

Resinlab® EP965 Black Unfilled Electronic Grade Epoxy Encapsulant

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

Material Notes:

Resinlab™ EP965 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. EP965 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-EP965-Black-Unfilled-Electronic-Grade-Epoxy-Encapsulant.php

Physical Properties	Metric	English	Comments
Specific Gravity	0.970 g/cc	0.970 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	0.18 %	0.18 %	TM R050-35
	@Time 86400 sec	@Time 24.0 hour	
Viscosity	6000 cP	6000 cP	Part B, RVT, #6, 20 rpm; TM R050-12
	11000 cP	11000 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	58.6 MPa	8500 psi	TM R050-36
Tensile Strength, Ultimate	58.6 MPa	8500 psi	TM R050-36
Tensile Strength, Yield	20.7 MPa	3000 psi	TM R050-36
Elongation at Break	0.00 - 2.0 %	0.00 - 2.0 %	TM R050-36
Tensile Modulus	2.76 GPa	400 ksi	TM R050-36
Compressive Yield Strength	68.9 MPa	10000 psi	TM R050-38
Compressive Strength	152 MPa	22000 psi	Break; TM R050-38

Mechanical Properties	152 MPa Metric	22000 psi English	Ultimate TM R050-38 Comments
Compressive Modulus	2.07 GPa	300 ksi	TM R050-38
Adhesive Bond Strength	10.3 MPa	1500 psi	Lap shear; 2024 T3 Al Abraded / MEK Wipe; TM R050-37

Thermal Properties	Metric	English	Comments
CTE, linear	80.0 $\mu\text{m}/\text{m}\cdot^\circ\text{C}$ @Temperature ≤ 61.0 $^\circ\text{C}$	44.4 $\mu\text{in}/\text{in}\cdot^\circ\text{F}$ @Temperature ≤ 142 $^\circ\text{F}$	below Tg
	180 $\mu\text{m}/\text{m}\cdot^\circ\text{C}$ @Temperature ≥ 61.0 $^\circ\text{C}$	100 $\mu\text{in}/\text{in}\cdot^\circ\text{F}$ @Temperature ≥ 142 $^\circ\text{F}$	above Tg
Thermal Conductivity	0.178 W/m-K	1.24 BTU-in/hr-ft ² - $^\circ\text{F}$	
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	61.0 $^\circ\text{C}$	142 $^\circ\text{F}$	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 $^\circ\text{C}$	@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 - 20 min	15 - 20 min	Mass: 50g; TM R050-19

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

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