

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

DESCRIPTION:

ResinLab® UR3001HP2 Black is a two component, unfilled, room temperature curing urethane encapsulating system. It is designed to cure completely at room temperature. UR3001HP2 Black provides excellent environmental protection while having tenacious adhesion to various metals, plastics, and other common assembly materials. It works well in low stress applications and under low temperatures as a re-enterable encapsulant.

UR3001HP2 Black is an unfilled system that has a gel-like durometer and good flexibility at temperatures as low as -40 °C. It provides excellent moisture resistance.

UR3001HP2 Black has a convenient mixing ratio of 1 to 1 by volume. It is well suited to automated meter mix operations.

UR3001HP2 Black is a DOT non-hazardous material and contains no TDI, MOCA, or other reportable substances. Part A 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.

Property:	Value:	Test Method or Source:
Color	Black	Visual
Mix Ratio By weight By volume	Part A to Part B 1 to 1.07 1 to 1	Calculated
Cure Schedule	24 hours @ 25 °C 1 hour @ 85 °C	
Viscosity – Part A Viscosity – Part B Viscosity - Mixed	200 cps 4,500 cps 1,400 cps	Rheometer parallel plate 25mm@1/s 455300006291 Extrapolated from UR3001HP2 Clear
Specific Gravity – Part A Specific Gravity – Part B Specific Gravity - Mixed	0.97 0.92 0.94	Calculated
Pot Life, defined as the time it takes for initial mixed viscosity to double	3 minutes	Rheometer parallel plate 25mm@1/s 455300006291 Extrapolated from UR3001HP2 Clear
Gel Time	25-30 minutes/100cc sample	455300005339/Gardco Hot Pot Gel Timer Extrapolated from UR3001HP2 Clear
Glass Transition Temperature/Tg	-71 °C	453560822409 by DSC Extrapolated from UR3001HP2 Clear
Hardness	60 Shore OO	455300006287/ASTM D2240 Extrapolated from UR3001HP2 Clear
Water Absorption	0.07% after 24 hours	457561824543/ASTM D570 Extrapolated from UR3001HP2 Clear
Peak Exotherm	29 °C after 7 minutes for 40mL sample	455300005593 by Type K thermocouple Extrapolated from UR3001HP2 Clear

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Volume Resistivity	1.45 x 10 ¹³ ohm-cm	455300006612/ASTM D257 Extrapolated from UR3001HP2 Clear
Dielectric Constant/Dissipation Factor @ 60 Hz @ 23 °C	3.9, 0.00245	455300006513/ASTM D150 Extrapolated from UR3001HP2 Clear
AC Dielectric Strength	371 V/mil (14.6 kV/mm)	ASTM D149, Method A, tested in oil Extrapolated from UR3001HP2 Clear
Coefficient of Thermal Expansion by TMA	330 ppm/ °C above Tg	455300005340/ASTM E831 TMA, 5 °C/min Extrapolated from UR3001HP2 Clear
Temperature Range	-40 to 150 °C**	

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

** Temperature Rating 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 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 DOM at 20-30 °C Bulk and cartridges that are foil bagged and desiccant packed. Protect from moisture.
Storage above 30 °C for long periods will lead to deterioration of product.
Storage or exposures at lower temperatures than 20 °C can result in the formation of crystals.

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.