

Resinlab® EP1240RC Flame Retardant Epoxy Casting Resin

Category : Polymer , Thermoset , Epoxy , Epoxy Cure Resin

Material Notes:

Resinlab™ EP1240RC is a medium viscosity, flame retardant epoxy casting resin system. It is recognized under the Component Recognition Program of Underwriters Laboratories Inc., (File# E186034, Project 00NK02738) for UL Standard 94. EP1240RC qualifies for a vertical burn rating of V-0 at 3.1 mm thickness. It also gives very good resistance to water, salt spray, inorganic acids and bases and most organic solvents. It cures quickly at room temperature to a tough, semi-rigid polymer. It has good wetting and adhesion to most surfaces and is free flowing to penetrate voids and give good air release. EP1240RC was formulated to a 1/1 volume mix ratio for ease of use in automatic mixing equipment with static mixers. It contains soft, low-abrasion fillers which can separate over time, although they have good resistance to hard settling. If used in side-by-side cartridge format, they should be stored in as cool a place as possible, rotating stock on a FIFO basis. EP1240RC will generally reach handle cure at room temperature within 1 to 4 hours depending upon mass and ambient temperature. Full cure usually achieved within 24 – 48 hours. Cure time can be accelerated by the application of heat after product has gelled. Times and temperatures from 2 hours at 60°C to 30 minutes at 100°C are typical for most castings (less than 100 grams). Information Provided by Resinlab L.L.C., an Ellsworth Adhesives Company.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Resinlab-EP1240RC-Flame-Retardant-Epoxy-Casting-Resin.php

| Physical Properties | Metric | English | Comments |
|---------------------|-----------------|-----------------|-------------------------------------|
| Specific Gravity | 1.46 g/cc | 1.46 g/cc | Part B; TM R050-16 |
| | 1.55 g/cc | 1.55 g/cc | Mixed; TM R050-16 |
| | 1.64 g/cc | 1.64 g/cc | Part A; TM R050-16 |
| Water Absorption | 0.35 % | 0.35 % | TM R050-35 |
| | @Time 86400 sec | @Time 24.0 hour | |
| Viscosity | 5000 cP | 5000 cP | Part A, RVT, #6, 20 rpm; TM R050-12 |
| | 8000 cP | 8000 cP | Mixed; TM R050-12 |
| | 15000 cP | 15000 cP | Part B, RVT, #6, 20 rpm; TM R050-12 |

| Mechanical Properties | Metric | English | Comments |
|----------------------------|-----------|-----------|------------|
| Hardness, Shore D | 70 | 70 | TM R050-17 |
| Tensile Strength at Break | 10.3 MPa | 1500 psi | TM R050-36 |
| Tensile Strength, Ultimate | 10.3 MPa | 1500 psi | TM R050-36 |
| Tensile Strength, Yield | 3.45 MPa | 500 psi | TM R050-36 |
| Elongation at Break | 15 - 20 % | 15 - 20 % | TM R050-36 |

| Tensile Modulus Mechanical Properties | 0.276 GPa Metric | 40.0 ksi English | TM R050-36 Comments |
|--|---------------------|---------------------|--|
| Compressive Yield Strength | 5.17 MPa | 750 psi | TM R050-38 |
| Compressive Strength | 41.4 MPa | 6000 psi | Break; TM R050-38 |
| | 44.8 - 48.3 MPa | 6500 - 7000 psi | Ultimate; TM R050-38 |
| Compressive Modulus | 2.07 GPa | 300 ksi | TM R050-38 |
| Adhesive Bond Strength | 6.89 MPa | 1000 psi | Lap shear; 2024 T3 Al Abraded / MEK Wipe; TM R050-37 |

| Thermal Properties | Metric | English | Comments |
|----------------------------------|---|---|------------|
| CTE, linear | 40.0 $\mu\text{m}/\text{m}\cdot\text{°C}$ | 22.2 $\mu\text{in}/\text{in}\cdot\text{°F}$ | |
| Thermal Conductivity | 0.500 W/m-K | 3.47 BTU-in/hr-ft ² -°F | |
| Maximum Service Temperature, Air | 150 °C | 302 °F | |
| Minimum Service Temperature, Air | -40.0 °C | -40.0 °F | |
| Glass Transition Temp, Tg | 67.0 °C | 153 °F | TM R050-25 |

| Electrical Properties | Metric | English | Comments |
|-----------------------|---|---|----------|
| Volume Resistivity | 8.10e+15 ohm-cm | 8.10e+15 ohm-cm | |
| Dielectric Constant | 4.8 | 4.8 | |
| | @Frequency 100 Hz, Temperature 25.0 °C | @Frequency 100 Hz, Temperature 77.0 °F | |
| Dielectric Strength | 16.1 kV/mm | 410 kV/in | |

| Processing Properties | Metric | English | Comments |
|-----------------------|----------------------|----------------------|------------------------|
| Cure Time | 120 min | 2.00 hour | |
| | @Temperature 60.0 °C | @Temperature 140 °F | |
| | 1440 - 2880 min | 24.0 - 48.0 hour | |
| | @Temperature 25.0 °C | @Temperature 77.0 °F | |
| Pot Life | 20 - 30 min | 20 - 30 min | Mass: 100g; TM R050-19 |

| Descriptive Properties | Value | Comments |
|------------------------|--------|----------|
| Color | Black | |
| Mix Ratio | 1.15:1 | Weight |

Descriptive Properties

1:1
Value

Volume
Comments

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