



AN ELLSWORTH ADHESIVES COMPANY 

TECHNICAL DATA SHEET UR3005 Clear

09/12/2016

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.

Property:	Value:	Test Method or Source:
Color	Clear	Visual
Mix Ratio	Part A to Part B	
By weight	1 to 4.93	
By volume	1 to 6	
Cure Schedule	72 hours @25 °C 2.5 hours @ 65 °C 1 hour @ 100 °C	
Viscosity – Part A	150 cps @1/s	Rheometer parallel plate 25mm@1/s
Viscosity – Part B	8,000 cps @1/s	R050-49
Viscosity - Mixed	6,500 cps @1/s	
Specific Gravity – Part A	1.10	Calculated
Specific Gravity – Part B	0.90	
Specific Gravity - Mixed	0.93	
Pot Life	5 minutes	Rheometer parallel plate 25mm@1/s R050-49
Gel Time	25-30 minutes/100cc sample	Gardco Hot Pot Gel Timer
Glass Transition Temperature/Tg	-72 °C	R050-61 by DSC
Hardness	45 Shore A	R050-17/ASTM D2240
Water Absorption	0.10% after 24 hours	R050-35/ASTM D570
Peak Exotherm	31.5 °C after 10 minutes for 40mL sample	Thermocouple
Elongation	35%	R050-36/ASTM D638
Coefficient of Thermal Expansion by TMA	256 ppm/ °C	455300005340/ ASTM E831 TMA 5 °C/min

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INSTRUCTIONS:

1. Bring both components to room temperature prior to mixing.
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: 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, 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.

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 ensure full shelf life.