

N109 W13300 ELLSWORTH DRIVE GERMANTOWN, WI 53022  
262-253-5900 FAX 262-253-5919

**DESCRIPTION:**

*Resinlab® UR3005 Clear* is a two component, room temperature curing polybutadiene polyurethane casting and potting system. It is designed to cure completely at room temperature. *UR3005 Clear* provides excellent environmental protection while having tenacious adhesion to various metals, plastics and other common assembly materials.

*UR3005 Clear* is an unfilled system that has a high degree of flexibility at temperatures as low as -40 °C and provides for low stress on sensitive SMT components. It provides excellent moisture resistance and can withstand 125 °C continuous operation. It also has a low viscosity, which facilitates flow and penetration into difficult areas. It is well suited to automated meter mix operations.

*UR3005 Clear* is a DOT non-hazardous material and contains no TDI, MOCA, or other reportable substances. Both components are moderately moisture sensitive and must be kept away from atmospheric moisture during storage. After opening a sealed container, thoroughly purge the remaining air space with dry inert gas such as nitrogen (or equivalent) before closing the container.

**TYPICAL PROPERTIES:**

All properties given are at 25 °C unless otherwise noted.

<b>Property:</b>	<b>Value:</b>	<b>Test Method or Source:</b>
<b>Color</b>	Clear	Visual
<b>Mix Ratio</b>	Part A to Part B	Calculated
<b>Mix Ratio by weight</b>	1 to 4.93	
<b>Mix Ratio by volume</b>	1 to 6	
<b>Cure Schedule</b>	72 hrs @ 25 °C 2.5 hrs @ 65 °C 1 hr @ 100 °C	
<b>Viscosity - Part A</b>	150 cP	TA HR20 Rheometer 25mm parallel plate @ 1/s DCV6100723
<b>Viscosity - Part B</b>	8,000 cP	
<b>Viscosity - Mixed</b>	6,500 cP	
<b>Specific Gravity - Part A</b>	1.11	Calculated
<b>Specific Gravity - Part B</b>	0.94	
<b>Specific Gravity - Mixed</b>	0.93	
<b>Pot Life defined as the time it takes for initial mixed viscosity to double</b>	5 minutes	TA HR20 Rheometer parallel plate 25mm @ 1/s DCV6100723
<b>Gel Time 100cc Sample</b>	25 – 30 minutes	455300005339/Gardco Gel Timer
<b>Hardness</b>	45 Shore A	455300006287/ASTM D2240
<b>Glass Transition Temperature/Tg</b>	-72 °C	453560822409 by DSC
<b>Water Absorption</b>	0.1 %	24 hr immersion 457561824543/ASTM D570
<b>Peak Exotherm</b>	31.5 °C after 10 minutes for 40 mL sample	455300005593 by Type K thermocouple

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<b>Property:</b>	<b>Value:</b>	<b>Test Method or Source:</b>
<b>Tensile Properties:</b>		4535601224470/ASTM D638
<b>Elongation</b>	35 %	
<b>Flame Resistance Tested at ResinLab, not UL Certified</b>	Passes with HB Rating @ 3.0 mm	45376013225560/UL94HB
<b>Coefficient of Thermal Expansion by TMA: above Tg</b>	256 ppm/°C	455300005340/ASTM E831 TMA, 5 °C/min
<b>Operating Temperature Range</b>	-40 to 125 °C**	
<b>Relative Thermal Index (RTI)</b>	50 °C	UL746B, Table 7.1 Generic Value Based on Composition

\* Asterisk denotes values considered typical to associated resin systems or extrapolated from other test results.

\*\* Operating Temperature Range is based on average design requirements and is not intended as a guarantee of suitability for all applications operating at that temperature.

\*\*\* This TDS contains values that have been updated. The values reported in this technical data sheet are typical values of the product, and are highly dependent on test conditions and methodology. We actively seek the most precise and accurate ways to measure and interpret performance of our products, and to update estimated values with measured values. The formula has not been revised or changed in any way. Although the values on paper have changed, you can expect the same performance of the product.

## **INSTRUCTIONS:**

1. Bring to room temperature prior to use.
2. Cartridge format: Mixer should be attached keeping the cartridge vertical and any air pocket purged this way. After the mixer contains material, the mixer tip can be dropped to dispense pre-bleed amount. Attach a new static mixer with each cartridge, then pre-bleed the first 3 inches of dispensed material or until a uniform color is obtained. Maintain adequate velocity during dispensing to ensure complete mixing.
3. Bulk format: stir until homogeneous weigh and mix parts A and B accurately and thoroughly, scraping sides of container often. Do not pour from mixing container, transfer to a new container as residual unmixed material may cause a tacky spot on the surface of the casting. Maintain adequate velocity during dispensing to ensure complete mixing.
4. Allow to cure undisturbed until product is fully gelled or tack-free to the touch.
5. Clean up uncured resin with suitable organic solvent such as MEK or acetone.

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**SHELF LIFE AND STORAGE:**

6 months at 25 °C Bulk.

12 months at 25 °C in cartridges that are foil bagged and desiccant packed.

Specialty packaging may be less.

Isocyanates are sensitive to moisture and should be kept in their original container or in a volume tank under dry nitrogen blanketing. Many isocyanates are prone to dimerization, the formation of a white precipitate. Products with minor amounts of this precipitate normally cure to full properties. Storage at 20 - 30 °C (68 °F to 86 °F) is recommended to ensure full shelf life.