

Resinlab® EP1046FG Clear Electronic Grade Epoxy Encapsulant

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

Material Notes:

Resinlab™ EP1046FG Clear is a two part unfilled very fast curing electronic grade epoxy encapsulant designed for small castings (less than 25 grams). It cures very quickly with low exotherm to a tough, semi-rigid polymer matrix. 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. 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. EP1046FG Clear will reach handle cure at room temperature within 1 to 2 hours. Cure time can be accelerated by the application of heat after product has gelled. Times and temperatures from 30 minutes at 65°C to 10 minutes at 100°C are typical for small castings (less than 25 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-EP1046FG-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
	1.14 g/cc	1.14 g/cc	Part A; TM R050-16
Water Absorption	0.29 %	0.29 %	TM R050-35
	@Time 86400 sec	@Time 24.0 hour	
Viscosity	1200 cP	1200 cP	Part A, RVT, #2, 2.5 rpm; TM R050-12
	1300 cP	1300 cP	Mixed; TM R050-12
	1400 cP	1400 cP	Part B, RVT, #2, 2.5 rpm; TM R050-12

Mechanical Properties	Metric	English	Comments
Hardness, Shore D	85	85	TM R050-17
Tensile Strength at Break	24.1 MPa	3500 psi	TM R050-36
Tensile Strength, Ultimate	27.6 MPa	4000 psi	TM R050-36
Tensile Strength, Yield	10.3 MPa	1500 psi	TM R050-36
Elongation at Break	4.0 - 8.0 %	4.0 - 8.0 %	TM R050-36
Tensile Modulus	1.72 GPa	250 ksi	TM R050-36
Compressive Yield Strength	48.3 MPa	7000 psi	TM R050-38
Compressive Strength	96.5 MPa	14000 psi	Ultimate; TM R050-38

Mechanical Properties	96.5 MPa Metric	14000 psi English	Break: TM R050-38 Comments
Compressive Modulus	1.38 GPa	200 ksi	TM R050-38
Adhesive Bond Strength	4.14 MPa	600 psi	Lap shear; 2024 T3 Al Abraded / MEK Wipe; TM R050-37

Thermal Properties	Metric	English	Comments
CTE, linear	50.0 $\mu\text{m}/\text{m}\cdot\text{°C}$	27.8 $\mu\text{in}/\text{in}\cdot\text{°F}$	
Thermal Conductivity	0.170 W/m-K	1.18 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	60.0 °C	140 °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	4.5 @Frequency 100 Hz, Temperature 25.0 °C	4.5 @Frequency 100 Hz, Temperature 77.0 °F	
Dielectric Strength	17.3 kV/mm	440 kV/in	

Processing Properties	Metric	English	Comments
Pot Life	2.0 - 4.0 min	2.0 - 4.0 min	Mass: 50g; TM R050-19

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

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