

## Resinlab® UR3001HP Clear Urethane Encapsulant

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

### Material Notes:

Resinlab™ UR3001HP Clear is a clear, two component, room temperature curing urethane encapsulating system. It is designed to cure completely at room temperature. UR3001HP Clear provides excellent environmental protection while having tenacious adhesion to various metals, plastics and other common assembly materials. UR3001HP Clear 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 Clear has a convenient mixing ratio of 1 to 1 by volume. It is well suited to automated meter mix operations. UR3001HP Clear 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-Clear-Urethane-Encapsulant.php](http://www.lookpolymers.com/polymer_Resinlab-UR3001HP-Clear-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 %           | 0.21 %          | TM R050-35                                       |
|                     | @Time 259000 sec | @Time 72.0 hour |                                                  |
| 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 µm/m-°C | 83.3 µin/in-°F |            |
| Maximum Service Temperature, Air | 150 °C      | 302 °F         |            |
| Minimum Service Temperature, Air | -40.0 °C    | -40.0 °F       |            |
| Glass Transition Temp, Tg        | -66.0 °C    | -86.8 °F       | TM R050-25 |

| Optical Properties    | Metric | English | Comments                        |
|-----------------------|--------|---------|---------------------------------|
| Transmission, Visible | 90 %   | 90 %    | clear; thickness not quantified |

| 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 °C | @Frequency 100 Hz, Temperature 77.0 °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 °C | @Temperature 185 °F  |                       |
|                       | 1440 min             | 24.0 hour            |                       |
|                       | @Temperature 25.0 °C | @Temperature 77.0 °F |                       |
| Pot Life              | 15 - 20 min          | 15 - 20 min          | Mass: 50g; TM R050-19 |

| Descriptive Properties | Value | Comments |
|------------------------|-------|----------|
| Color                  | Clear |          |
| Mix Ratio              |       | Volume   |

| Descriptive Properties | Value  | Comments |
|------------------------|--------|----------|
|                        | 100:92 | Weight   |

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

Website : [www.lookpolymers.com](http://www.lookpolymers.com)  
Email : [sales@lookpolymers.com](mailto:sales@lookpolymers.com)  
Tel : +86 021-51131842  
Mobile : +86 13061808058  
Skype : lookpolymers  
Address : United North Road 215,Fengxian District, Shanghai City,China