

Resinlab® EP1305LV Black Epoxy Casting Resin

Category : Polymer , Thermoset , Epoxy , Epoxy Cure Resin

Material Notes:

Resinlab™ EP1305LV Black is a black two-part epoxy casting resin designed to give good adhesion to metals and especially PVC. It has good wetting to most surfaces and is free flowing to penetrate components and give good selfleveling and air release. It has very good resistance to water, acids and bases, and most organic solvents. It was especially formulated to a 1A:1B mix ratio for use in automatic mixing equipment and dispensers with static mixers. EP1305LV Black will reach handle cure at room temperature within 2 – 4 hours, full cure in 24 hours. Cure time can be accelerated by the application of heat. Times and temperatures from 2 hours at 65°C to 1 hours at 100°C are typical for most applications. Cooler temperatures will also extend work time and increase cure times. Information Provided by Resinlab L.L.C., an Ellsworth Adhesives Company.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Resinlab-EP1305LV-Black-Epoxy-Casting-Resin.php

| Physical Properties | Metric | English | Comments |
|---------------------|-----------------|-----------------|-------------------------------------|
| Specific Gravity | 1.00 g/cc | 1.00 g/cc | Part B; TM R050-16 |
| | 1.06 g/cc | 1.06 g/cc | Mixed; TM R050-16 |
| | 1.15 g/cc | 1.15 g/cc | Part A; TM R050-16 |
| Water Absorption | 0.56 % | 0.56 % | TM R050-35 |
| | @Time 86400 sec | @Time 24.0 hour | |
| Viscosity | 20000 cP | 20000 cP | Part B, RVT, #7, 20 rpm; TM R050-12 |
| | 30000 cP | 30000 cP | Mixed; TM R050-12 |
| | 45000 cP | 45000 cP | Part A, RVT, #7, 20 rpm; TM R050-12 |

| Mechanical Properties | Metric | English | Comments |
|----------------------------|-----------------|-----------------|-------------------|
| Hardness, Shore D | 70 | 70 | TM R050-17 |
| Tensile Strength at Break | 20.7 - 24.1 MPa | 3000 - 3500 psi | TM R050-36 |
| Tensile Strength, Ultimate | 20.7 - 24.1 MPa | 3000 - 3500 psi | TM R050-36 |
| Tensile Strength, Yield | 12.4 MPa | 1800 psi | TM R050-36 |
| Elongation at Break | 35 - 50 % | 35 - 50 % | TM R050-36 |
| Tensile Modulus | 0.621 GPa | 90.0 ksi | TM R050-36 |
| Compressive Yield Strength | 17.2 MPa | 2500 psi | TM R050-38 |
| Compressive Strength | 110 MPa | 16000 psi | Break; TM R050-38 |

| Mechanical Properties | 114 MPa Metric | 16500 psi English | Ultimate: TM R050-38 Comments |
|------------------------|-------------------|----------------------|--|
| Compressive Modulus | 1.03 GPa | 150 ksi | TM R050-38 |
| Adhesive Bond Strength | 13.8 MPa | 2000 psi | Lap shear; 2024 T3 Al Abraded / MEK Wipe; TM R050-37 |

| Thermal Properties | Metric | English | Comments |
|----------------------------------|--|--|------------|
| CTE, linear | 60.0 $\mu\text{m}/\text{m}\cdot^{\circ}\text{C}$ | 33.3 $\mu\text{in}/\text{in}\cdot^{\circ}\text{F}$ | |
| 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 | 50.0 $^{\circ}\text{C}$ | 122 $^{\circ}\text{F}$ | TM R050-25 |

| Electrical Properties | Metric | English | Comments |
|-----------------------|---|---|----------|
| Volume Resistivity | 5.70e+15 ohm-cm | 5.70e+15 ohm-cm | |
| Dielectric Constant | 4.2 | 4.2 | |
| | @Frequency 100 Hz, Temperature 25.0 $^{\circ}\text{C}$ | @Frequency 100 Hz, Temperature 77.0 $^{\circ}\text{F}$ | |
| Dielectric Strength | 16.1 kV/mm | 410 kV/in | |

| Processing Properties | Metric | English | Comments |
|-----------------------|--------|---------|-----------------------|
| Pot Life | 15 min | 15 min | Mass: 50g; TM R050-19 |

| Descriptive Properties | Value | Comments |
|------------------------|--------|----------|
| Color | Black | |
| Mix Ratio | 1:1 | Volume |
| | 100:87 | Weight |

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