

Resinlab® EP1300 Clear Unfilled Electronic Grade Epoxy Encapsulant

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

Material Notes:

Resinlab™ EP1300 Clear (Formerly Lab Product W092602) is a two part unfilled electronic grade epoxy encapsulant designed for small to medium sized castings. It has a pot life of about one hour and cures quickly to a tack free handle strength at room temperature within 3 to 4 hours reaching a tough, semi-rigid state within 48 hours. Cure can be accelerated by the addition of heat. Times and temperatures from ½ hour at 100°C to 1 hour at 80°C or 4 hours at 50°C fill bring the product to full cure. It has good wetting and adhesion to most surfaces and is free flowing to penetrate voids and give good air release. It has very good resistance to water, acids and bases and most organic solvents. Information Provided by Resinlab L.L.C., an Ellsworth Adhesives Company.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Resinlab-EP1300-Clear-Unfilled-Electronic-Grade-Epoxy-Encapsulant.php

Physical Properties	Metric	English	Comments
Specific Gravity	0.960 g/cc	0.960 g/cc	Part B; TM R050-16
	1.06 g/cc	1.06 g/cc	Mixed; TM R050-16
	1.16 g/cc	1.16 g/cc	Part A; TM R050-16
Water Absorption	0.29 %	0.29 %	TM R050-35
	@Time 86400 sec	@Time 24.0 hour	
Viscosity	5000 cP	5000 cP	Part B, RVT, #5, 2.5 rpm; TM R050-12
	10000 cP	10000 cP	Mixed; TM R050-12
	16000 cP	16000 cP	Part A, RVT, #6, 2.5 rpm; TM R050-12

Mechanical Properties	Metric	English	Comments
Hardness, Shore D	80	80	TM R050-17
Tensile Strength at Break	26.2 MPa	3800 psi	TM R050-36
Tensile Strength, Ultimate	27.6 MPa	4000 psi	TM R050-36
Tensile Strength, Yield	12.4 MPa	1800 psi	TM R050-36
Elongation at Break	6.0 - 12 %	6.0 - 12 %	TM R050-36
Tensile Modulus	1.38 GPa	200 ksi	TM R050-36
Compressive Yield Strength	44.8 MPa	6500 psi	TM R050-38
Compressive Strength	117 MPa	17000 psi	Ultimate; TM R050-38
	117 MPa	17000 psi	Break; TM R050-38

Mechanical Properties	Metric ^{Pa}	English	Comments
Adhesive Bond Strength	6.89 MPa	1000 psi	Lap shear; 2024 T3 Al Abraded / MEK Wipe; TM R050-37
Peel Strength	0.351 kN/m	2.00 pli	Al to Al

Thermal Properties	Metric	English	Comments
CTE, linear	80.0 $\mu\text{m}/\text{m}\cdot\text{°C}$	44.4 $\mu\text{in}/\text{in}\cdot\text{°F}$	below Tg
	@Temperature ≤ 112 °C	@Temperature ≤ 234 °F	
	180 $\mu\text{m}/\text{m}\cdot\text{°C}$	100 $\mu\text{in}/\text{in}\cdot\text{°F}$	above Tg
	@Temperature ≥ 112 °C	@Temperature ≥ 234 °F	
Thermal Conductivity	0.180 W/m-K	1.25 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	112 °C	234 °F	TM R050-25

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

Electrical Properties	Metric	English	Comments
Volume Resistivity	4.10e+14 ohm-cm	4.10e+14 ohm-cm	
Dielectric Constant	3.5	3.5	
	@Frequency 100 Hz, Temperature 25.0 °C	@Frequency 100 Hz, Temperature 77.0 °F	
Dielectric Strength	33.5 kV/mm	850 kV/in	

Processing Properties	Metric	English	Comments
Pot Life	45 - 60 min	45 - 60 min	Mass: 100g; TM R050-19

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

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