

UR5547 Polyurethane Resin

Product Code: UR5547

PRODUCT DESCRIPTION

UR5547 has been formulated to give a semi rigid flame retardant casting resin for use in potting or cable jointing applications. It exhibits excellent flame retardancy and has been independently tested and confirmed as conforming to UL 94 V-O at 1/16" thickness. As well as being flame retardant the system offers good water and impact resistance and excellent adhesion to a wide variety of substrates.

Overall the combination of properties in the **UR5547** system make it an ideal potting resin especially where small and delicate components such as ferrites are involved, since the cured product creates very little stress, even when thermally cycled. **UR5547** is black and can be supplied in kit, bulk or resinpack form. Other colours are available on request.

PRODUCT USE

UR5547 has been formulated to give little or no sedimentation, if stored correctly (i.e.; between 15 - 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:

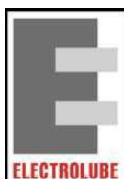
5.52 : 1 by weight
3.98 : 1 by volume

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 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

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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.

When mixing resin and hardener, once again avoid introducing excessive amounts of air.

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

TYPICAL PROPERTIES OF SYSTEM

Density of Resin	1.69 g/ml
Colour of Resin	Black
Density of Hardener	1.22 g/ml
Colour of Hardener	Brown
Density of System	1.60 g/ml
Colour of System	Black
Viscosity of Resin	240 poise @ 25°C
Viscosity of Hardener	2.3 poise @ 25°C
Viscosity of System	40 poise @ 25°C
Usable Life*	20 minutes
Gel Time*	50 minutes
Tack Free Cure Time*	6 hours
Full Cure	24 hours
Shore Hardness (A)	80 - 90

* 150g at 20°C.

TYPICAL PROPERTIES OF CURED SYSTEM

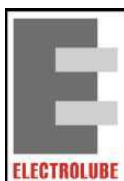
Thermal Conductivity	0.35 W/m°C
Water Absorption	0.2% (24h @ 21°C)
Volume Resistivity	10 ¹⁴ ohm/cm
Dielectric Strength	14 kV/mm
Dielectric Constant	5.0 (25°C @ 50Hz)

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Dielectric Loss
Operating Temperature Range

0.14 (25°C @ 50Hz)
-50°C minimum
+120°C maximum

HEALTH & SAFETY NOTES

Machines, containers etc are more easily cleaned before the resin has been allowed to harden. **Electrolube OP9004** is a relatively safe non-flammable Cleaner for this purpose. Cured resin may be slowly softened and removed by soaking in **OP9003 Resin Stripper**.

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 **UR5547** 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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