

## Master Bond EP41S-1HTND Non-Drip, High Performance Epoxy Adhesive

Category : Polymer , Adhesive , Thermoset , Epoxy , Epoxy Adhesive

### Material Notes:

**Description:** Master Bond EP41S-1HTND is a two component epoxy resin system for high performance bonding, sealing and coating. It has a 100 to 30 mix ratio by weight and its viscosity is a smooth paste. It is formulated to cure at ambient temperatures or more quickly at elevated temperatures. In order to optimize the properties, it is strongly recommended that curing be carried out overnight at room temperature followed by a post cure of 2-3 hours at 200°F. It has resistance to a wide array of chemicals, including solvents, alcohols and fuels (a more detailed list of these chemicals appears below). Of special significance is its resistance to gasohol, which is fairly aggressive against many types of plastics and rubbers. EP41S-1HTND is 100% reactive and contains no solvents or diluents. It has very low linear shrinkage upon cure. Also, it has robust physical properties and electrical insulation values. EP41S-1HTND can be used as an adhesive, sealant and coating material. It is serviceable over the wide temperature range of -60°F to +400°F. It adheres well to a wide variety of substrates including metals, glass, ceramics and many rubbers and plastics. Both Parts A and B are amber. This epoxy compound is widely used in aerospace, electronic, chemical processing applications and in other applications where chemical resistance to solvents and fuels is needed. **Product Advantages:** 100% reactive compound does not contain any solvents or diluents. Paste viscosity. Versatile cure schedules; ambient temperature cures or fast elevated temperature cures. High bonding strength to both similar and dissimilar substrates. Wide temperature service capability from -60°F to +400°F. Good electrical insulator. Impressive physical strength properties. Outstanding chemical resistance, particularly to fuels, alcohols and solvents. **Key Features** Room temperature curing formulation Exceptional resistance to chemicals Smooth paste consistency High temperature resistance Superior electrical insulator Excellent bond strength Information provided by MasterBond®

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_Master-Bond-EP41S-1HTND-Non-Drip-High-Performance-Epoxy-Adhesive.php](http://www.lookpolymers.com/polymer_Master-Bond-EP41S-1HTND-Non-Drip-High-Performance-Epoxy-Adhesive.php)

| Mechanical Properties     | Metric      | English     | Comments              |
|---------------------------|-------------|-------------|-----------------------|
| Hardness, Shore D         | >= 75       | >= 75       |                       |
| Tensile Strength at Break | >= 62.1 MPa | >= 9000 psi |                       |
| Shear Strength            | 18.6 MPa    | 2700 psi    | Tensile lap, Al to Al |

| Thermal Properties               | Metric  | English   | Comments |
|----------------------------------|---|---|----------|
| CTE, linear                      | 40.0 - 45.0 $\mu\text{m}/\text{m}\cdot\text{C}$ | 22.2 - 25.0 $\mu\text{in}/\text{in}\cdot\text{F}$ |          |
| Maximum Service Temperature, Air | 204 °C  | 400 °F  |          |
| Minimum Service Temperature, Air | -51.1 °C  | -60.0 °F  |          |

| Electrical Properties | Metric             | English            | Comments |
|-----------------------|--------------------|--------------------|----------|
| Volume Resistivity    | >= 1.00e+14 ohm-cm | >= 1.00e+14 ohm-cm |          |
| Dielectric Constant   | 3.7                | 3.7                |          |

| Electrical Properties | @Frequency 60.0 Hz,<br>Metric<br>Temperature 25.0 °C | @Frequency 60.0 Hz,<br>English<br>Temperature 77.0 °F | Comments |
|-----------------------|--|---|----------|
| Dielectric Strength   | 17.3 kV/mm<br>@Thickness 3.17 mm                     | 440 kV/in<br>@Thickness 0.125 in                      |          |

| Processing Properties | Metric                                  | English                                  | Comments                       |
|-----------------------|---|--|--------------------------------|
| Cure Time             | 120 - 180 min<br>@Temperature 93.3 °C   | 2.00 - 3.00 hour<br>@Temperature 200 °F  |                                |
|                       | 1440 - 2880 min<br>@Temperature 23.9 °C | 24.0 - 48.0 hour<br>@Temperature 75.0 °F |                                |
| Pot Life              | 20 - 30 min                             | 20 - 30 min                              | 100 gram batch                 |
| Shelf Life            | 12.0 Month<br>@Temperature 23.9 °C      | 12.0 Month<br>@Temperature 75.0 °F       | in original unopened container |

| Descriptive Properties | Value  | Comments  |
|------------------------|--------|-----------|
| Mixing Ratio (A to B)  | 100:30 | by weight |

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