

# Propower LED Encapsulant



## Description:

PPC195 is a two-part, high hardness, room temperature curing polyurethane resin designed for the potting and encapsulation of electrical and electronic devices requiring very high clarity. PPC195 has excellent outdoor weathering properties, due to the incorporation of both UV resistant base materials and the addition of UV stabilisers and antioxidants.

## Features:

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

## Specifications:

| Property                | Mixed   |
|-------------------------|---------|
|                         | PPC195  |
| Colour                  | Clear   |
| Specific Gravity g/ml   | 1.11    |
| Viscosity m.Pa.s @ 25°C | 400     |
| Mix Ratio by Volume     | 1.00: 1 |
| Mix Ratio by Weight     | 0.99: 1 |

|             | Usable life | Gel time  | Tack Free |
|-------------|-------------|-----------|-----------|
|             | (minutes)   | (minutes) | (minutes) |
| 2g @ 20°C   | 20          | 40        | 240       |
| 100g @ 20°C | 10          | 12        | 20        |

## Approvals:

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

## Cure Schedule:

| Temperature | Minimum Cure | Full Cure |
|-------------|--------------|-----------|
| 20°C        | 24 hours     | 48 hours  |
| 40°C        | 12 hours     | 24 hours  |
| 60°C        | 6 hours      | 12 hours  |

# Propower LED Encapsulant



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                | 0.87% (30 days @25°C)                              |
| Shore D Hardness                | 70   |
| Operating Temperature**         | - 55 to + 120°C (application & geometry dependent) |
| Thermal Conductivity            | 0.25 W/mK  |
| Tensile Strength                | 46 MPa   |
| Elongation at Break             | 2 - 4%   |
| Compressive Yield Strength      | 60 MPa   |
| Coefficient of Linear Expansion | 60-80 pp/m°C                                       |
| Volume Resistivity              | < 13 Log10ohmm                                     |
| Surface Resistivity             | < 14 Log10ohm                                      |
| Electric Strength               | 20 kV/mm   |
| Refractive Index                | 1.47-1.48  |

## Packaging:

|                        |                                |
|------------------------|--------------------------------|
| PPC195 is available in | Bulk, Twinpacks and cartridges |
|------------------------|--------------------------------|

## Availability:

Available through

## 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 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.

# Propower LED Encapsulant



## Bulk Material:

Both resin and hardener are supplied in 5 kg, 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.

## 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.

## 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 |
|-----------------|-------------|
| LED Encapsulant | PPC195      |

**Disclaimer** This data sheet and its contents (the "Information") belong to the Premier Farnell Group (the "Group") or are licensed to it. No licence is granted for the use of it other than for information purposes in connection with the products to which it relates. No licence of any intellectual property rights is granted. The Information is subject to change without notice and replaces all data sheets previously supplied. The Information supplied is believed to be accurate but the Group assumes no responsibility for its accuracy or completeness, any error in or omission from it or for any use made of it. Users of this data sheet should check for themselves the Information and the suitability of the products for their purpose and not make any assumptions based on information included or omitted. Liability for loss or damage resulting from any reliance on the Information or use of it (including liability resulting from negligence or where the Group was aware of the possibility of such loss or damage arising) is excluded. This will not operate to limit or restrict the Group's liability for death or personal injury resulting from its negligence. SPC pro-Power is the registered trademark of the Group. © Premier Farnell plc 2010.

<http://www.farnell.com>  
<http://www.newark.com>  
<http://www.cpc.co.uk>

