

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

**DESCRIPTION:**

*Resinlab*<sup>®</sup> UR1049 is a two component, water blown, 4 lb per cubic foot, MDI based rigid polyurethane foam system. It is designed to cure completely at room temperature. Being a closed cell structure, UR1049 provides excellent environmental protection while having tenacious adhesion to various metals, plastics and other common assembly materials.

UR1049 has very good resistance to water, acids and bases, and most organic compounds due to its thermoset nature and high percentage of closed cells. It provides excellent thermal insulation properties and can withstand 121 °C operation as a transient condition.

This product was formulated to a 1 to 1 mix ratio by volume. It is well suited to automated meter mix operations. UR1049 is a DOT non-hazardous material and contains no TDI, MOCA, or other reportable substances. Part B is 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 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>	Cream	Visual
<b>Mix Ratio</b>	Part A to Part B	
<b>By weight</b>	85 to 100	
<b>By volume</b>	100 to 100	
<b>Cure Schedule</b>	24-72 hours @25 °C Reaches handle cure in 5 – 20 minutes	
<b>Viscosity – Part A</b>	1,000 cps	Brookfield Viscometer R050-12
<b>Viscosity – Part B</b>	250 cps	
<b>Viscosity - Mixed</b>	600 cps	
<b>Specific Gravity – Part A</b>	1.02	Calculated
<b>Specific Gravity – Part B</b>	1.23	
<b>Specific Gravity - Mixed</b>	1.16	
<b>Gel Time</b>	75 seconds	Visual cup and stick method
<b>Rise Time</b>	90-120 seconds	Visual
<b>Cream Time</b>	15 seconds	
<b>Free Rise Density</b>	4 lbs/ft <sup>3</sup>	
<b>Tensile Properties:</b>		R050-36/ASTM D638
<b>Strength</b>	2,000 psi	
<b>Elongation</b>	1,800 psi	
<b>Poisson's Ratio</b>	0.7 to 0.75	
<b>Compressive Properties:</b>		R050-38/ASTM D695
<b>Strength</b>	2,000 psi	
<b>Modulus</b>	1,550 psi	

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

<b>Flexural Strength</b>	2,100 psi	
<b>Flexural Modulus</b>	2,400 psi	
<b>Water Absorption (30days/20 °C)</b>	0.66 lb/ft <sup>3</sup>	R050-35/ASTM D570
<b>Humidity Resistance (65 °C/95RH/30 days)</b>	4.2%	
<b>Dielectric Constant (25 °C,100Hz)</b>	1.06***	
<b>Dielectric Strength</b>	350 V/mil***	
<b>Volume Resistivity</b>	3 x 10 <sup>10</sup> ohm-cm***	
<b>Service Temperature</b>	93 °C continuous*** 121 °C peak	

**INSTRUCTIONS:**

1. Bring both components to room temperature prior to mixing
2. If used in bulk, 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. If the product is used in a side-by-side cartridge, 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. High velocity through the tube produces the best mix.
3. Allow to cure undisturbed until product is fully gelled or tack-free to the touch.
4. Clean up uncured resin with suitable organic solvent such as MEK, acetone or other organic solvent.

**SHELF LIFE AND STORAGE:**      6 months at 25 °C Bulk.  
12 months at 25 °C in cartridges that are foil bagged and desiccant packed.

***NOTE: PART B should be stored between 60 and 95 °F to prevent crystallization or dimerization. In the event of crystallization, Allow side B to stabilize at the recommended temperature.***

**\* Density value listed above is a free-rise density and should not be confused with overall density. Overall density will always be higher because it takes into account skin formation which will vary due to part geometry.**

**\*\* Long term exposure to temperatures above 200F will cause about a 2-3% permanent increase in volume.**

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

**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 +/- 5 °C (60 °F to 86 °F) is recommended to assure full shelf life.**