

## UR5096

### Polyurethane Resin

#### DESCRIPTION

- **UR5096** is a clear, high performance encapsulation resin based on urethane technology using a polyol unique in its characteristics. Due to the nature of this resin system, it allows easy removal of cured material from broken or defective units and in most cases the clarity of the material allows the defect to be spotted without stripping the whole unit and the repair can then be localised.

READ ENTIRE TECHNICAL BULLETIN BEFORE USING THIS PRODUCT

#### FEATURES AND BENEFITS

- Clear system that can be removed from broken or defective units; allows easy inspection
- Very low water absorption and excellent low temperature flexibility to -60 °C
- Excellent electrical properties; ideal for a variety of applications in harsh environments
- Low embedment stress; ideal for encapsulation of PCB's and delicate units

#### APPROVALS

Standard	Status
RoHS Compliant (2015/863/EU)	Yes
UL Approval	No

#### PRODUCT INFORMATION

For available packaging sizes please visit:

[electrolube.com](http://electrolube.com)

### PHYSICAL PROPERTIES

Category	Results
<b>Liquid Properties</b>	
Base Material	Polyurethane
Color Part A – Resin Part B - Hardener	Clear Clear
Density Part A - Resin (g/mL) Part B - Hardener (g/mL)	0.94 1.13
Viscosity (mPa s 23 °C) Part A Part B Mixed System	1200 200 1000
Mix Ratio Weight Volume	8:13:1 9:85:1
Usable Life (20 °C)*	25 minutes
Gel Time (23 °C)*	40 minutes
Cure Time (23 °C)*	24 hours
Storage Conditions	Dry Conditions: Above 15 °C, Below 30 °C
Shelf Life	12 Months
Exotherm (Measured on 100 mL sample; cylinder of diameter 49.4 mm @ 20 to 25 °C)	< 50 °C
Shrinkage	< 0.5%
<b>Cured System</b>	
Color (Mixed System)	Clear
Thermal Conductivity (W/m.K)	0.20
Cured Density (g/mL)	0.96

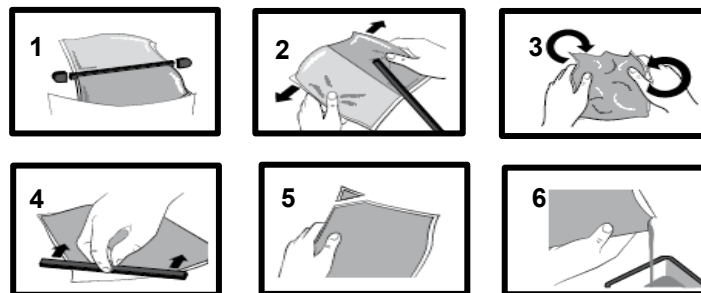
Category	Results
Temperature Range (°C)	-60 to 100
Max Temperature Range (Short Term (°C)/30 Mins) (Application and Geometry Dependent)	+110 (Material may discolor)
Volume Resistivity (ohm-cm)	10 <sup>14</sup>
Dielectric Strength (kV/mm)	18
Shore Hardness	A12
Flame Retardancy	No
Loss Tangent @ 50 Hz	0.02
Permittivity @ 50 Hz	3.5

\* 150g @ 21 °C. Usable Life and Gel Times extend slowly on storage; the above times refer to freshly made material. After 6 months storage Usable Life is typically 35 minutes and Gel Time 80 minutes.

### APPLICATION GUIDELINES – RESIN PACKS

#### Mixing Procedures

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.



### APPLICATION GUIDELINES - BULK

#### 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. 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 (250 mL) 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.

### SAFETY & WARNING

It is recommended that the company/operator read and review the Safety Data Sheets for the appropriate health and safety warnings before use. **Safety Data Sheets are available.**

### CONTACT INFORMATION

To confirm this document is the most recent version, please contact  
**TechnicalSupportTeam@hkw.co.uk**  
[www.electrolube.com](http://www.electrolube.com)

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Also read carefully warning and safety information on the Safety Data Sheet. This data sheet contains technical information required for safe and economical operation of this product. READ IT THOROUGHLY PRIOR TO PRODUCT USE . Emergency safety directory assistance: US 1 202 464 2554, Europe + 44 1235 239 670, Asia + 65 3158 1074, Brazil 0800 707 7022 and 0800 172 020, Mexico 01800 002 1400 and (55) 5559 1588

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