

Resinlab® EP965SC-7 Black Unfilled Electronic Grade Epoxy Encapsulant

Category : Polymer , Thermoset , Epoxy , Epoxy Cure Resin , Epoxy Encapsulant, Unreinforced

Material Notes:

Resinlab™ EP965SC-7 Black is a two part unfilled electronic grade epoxy encapsulant designed for medium sized castings. It cures 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 and a smooth high gloss surface. It has very good resistance to water, acids and bases and most organic solvents. It was especially formulated to a 1A:1B volume mix ratio for use in side-by-side dispensing cartridges and meter/mix and dispense equipment. EP965SC-7 Black will reach full cure at room temperature within 24 hours. Cure time can be accelerated by the application of heat after product has gelled. Times and temperatures from 1 hour at 65°C to 20 minutes at 110°C are typical for small castings (less than 50 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-EP965SC-7-Black-Unfilled-Electronic-Grade-Epoxy-Encapsulant.php

| Physical Properties | Metric | English | Comments |
|---------------------|-----------------|-----------------|-------------------------------------|
| Specific Gravity | 0.980 g/cc | 0.980 g/cc | Part B; TM R050-16 |
| | 1.07 g/cc | 1.07 g/cc | Mixed; TM R050-16 |
| | 1.16 g/cc | 1.16 g/cc | Part A; TM R050-16 |
| Water Absorption | 0.43 % | 0.43 % | TM R050-35 |
| | @Time 86400 sec | @Time 24.0 hour | |
| Viscosity | 3000 cP | 3000 cP | Part B, RVT, #5, 20 rpm; TM R050-12 |
| | 8000 cP | 8000 cP | Mixed; TM R050-12 |
| | 16000 cP | 16000 cP | Part A, RVT, #6, 20 rpm; TM R050-12 |

| Mechanical Properties | Metric | English | Comments |
|----------------------------|-------------|-------------|----------------------|
| Hardness, Shore D | 80 | 80 | TM R050-17 |
| Tensile Strength at Break | 46.9 MPa | 6800 psi | TM R050-36 |
| Tensile Strength, Ultimate | 51.7 MPa | 7500 psi | TM R050-36 |
| Tensile Strength, Yield | 27.6 MPa | 4000 psi | TM R050-36 |
| Elongation at Break | 3.0 - 6.0 % | 3.0 - 6.0 % | TM R050-36 |
| Tensile Modulus | 2.59 GPa | 375 ksi | TM R050-36 |
| Compressive Yield Strength | 58.6 MPa | 8500 psi | TM R050-38 |
| Compressive Strength | 148 MPa | 21500 psi | Ultimate; TM R050-38 |

| Mechanical Properties | 148 MPa Metric | 21500 psi English | Break: TM R050-38 Comments |
|------------------------|-------------------|----------------------|--|
| Compressive Modulus | 1.38 GPa | 200 ksi | TM R050-38 |
| Adhesive Bond Strength | 17.2 MPa | 2500 psi | Lap shear; 2024 T3 Al Abraded / MEK Wipe; TM R050-37 |

| Thermal Properties | Metric | English | Comments |
|----------------------------------|--|--|------------|
| CTE, linear | 50.0 $\mu\text{m}/\text{m}\cdot^{\circ}\text{C}$ | 27.8 $\mu\text{in}/\text{in}\cdot^{\circ}\text{F}$ | |
| Thermal Conductivity | 0.140 W/m-K | 0.972 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 | 68.0 °C | 154 °F | TM R050-25 |

| Electrical Properties | Metric | English | Comments |
|-----------------------|---|---|----------|
| Volume Resistivity | 8.00e+14 ohm-cm | 8.00e+14 ohm-cm | |
| Dielectric Constant | 4.2 | 4.2 | |
| | @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 |
|-----------------------|-------------|-------------|-----------------------|
| Pot Life | 45 - 60 min | 45 - 60 min | Mass: 50g; TM R050-19 |

| Descriptive Properties | Value | Comments |
|------------------------|--------|----------|
| Color | Black | |
| Mix Ratio | 1:1 | Volume |
| | 100:85 | Weight |

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