

## Resinlab® UR3001HP Black Urethane Encapsulant

Category : Polymer , Adhesive , Thermoset , Polyurethane, TS , Thermoset Polyurethane, Adhesive

### Material Notes:

Resinlab™ UR3001HP Black is a black, two component, room temperature curing urethane encapsulating system. It is designed to cure completely at room temperature. UR3001HP Black provides excellent environmental protection while having tenacious adhesion to various metals, plastics and other common assembly materials. UR3001HP Black is an unfilled system that has a gel-like Shore hardness and good flexibility at temperatures as low as -40°C. It provides excellent moisture resistance and can withstand 125°C continuous operation.

UR3001HP Black has a convenient mixing ratio of 1 to 1 by volume. It is well suited to automated meter mix operations. UR3001HP 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. Information Provided by Resinlab L.L.C., an Ellsworth Adhesives Company.

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_Resinlab-UR3001HP-Black-Urethane-Encapsulant.php](http://www.lookpolymers.com/polymer_Resinlab-UR3001HP-Black-Urethane-Encapsulant.php)

Physical Properties	Metric	English	Comments
Specific Gravity	1.04 g/cc	1.04 g/cc	Part B; TM R050-16
	1.07 g/cc	1.07 g/cc	Mixed; TM R050-16
	1.15 g/cc	1.15 g/cc	Part A; TM R050-16
Water Absorption	0.31 %	0.31 %	30 days; TM R050-35
	0.21 % @Time 259000 sec	0.21 % @Time 72.0 hour	TM R050-35
Viscosity	100 cP	100 cP	Part A (Isocyanate), RVT, #2, 20 rpm; TM R050-12
	2000 cP	2000 cP	Mixed; TM R050-12
	4000 cP	4000 cP	Part B (Polyol), RVT, #3, 20 rpm; TM R050-12

Mechanical Properties	Metric	English	Comments
Hardness, Shore D	60	60	TM R050-17
Tensile Strength at Break	0.0689 MPa	10.0 psi	TM R050-36
Tensile Strength, Ultimate	0.0689 MPa	10.0 psi	TM R050-36
Tensile Strength, Yield	0.0345 MPa	5.00 psi	TM R050-36
Elongation at Break	300 %	300 %	TM R050-36
Tensile Modulus	0.0000345 - 0.0000689 GPa	0.00500 - 0.0100 ksi	TM R050-36

Mechanical Properties	Metric	English	Comments
Compressive Yield Strength	0.0345 - 0.0689 MPa	5.00 - 10.0 psi	TM R050-38
Compressive Strength	1.72 MPa	250 psi	Ultimate; TM R050-38
	1.72 MPa	250 psi	Break; TM R050-38
Compressive Modulus	0.000414 GPa	0.0600 ksi	TM R050-38
Adhesive Bond Strength	0.138 MPa	20.0 psi	Lap shear; 2024 T3 Al Abraded / MEK Wipe; TM R050-37

Thermal Properties	Metric	English	Comments
CTE, linear	150 $\mu\text{m}/\text{m}\cdot^{\circ}\text{C}$	83.3 $\mu\text{in}/\text{in}\cdot^{\circ}\text{F}$	
Maximum Service Temperature, Air	150 $^{\circ}\text{C}$	302 $^{\circ}\text{F}$	
Minimum Service Temperature, Air	-40.0 $^{\circ}\text{C}$	-40.0 $^{\circ}\text{F}$	
Glass Transition Temp, Tg	-66.0 $^{\circ}\text{C}$	-86.8 $^{\circ}\text{F}$	TM R050-25

Electrical Properties	Metric	English	Comments
Volume Resistivity	1.00e+16 ohm-cm	1.00e+16 ohm-cm	
Dielectric Constant	3.6	3.6	
	@Frequency 100 Hz, Temperature 25.0 $^{\circ}\text{C}$	@Frequency 100 Hz, Temperature 77.0 $^{\circ}\text{F}$	
Dielectric Strength	15.0 kV/mm	380 kV/in	

Processing Properties	Metric	English	Comments
Cure Time	60.0 min	1.00 hour	
	@Temperature 85.0 $^{\circ}\text{C}$	@Temperature 185 $^{\circ}\text{F}$	
	1440 min	24.0 hour	
	@Temperature 25.0 $^{\circ}\text{C}$	@Temperature 77.0 $^{\circ}\text{F}$	
Pot Life	15 - 20 min	15 - 20 min	Mass: 50g; TM R050-19

Descriptive Properties	Value	Comments
Color	Black	
Mix Ratio	1:1	Volume
	100:92	Weight

## **Contact Songhan Plastic Technology Co.,Ltd.**

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