

UR5638

Polyurethane Resin

DESCRIPTION

UR5638 is a two-part, soft optically clear polyurethane resin ideal for use in protective applications. Due to a carefully selected blend of components an extremely durable medium viscosity system is achieved which can be used for a wide variety of applications.

READ ENTIRE TECHNICAL BULLETIN BEFORE USING THIS PRODUCT

FEATURES AND BENEFITS

- Water white transparency; ideal for LED applications
- 3.7:1 mix ratio;
- Does not contain IPDI; low hazard material
- High resistance to weather/UV, acids and alkalis, water and mold growth; suitable for a range of environments

APPROVALS

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

PRODUCT INFORMATION

For available packaging sizes please visit:

electrolube.com

PHYSICAL PROPERTIES

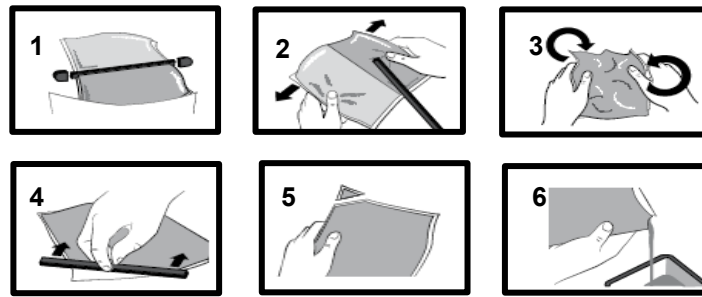
Category	Results
Liquid Properties	
Base Material	Polyurethane
Color Part A – Resin Part B - Hardener	Clear Clear
Density Part A - Resin (g/mL) Part B - Hardener (g/mL)	0.98 1.16
Viscosity (mPa s 23 °C) Part A Part B Mixed System	2400 1200 2000
Mix Ratio Weight Volume	3.73:1 4.42:1
Usable Life @ 20 °C	~50 minutes
Gel Time @ 23 °C	~100 minutes
Cure Time 23 °C 60 °C	24 hours 4 hours
Storage Conditions	Dry Conditions: Above 5 °C, Below 30 °C
Shelf Life	12 Months
Shrinkage	< 1%
Retractive Index	1.481
Cured System	
Color (Mixed System)	Water White
Thermal Conductivity (W/m.K)	0.30
Cured Density (g/mL)	1.11

Category	Results
Temperature Range (°C)	-40 to 120
Max Temperature Range (Short Term (°C)/30 Mins) (Application and Geometry Dependent)	+130
Volume Resistivity (ohm-cm)	10 ¹⁴
Dielectric Strength (kV/mm)	11
Shore Hardness	A45
Flame Retardancy	No
Loss Tangent @ 50 Hz	0.025
Permittivity @ 50 Hz	3.50
Comparative Tracking Index	Not Measured
Water Absorption (9.7 mm thick disk, 51 mm diameter) 10 days @ 20 °C / 1 hour @ 100 °C	< 1% / < 1%
Elongation at Break	50%

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 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). The material is not suitable for thick sections above 50mm as the exotherm build up during cure will create voids.
- Storage:** When storing under very cold conditions, the hardener may crystallize. 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

North America 109 Corporate Blvd. South Plainfield, NJ 07080, USA 1.800.367.5460	Europe Ashby Park Coalfield Way Ashby de la Zouch Leicestershire, LE65 1JR, UK 44.01530.41960	Asia 8/F., Paul Y. Centre 51 Hung To Road Kwun Tong, Kowloon, Hong Kong 852.3190.3100
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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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