

UR5545 Polyurethane Resin

Product Code: UR5545

PRODUCT DESCRIPTION

The **UR5545** system extends conventional urethane technology into new territory as far as two part encapsulation and cable jointing compounds are concerned. Electrolube have taken special urethane technology, used in high performance marine and other coatings, and modified this to enable use for thick section cure systems. This has resulted in systems offering adhesion and water resistance vastly improved over those obtained from conventional urethane systems.

UR5545 is a hard but tough fast curing casting resin, exhibiting excellent adhesion qualities to difficult substrates such as PVC, ceramics and metals. It has a low viscosity enabling a bubble free product to be obtained. Castings made with this resin have excellent resistance to acids, alkalies and most mild solvents. UR5545 may be supplied in bulk or resin pack form.

A variety of colours is available however the standard colour is black.

PRODUCT USE

UR5545 has been formulated to give little or no sedimentation, if stored correctly (i.e.; 20°C). If sedimentation occurs, then the material should be rolled or the sediment re-mixed with the use of a spatula or other similar instrument. On no account should any material be removed if sedimentation has occurred and not been re-mixed. In Resinpack form sedimentation offers no problem since the sediment is re-mixed when the pack is mixed.

In bulk form the resin (Part A) should be mixed with the hardener (Part B) in the ratio:

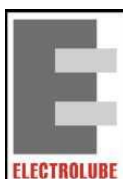
1.62 : 1 by weight
1.90 : 1 by volume

If in Resinpack form do not remove the aluminium laminate outer wrap until immediately before use. Cut the aluminium outer, being very careful not to damage the inner pack. Remove the inner pack and

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discard the desiccant. Remove the clip from the inner pack (grip each end of the pack and pull gently) and move the contents around inside the pack until thoroughly mixed. Take special care to push unmixed material from the corners and ensure the colour is uniform throughout. Mixing normally takes from 2 to 4 minutes depending on the skill of the operator. Resin and hardener are evacuated prior to packing so the system is ready for use immediately after mixing. The corner may be cut from the pack so that it can be used as a simple dispenser.

Bulk material or Resinpacks must be thoroughly mixed before use - incomplete mixing will result in erratic or even partially incomplete cure.

PROPERTIES OF SYSTEM

Density of Resin	1.04 g/ml
Density of Hardener	1.22 g/ml
Density of System	1.10 g/ml
Colour of System	Black
Viscosity of Resin	25 poise @ 23°C
Viscosity of Hardener	1.5 poise @ 23°C
Viscosity of System	15 poise @ 23°C
Usable Life*	4 minutes
Gel Time*	5 minutes
Tack Free Cure Time*	20-60 minutes
Full Cure	24 hours
Shore Hardness (D)	75

* 150g mass.

PROPERTIES OF CURED SYSTEM

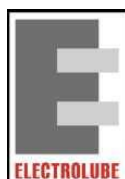
Thermal Conductivity	0.25 W/m°C
Tensile Strength	51 N/mm ²
Elongation at Break %	6
Tensile Modulus	2320 N/mm ²
Compression Modulus	1910 N/mm ²
Flexural Strength	79 N/mm ²
Compressive Strength	64 N/mm ²

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Chemical Resistance Data:

Resin resistance to distilled water at 100°C
(specimen size 120 x 15 x 10 mm)

Immersion Period (in days)	% Weight Change
1	+ 2.0
2	+ 3.0
5	+ 3.5
6	+ 4.0
9	+ 4.0

HEALTH & SAFETY NOTES

It is far easier for machines & containers to be cleaned before the resin has been allowed to cure. Electrolube's Resin Removal Stripper is suitable for cleaning machines and containers and cured resin may be slowly softened and removed by soaking in our RRS.

Resinpacks stored in a cool dry place have a shelf life of at least 12 months providing the aluminium laminate outers have not been removed or damaged. Bulk material stored in original unopened containers will also have a shelf life of at least 12 months.

The main hazard of the **UR5545** system is associated with Part B (Isocyanate Hardener). This is based on diphenylmethane diisocyanate (MDI) which is much less toxic than most other isocyanates. Avoid skin and eye contact by use of gloves, overalls and safety glasses or goggles. Wash any contamination from the skin immediately. Take care not to contaminate food-stuffs. MDI has low volatility and the TLV for the material is only likely to be approached if the material is sprayed or heated. **DO NOT HEAT THE ISOCYANATE (Part B) or do anything likely to introduce a large number of fine droplets into the atmosphere.**

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