

Resinlab® EP1121-4 Adhesive / Casting Resin

Category : Polymer , Adhesive , Thermoset , Epoxy , Epoxy Adhesive , Epoxy Cure Resin

Material Notes:

Resinlab™ EP1121-4 is a highly filled, high viscosity black adhesive / casting resin designed for applications requiring a high degree of thermal conductivity, flexibility, and a low CTE. It gives good resistance to acids, salt water, and most organic compounds. Its high elongation also enhances thermal shock and cycling properties. It is thixotropic version of EP1200 to provide a non-flow, non-sag viscosity. It was especially formulated to a 1:1 mix ratio for use in MMD equipment or side-by-side cartridges. It contains abrasive aluminum oxide filler, which can introduce wear considerations for wetted components. It shows very good stability in side-by-side cartridges. Cure is normally achieved at room temperature although an elevated cure schedule can be used to reach final properties quickly. This product was designed to be cured in less than 2 hours at 65oC for ease of processing. Information Provided by Resinlab L.L.C., an Ellsworth Adhesives Company.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Resinlab-EP1121-4-Adhesive-Casting-Resin.php

Physical Properties	Metric	English	Comments
Specific Gravity	2.08 g/cc	2.08 g/cc	Part B; TM R050-16
	2.11 g/cc	2.11 g/cc	Mixed; TM R050-16
	2.14 g/cc	2.14 g/cc	Part A; TM R050-16
Water Absorption	0.32 %	0.32 %	TM R050-35
	@Time 86400 sec	@Time 24.0 hour	
Viscosity	500000 cP	500000 cP	Part A, RVT, #7, 2.5 rpm; TM R050-12
	850000 cP	850000 cP	Mixed; TM R050-12
	1.20e+6 cP	1.20e+6 cP	Part B, RVT, #7, 2.5 rpm; TM R050-12

Mechanical Properties	Metric	English	Comments
Hardness, Shore A	95	95	TM R050-17
Tensile Strength at Break	7.93 MPa	1150 psi	TM R050-36
Tensile Strength, Ultimate	7.93 MPa	1150 psi	TM R050-36
Tensile Strength, Yield	1.59 MPa	230 psi	TM R050-36
Elongation at Break	10 - 15 %	10 - 15 %	TM R050-36
Tensile Modulus	0.138 GPa	20.0 ksi	TM R050-36
Compressive Yield Strength	9.65 MPa	1400 psi	TM R050-38
Compressive Strength			Break; TM R050-38

Mechanical Properties	24.1 MPa Metric	3500 psi English	Comments
	41.4 MPa	6000 psi	Ultimate; TM R050-38
Compressive Modulus	0.207 GPa	30.0 ksi	TM R050-38
Adhesive Bond Strength	11.0 MPa	1600 psi	Lap shear; 2024 T3 Al Abraded / MEK Wipe; TM R050-37

Thermal Properties	Metric	English	Comments
CTE, linear	44.0 µm/m-°C	24.4 µin/in-°F	
Thermal Conductivity	1.11 W/m-K	7.70 BTU-in/hr-ft²-°F	
Maximum Service Temperature, Air	150 °C	302 °F	
Minimum Service Temperature, Air	-40.0 °C	-40.0 °F	
Glass Transition Temp, Tg	35.0 °C	95.0 °F	TM R050-25

Electrical Properties	Metric	English	Comments
Volume Resistivity	2.40e+12 ohm-cm	2.40e+12 ohm-cm	
Dielectric Constant	5.3	5.3	
	@Frequency 100 Hz, Temperature 25.0 °C	@Frequency 100 Hz, Temperature 77.0 °F	
Dielectric Strength	16.9 kV/mm	430 kV/in	

Processing Properties	Metric	English	Comments
Cure Time	120 min	2.00 hour	
	@Temperature 65.0 °C	@Temperature 149 °F	
	1440 - 4320 min	24.0 - 72.0 hour	
	@Temperature 25.0 °C	@Temperature 77.0 °F	
Pot Life	90 - 120 min	90 - 120 min	Mass: 100g; TM R050-19

Descriptive Properties	Value	Comments
Color	Black	
Mix Ratio	1:1	Volume
	95:100	Weight

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