UR5598
Polyurethane Resin

UR5598 is a clear semi-flexible and durable resin. The low mixed system viscosity enables preparation of bubble free potting and casting.

- High water resistance; also excellent resistance to acids, alkalis and other aqueous materials
- Good electrical properties and excellent adhesive properties
- Low mixed system viscosity and low shore hardness once cured
- High clarity; amber in colour but transparent enabling easy fault finding

Approvals		
RoHS-2 Compliant (2011/65/EU):		**Yes**
UL Approval:		**No**

Typical Properties
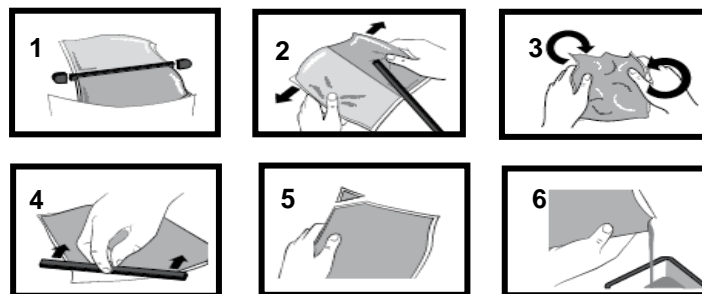
Liquid Properties:		
Base Material	Polyurethane
Density Part A - Resin (g/ml)	1.00
Density Part B - Hardener (g/ml)	1.21
Part A Viscosity (mPa s @ 23ºC)	1700
Part B Viscosity (mPa s @ 23ºC)	20
Mixed System Viscosity (mPa s @ 23ºC)	1000
Mix Ratio (Weight)	2.51:1
Mix Ratio (Volume)	3.03:1
Usable Life (20°C)	20 mins
Gel Time (23°C)	40 mins
Cure Time (23°C)	24 hours
Cure Time (60°C)	4 hours
Colour Part A - Resin	Amber
Colour Part B - Hardener	Amber
Storage Conditions	Dry Conditions: Above 15ºC, Below 35ºC
Shelf Life	12 months
Exotherm (Measured on 100ml sample in a cylinder of diameter 49.4mm @ 23ºC)	< 40ºC
Shrinkage	< 1%

Cured System:	Thermal Conductivity (W/m.K)	0.25
	Cured Density (g/ml)	1.06
	Temperature Range (°C)	-50 to +120
	Max Temperature Range (Short Term (°C)/30 Mins) (Application and Geometry Dependent)	+130
	Dielectric Strength (kV/mm)	10
	Volume Resistivity (ohm-cm)	10^{13}
	Shore Hardness	A60
	Colour (Mixed System)	Clear Amber
	Flame Retardancy	No
	Loss Tangent @ 50 Hz	0.02
	Permittivity @ 50 Hz	3.90
	Comparative Tracking Index	Not Measured
	Water Absorption (9.7mm thick disk, 51mm diameter) 10 days @ 20ºC / 1 hour @ 100ºC	< 0.5% / <1%
	Elongation At Break	Not Measured

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 two 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.

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All information is given in good faith but without warranty. Properties are given as a guide only and should not be taken as a specification.

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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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 will result in erratic or partial curing.

General

Sedimentation of the resin has been minimised by careful attention to the formulation. However, any sediment which may have occurred over long periods of time must be dispersed before removing any material from the container. This dispersion can be carried out (if necessary) by stirring with a broad bladed spatula or gently rolling the can. Take care not to introduce excessive amounts of air during this operation or it may be necessary to re-evacuate the resin. Sedimentation will be accelerated by storage at high temperatures. Sedimentation found in resin packs forms no problem since the sediment is re-mixed when the pack is used.

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

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