

## UR5545 Polyurethane Resin

UR5545 extends conventional urethane technology into new territory as far as two part encapsulation and cable jointing compounds are concerned. UR5545 is a hard but tough fast curing casting resin available in the standard colour of black.

- Excellent adhesion to a variety of substrates; ideal for cable jointing applications
- Low viscosity and very fast gel time; aids quick and efficient potting processes
- Excellent resistance to acids, alkalis and other aqueous materials; protects in harsh environments
- Durable with a high degree of toughness; good physical protection

<b>Approvals</b>	<b>RoHS Compliant (2015/863/EU):</b>	<b>Yes</b>
	<b>UL Approval:</b>	<b>No</b>

### Typical Properties

Liquid Properties:	Base Material	Polyurethane
	Density Part A - Resin (g/ml)	1.04
	Density Part B - Hardener (g/ml)	1.22
	Part A Viscosity (mPa s @ 23°C)	2500
	Part B Viscosity (mPa s @ 23°C)	150
	Mixed System Viscosity (mPa s @ 23°C)	1500
	Mix Ratio (Weight)	1.62:1
	Mix Ratio (Volume)	1.90:1
	Usable Life (20°C)	4 mins
	Gel Time (23°C)	5 mins
	Cure Time (23 °C)	24 hours
	Storage Conditions	Dry Conditions: Above 15°C, Below 30°C
	Shelf Life	12 months
	Exotherm	< 35°C
	<small>(Measured on 100ml sample; cylinder of diameter 49.4mm @ 23°C)</small>	
	Shrinkage	< 1%

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Electrolube cannot be held responsible for the performance of its products within any application determined by the customer, who must satisfy themselves as to the suitability of the product.

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BS EN ISO 9001:2008  
Certificate No. FM 32082

Cured System:	Thermal Conductivity (W/m.K)	0.25
	Cured Density (g/ml)	1.10
	Temperature Range (°C)	-50 to +125
	Max Temperature Range (Short Term (°C)/30 mins) (Application and Geometry Dependent)	+130
	Shore Hardness	D75
	Colour (Mixed System)	Black
	Flame Retardancy	No
	Comparative Tracking Index	Not Measured
	Water Absorption	See below
	Tensile Strength (N/mm <sup>2</sup> )	51.1
	Tensile Modulus (N/mm <sup>2</sup> )	2320
	Compression Modulus (N/mm <sup>2</sup> )	1910
	Flexural Strength (N/mm <sup>2</sup> )	79
	Compressive Strength (N/mm <sup>2</sup> )	64
	Elongation At Break	6%

### Chemical Resistance Data

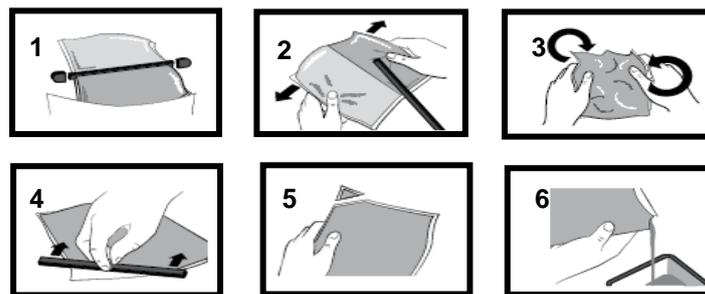
Resin resistance to distilled water @ 100°C (size 120 x 15 x 10mm)

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

### Mixing Procedures

#### Resin Packs

When in Resin pack form, the resin and hardener are mixed by removing the clip and moving the contents around inside the pack until thoroughly mixed. To remove the clip, remove both end caps, grip each end of the pack and pull apart gently. By using the removed clip, take special care to push unmixed material from the corners of the pack. Mixing normally takes from three to four minutes depending on the skill of the operator and the size of the pack. Both the 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 may be used as a simple dispenser. There is also a YouTube video ([Polyurethane Mixing Instructions](#)) available on the Electrolube channel to show the mixing process.



### **Bulk Mixing**

When mixing, care must be taken to avoid the introduction of excessive amounts of air. Automatic mixing equipment is available which will not only mix both the resin and hardener accurately in the correct ratio but do this without introducing air. Containers of Part A (Resin) and Part B (Hardener) should be kept sealed at all times when not in use to prevent the ingress of moisture. Bulk material must be thoroughly mixed before use. Incomplete mixing or use of the wrong mix ratio will result in erratic or partial curing.

### **Additional Information**

- Cleaning:** It is far easier for machines & containers to be cleaned before the resin has been allowed to cure. Electrolube's RRS is suitable for cleaning machines and containers and cured resin may be slowly softened and removed by soaking in our RRS.
- Curing:** Do not heat cure large volumes immediately. Allow these to gel at room temperature and post-cure at high temperature if required (refer to liquid properties for details). Small volumes (250ml) may be heat cured immediately.
- Storage:** When storing under very cold conditions, the hardener may crystallise. If this occurs, simply warm (40°C) the container gently until all crystals have re-melted.
- Health & Safety:** Always refer to the Health & Safety data sheet before use. These can be downloaded from [www.electrolube.com](http://www.electrolube.com)

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