

Resinlab® EP1190 Flame Retardant Epoxy Casting Resin

Category : Polymer , Thermoset , Epoxy , Epoxy Cure Resin

Material Notes:

Resinlab™ EP1190 is a medium viscosity, flame retardant epoxy casting resin system. It is recognized under the Component Recognition Program of Underwriters Laboratories Inc., (File# E186034, Project 00NK02738) for UL Standard 94. EP1190 qualifies for a vertical burn rating of V-0 at 6mm thickness. It also 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. EP1190 was formulated to a 4/1 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 at 5C, rotating stock on a FIFO basis. EP1190 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-EP1190-Flame-Retardant-Epoxy-Casting-Resin.php

Physical Properties	Metric	English	Comments
Specific Gravity	0.969 g/cc	0.969 g/cc	Part B; TM R050-16
	1.50 g/cc	1.50 g/cc	Mixed; TM R050-16
	1.68 g/cc	1.68 g/cc	Part A; TM R050-16
Water Absorption	0.17 %	0.17 %	TM R050-35
	@Time 86400 sec	@Time 24.0 hour	
Viscosity	400 cP	400 cP	Part B, RVT, #3, 20 rpm; TM R050-12
	16000 cP	16000 cP	Mixed; TM R050-12
	20000 cP	20000 cP	Part A, RVT, #7, 20 rpm; TM R050-12

Mechanical Properties	Metric	English	Comments
Hardness, Shore D	80	80	TM R050-17
Tensile Strength at Break	27.6 MPa	4000 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	0.00 - 1.0 %	0.00 - 1.0 %	TM R050-36

Tensile Modulus Mechanical Properties	4.48 GPa Metric	650 ksi English	TM R050-36 Comments
Compressive Yield Strength	51.7 MPa	7500 psi	TM R050-38
Compressive Strength	68.9 MPa	10000 psi	Break; TM R050-38
	82.7 MPa	12000 psi	Ultimate; TM R050-38
Compressive Modulus	3.45 GPa	500 ksi	TM R050-38
Adhesive Bond Strength	17.2 MPa	2500 psi	Lap shear; 2024 T3 Al Abraded / MEK Wipe; TM R050-37

Thermal Properties	Metric	English	Comments
CTE, linear	40.0 $\mu\text{m}/\text{m}\cdot\text{°C}$	22.2 $\mu\text{in}/\text{in}\cdot\text{°F}$	
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	45.0 °C	113 °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	45 min	45 min	Mass: 200g; TM R050-19

Descriptive Properties	Value	Comments
Color	Black	
Mix Ratio	4:1	Volume

Descriptive Properties

6.5.1
Value

Weight
Comments

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