

Resinlab® EP1282 Black Unfilled Electronic Grade Epoxy Encapsulant

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

Material Notes:

Resinlab™ EP1282 Black is a two part unfilled electronic grade epoxy encapsulant designed for medium sized castings. It is recognized under the Component Recognition Program of Underwriters Laboratories Inc., (File# E186034) for UL Standard 94. It qualifies for a horizontal burn rating at 1.5 mm thickness and has a CTI rating of 0. The system 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. Thermal shock and cycling properties are enhanced by its high elongation giving it the ability to absorb differences in CTE's of substrates and potted components. 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. EP1282 Black will reach full cure at room temperature within 24 – 48 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 100°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-EP1282-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
	1.06 g/cc	1.06 g/cc	Mixed; TM R050-16
	1.14 g/cc	1.14 g/cc	Part A; TM R050-16
Water Absorption	0.66 %	0.66 %	TM R050-35
	@Time 86400 sec	@Time 24.0 hour	
Viscosity	2000 cP	2000 cP	Part B, RVT, #3, 20 rpm; TM R050-12
	3000 cP	3000 cP	Mixed; TM R050-12
	4500 cP	4500 cP	Part A, RVT, #3, 20 rpm; TM R050-12

Mechanical Properties	Metric	English	Comments
Hardness, Shore D	40	40	TM R050-17
Tensile Strength at Break	10.3 MPa	1500 psi	TM R050-36
Tensile Strength, Ultimate	11.0 MPa	1600 psi	TM R050-36
Tensile Strength, Yield	5.52 MPa	800 psi	TM R050-36
Elongation at Break	120 %	120 %	TM R050-36
Tensile Modulus	0.0689 GPa	10.0 ksi	TM R050-36

Compressive Yield Strength Mechanical Properties	5.52 MPa Metric	800 psi English	TM R050-38 Comments
Compressive Strength	172 MPa	25000 psi	Ultimate; TM R050-38
	172 MPa	25000 psi	Break; TM R050-38
Compressive Modulus	0.310 GPa	45.0 ksi	TM R050-38
Adhesive Bond Strength	11.7 MPa	1700 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	30.0 °C	86.0 °F	TM R050-25

Electrical Properties	Metric	English	Comments
Volume Resistivity	2.50e+11 ohm-cm	2.50e+11 ohm-cm	
Dielectric Constant	3.5	3.5	
	@Frequency 100 Hz, Temperature 25.0 °C	@Frequency 100 Hz, Temperature 77.0 °F	
Dielectric Strength	17.3 kV/mm	440 kV/in	

Processing Properties	Metric	English	Comments
Pot Life	90 - 120 min	90 - 120 min	Mass: 100g; TM R050-19

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

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