

Resinlab® EP1200 Black Casting Resin

Category : Polymer , Thermoset , Epoxy , Epoxy Cure Resin

Material Notes:

Resinlab™ EP1200 Black is a highly filled, medium viscosity black casting resin designed for applications requiring a high degree of thermal conductivity, flexibility and a low CTE. It meets the requirements of UL Standard 94 for a horizontal burn rating at 1/4" thickness. It was especially formulated to a 1:1 mix ratio for use in MMD equipment or sideby 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 and also to reduce viscosity. 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. Times and temperatures from 2 hours at 65oC to 10 minutes at 100oC are typical for small 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-EP1200-Black-Casting-Resin.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.98 g/cc	1.98 g/cc	Part B; TM R050-16
	2.00 g/cc	2.00 g/cc	Mixed; TM R050-16
	2.00 g/cc	2.00 g/cc	Part A; TM R050-16
Water Absorption	0.24 %	0.24 %	TM R050-35
	@Time 86400 sec	@Time 24.0 hour	
Viscosity	32000 cP	32000 cP	Part B, RVT, #7, 2.5 rpm; TM R050-12
	45000 cP	45000 cP	Mixed; TM R050-12
	56000 cP	56000 cP	Part A, 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	11.0 MPa	1600 psi	TM R050-36
Tensile Strength, Ultimate	11.0 MPa	1600 psi	TM R050-36
Tensile Strength, Yield	2.07 MPa	300 psi	TM R050-36
Elongation at Break	15 - 18 %	15 - 18 %	TM R050-36
Tensile Modulus	0.172 GPa	25.0 ksi	TM R050-36
Compressive Yield Strength	27.6 MPa	4000 psi	TM R050-38

Mechanical Properties	Metric Pa	English	Comments
	44.8 MPa	6500 psi	Ultimate; TM R050-38
Compressive Modulus	0.345 GPa	50.0 ksi	TM R050-38
Adhesive Bond Strength	12.4 MPa	1800 psi	Lap shear; 2024 T3 Al Abraded / MEK Wipe; TM R050-37

Thermal Properties	Metric	English	Comments
CTE, linear	45.0 $\mu\text{m}/\text{m}\cdot^{\circ}\text{C}$	25.0 $\mu\text{in}/\text{in}\cdot^{\circ}\text{F}$	below Tg
	@Temperature ≤ 28.0 $^{\circ}\text{C}$	@Temperature ≤ 82.4 $^{\circ}\text{F}$	
	149 $\mu\text{m}/\text{m}\cdot^{\circ}\text{C}$	82.8 $\mu\text{in}/\text{in}\cdot^{\circ}\text{F}$	above Tg
	@Temperature ≥ 28.0 $^{\circ}\text{C}$	@Temperature ≥ 82.4 $^{\circ}\text{F}$	
Thermal Conductivity	1.04 W/m-K	7.22 BTU-in/hr-ft ² - $^{\circ}\text{F}$	
Maximum Service Temperature, Air	150 $^{\circ}\text{C}$	302 $^{\circ}\text{F}$	
Minimum Service Temperature, Air	-40.0 $^{\circ}\text{C}$	-40.0 $^{\circ}\text{F}$	
Glass Transition Temp, Tg	28.0 $^{\circ}\text{C}$	82.4 $^{\circ}\text{F}$	TM R050-25

Electrical Properties	Metric	English	Comments
Volume Resistivity	7.60e+13 ohm-cm	7.60e+13 ohm-cm	
Dielectric Constant	3.99	3.99	
	@Frequency 100 Hz, Temperature 25.0 $^{\circ}\text{C}$	@Frequency 100 Hz, Temperature 77.0 $^{\circ}\text{F}$	
Dielectric Strength	15.7 kV/mm	400 kV/in	

Processing Properties	Metric	English	Comments
Cure Time	120 min	2.00 hour	
	@Temperature 65.0 $^{\circ}\text{C}$	@Temperature 149 $^{\circ}\text{F}$	
	1440 - 4320 min	24.0 - 72.0 hour	
	@Temperature 25.0 $^{\circ}\text{C}$	@Temperature 77.0 $^{\circ}\text{F}$	
Pot Life	120 - 150 min	120 - 150 min	Mass: 100g; TM R050-19

Descriptive Properties	Value	Comments
Color	Black	

Descriptive Properties	Value	Comments
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