Temperature	- 55 to + 120°C (application and geometry dependent)
Thermal Conductivity	<0.21 W / mK
Tensile Strength	~15 mPa
Elongation at Break	100 %
Compressive Yield Strength	<10 MPa
Coefficient of Linear Expansion	100 - 150 pp / m°C
Volume Resistivity	<13 Log 10 Ω
Surface Resistivity	<14 Log 10 Ω
Electric Strength	20 kV / mm
Refractive Index	1.47 - 1.48

Packaging

Available	Bulk, Twin packs, cartridges and kits
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Availability:

Available through

Twin Packs

Twin packs 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 due to the low viscosity; but pay special attention to the corners.

Twin packs are ideal for small to medium production runs, prototyping, and on-site or field use.

The twin pack weight / volume may also be tailored to a specific size on request

Bulk Material

Both resin and hardener are supplied in 5 kg, 25 kg and 200 ltr 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 and Robnor Resins produce a range of these machines, details that can be provided on request

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 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 is allowed to soak for a number of hours

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 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, Optical, Non Yellowing 250 G	PPC178

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