

Resinlab® EP1121 Clear Electronic Grade Epoxy Encapsulant

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

Material Notes:

Resinlab™ EP1121 Clear is a two part unfilled electronic grade epoxy encapsulant designed for small to medium sized castings. It cures completely at room temperature to a tough, flexible polymer. Its low viscosity allows for good wicking and penetration into components and circuitry and also gives good air release. It has very good resistance to water, acids and bases and most organic solvents. Thermal shock and cycling properties are also enhanced by its high elongation giving it the ability to absorb difference in CTE's of substrates. 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. EP1121 Clear will reach full cure at room temperature within 24 to 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 10 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-EP1121-Clear-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
	1.05 g/cc	1.05 g/cc	Mixed; TM R050-16
	1.12 g/cc	1.12 g/cc	Part A; TM R050-16
Water Absorption	0.49 %	0.49 %	TM R050-35
	@Time 86400 sec	@Time 24.0 hour	
Viscosity	2000 cP	2000 cP	Part B, RVT, #5, 20 rpm; TM R050-12
	2200 cP	2200 cP	Mixed; TM R050-12
	2400 cP	2400 cP	Part A, RVT, #5, 20 rpm; TM R050-12

Mechanical Properties	Metric	English	Comments
Hardness, Shore D	40	40	TM R050-17
Tensile Strength at Break	2.76 MPa	400 psi	TM R050-36
Tensile Strength, Ultimate	2.76 MPa	400 psi	TM R050-36
Tensile Strength, Yield	0.689 MPa	100 psi	TM R050-36
Elongation at Break	40 - 50 %	40 - 50 %	TM R050-36
Tensile Modulus	0.0138 GPa	2.00 ksi	TM R050-36
Compressive Yield Strength	5.17 MPa	750 psi	TM R050-38
Compressive Strength			Ultimate; TM R050-38

Mechanical Properties	51.7 MPa Metric	7500 psi English	Comments
	51.7 MPa	7500 psi	Break; TM R050-38
Compressive Modulus	0.0345 GPa	5.00 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	60.0 $\mu\text{m}/\text{m}\cdot^\circ\text{C}$	33.3 $\mu\text{in}/\text{in}\cdot^\circ\text{F}$	
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	27.0 °C	80.6 °F	TM R050-25

Optical Properties	Metric	English	Comments
Transmission, Visible	90 %	90 %	clear; thickness not quantified

Electrical Properties	Metric	English	Comments
Volume Resistivity	8.00e+14 ohm-cm	8.00e+14 ohm-cm	
Dielectric Constant	4.2 @Frequency 100 Hz, Temperature 25.0 °C	4.2 @Frequency 100 Hz, Temperature 77.0 °F	
Dielectric Strength	17.3 kV/mm	440 kV/in	

Processing Properties	Metric	English	Comments
Pot Life	60 - 90 min	60 - 90 min	Mass: 50g; TM R050-19

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

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