

Resinlab® EP1340 Medium Viscosity, Flame Retardant Epoxy Casting Resin System

Category : Polymer , Thermoset , Epoxy , Epoxy Cure Resin

Material Notes:

Resinlab™ EP1340 is a medium viscosity, flame retardant epoxy casting resin system. It is recognized under the Component Recognition Program of Underwriters Laboratories Inc., (File# E186034) for UL Standard 94. EP1340 qualifies for a vertical burn rating of V-0 at 3 mm thickness. It gives very good resistance to water, salt spray, inorganic acids and bases and most organic solvents. It cures quickly 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. EP1340 was formulated to a 1/1 volume mix ratio for ease of use in automatic mixing equipment with static mixers. It contains soft, low-abrasion fillers which can separate over time, although they have good resistance to hard settling. If used in side-by-side cartridge format, they should be stored horizontally in a as cool place as possible, rotating stock on a FIFO basis. EP1340 will generally reach handle cure at room temperature within 1 to 4 hours depending upon mass and ambient temperature. Full cure usually achieved within 24 – 48 hours. Cure time can be accelerated by the application of heat after product has gelled. Times and temperatures from 2 hours at 60°C to 30 minutes at 100°C are typical for most castings (less than 100 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-EP1340-Medium-Viscosity-Flame-Retardant-Epoxy-Casting-Resin-System.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.21 g/cc	1.21 g/cc	Part B; TM R050-16
	1.26 g/cc	1.26 g/cc	Mixed; TM R050-16
	1.32 g/cc	1.32 g/cc	Part A; TM R050-16
Water Absorption	1.0 %	1.0 %	TM R050-35
	@Time 86400 sec	@Time 24.0 hour	
Viscosity	9000 cP	9000 cP	Part A, RVT, #6, 20 rpm; TM R050-12
	12000 cP	12000 cP	Mixed; TM R050-12
	14000 cP	14000 cP	Part B, RVT, #6, 20 rpm; TM R050-12

Mechanical Properties	Metric	English	Comments
Hardness, Shore D	85	85	TM R050-17
Tensile Strength at Break	11.0 MPa	1600 psi	TM R050-36
Tensile Strength, Ultimate	12.4 MPa	1800 psi	TM R050-36
Tensile Strength, Yield	10.3 MPa	1500 psi	TM R050-36
Elongation at Break	25 - 35 %	25 - 35 %	TM R050-36

Mechanical Properties	Metric	English	Comments
Compressive Yield Strength	34.5 MPa	5000 psi	TM R050-38
Compressive Strength	117 MPa	17000 psi	Ultimate; TM R050-38
	117 MPa	17000 psi	Break; TM R050-38
Compressive Modulus	0.689 GPa	100 ksi	TM R050-38
Adhesive Bond Strength	19.3 MPa	2800 psi	Lap shear; 2024 T3 Al Abraded / MEK Wipe; TM R050-37

Thermal Properties	Metric	English	Comments
CTE, linear	40.0 $\mu\text{m}/\text{m}\cdot^{\circ}\text{C}$	22.2 $\mu\text{in}/\text{in}\cdot^{\circ}\text{F}$	
Thermal Conductivity	0.500 W/m-K	3.47 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	40.0 °C	104 °F	TM R050-25

Electrical Properties	Metric	English	Comments
Volume Resistivity	8.10e+15 ohm-cm	8.10e+15 ohm-cm	
Dielectric Constant	4.8	4.8	
	@Frequency 100 Hz, Temperature 25.0 °C	@Frequency 100 Hz, Temperature 77.0 °F	
Dielectric Strength	16.1 kV/mm	410 kV/in	

Processing Properties	Metric	English	Comments
Cure Time	120 min	2.00 hour	
	@Temperature 60.0 °C	@Temperature 140 °F	
	1440 - 2880 min	24.0 - 48.0 hour	
	@Temperature 25.0 °C	@Temperature 77.0 °F	
Pot Life	20 - 25 min	20 - 25 min	Mass: 50g; TM R050-19

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

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