

Resinlab® EP1238 Acrylic / Epoxy Hybrid Adhesive

Category : Polymer , Adhesive , Thermoset , Epoxy , Epoxy Adhesive

Material Notes:

Resinlab™ EP1238 is a two part acrylic / epoxy hybrid adhesive designed for bonding metals and plastics. It cures quickly at room temperature to a tough, semi-rigid material. It has good wetting to most surfaces and has controlled flow characteristics to give good wetting without excessive running or dripping. This product gives very good vibration and impact resistance. It gives good resistance to water, salt spray, inorganic acids and bases and most organic solvents. It was especially formulated to a 2A:1B volume mix ratio for use in side-by-side dispensing cartridges and meter/mix and dispense equipment. EP1238 will reach handle cure at room temperature within 6 – 12 hours. Cure time can be accelerated by the application of heat. Times and temperatures from 2 hours at 65°C to 30 minutes at 100°C are typical for most applications. Time to heat substrate must be taken into account. Cooler temperatures will also extend work time and increase cure times. Information Provided by Resinlab L.L.C., an Ellsworth Adhesives Company.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Resinlab-EP1238-Acrylic-Epoxy-Hybrid-Adhesive.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.09 g/cc	1.09 g/cc	Part B; TM R050-16
	1.13 g/cc	1.13 g/cc	Mixed; TM R050-16
	1.16 g/cc	1.16 g/cc	Part A; TM R050-16
Water Absorption	0.25 %	0.25 %	TM R050-35
	@Time 86400 sec	@Time 24.0 hour	
Viscosity	40000 cP	40000 cP	Part A, RVT, #5, 2.5 rpm; TM R050-12
	65000 cP	65000 cP	Mixed; TM R050-12
	90000 cP	90000 cP	Part B, 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	58.6 MPa	8500 psi	TM R050-36
Tensile Strength, Ultimate	58.6 MPa	8500 psi	TM R050-36
Tensile Strength, Yield	20.7 MPa	3000 psi	TM R050-36
Elongation at Break	3.0 - 4.0 %	3.0 - 4.0 %	TM R050-36
Tensile Modulus	3.10 GPa	450 ksi	TM R050-36
Compressive Yield Strength	62.1 MPa	9000 psi	TM R050-38
Compressive Strength			Break; TM R050-38

Mechanical Properties	138 MPa Metric	20000 psi English	Comments
	145 MPa	21000 psi	Ultimate; TM R050-38
Compressive Modulus	2.41 GPa	350 ksi	TM R050-38
Adhesive Bond Strength	27.6 MPa	4000 psi	Lap shear; 2024 T3 Al Abraded / MEK Wipe; TM R050-37
Peel Strength	4.38 kN/m	25.0 pli	Al to Al

Thermal Properties	Metric	English	Comments
CTE, linear	80.0 $\mu\text{m}/\text{m}\cdot^\circ\text{C}$	44.4 $\mu\text{in}/\text{in}\cdot^\circ\text{F}$	below Tg
	@Temperature ≤ 60.0 $^\circ\text{C}$	@Temperature ≤ 140 $^\circ\text{F}$	
	194 $\mu\text{m}/\text{m}\cdot^\circ\text{C}$	108 $\mu\text{in}/\text{in}\cdot^\circ\text{F}$	above Tg
	@Temperature ≥ 60.0 $^\circ\text{C}$	@Temperature ≥ 140 $^\circ\text{F}$	
Thermal Conductivity	0.180 W/m-K	1.25 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	60.0 $^\circ\text{C}$	140 $^\circ\text{F}$	TM R050-25

Electrical Properties	Metric	English	Comments
Volume Resistivity	1.60e+15 ohm-cm	1.60e+15 ohm-cm	
Dielectric Constant	6.3	6.3	
	@Frequency 100 Hz, Temperature 25.0 $^\circ\text{C}$	@Frequency 100 Hz, Temperature 77.0 $^\circ\text{F}$	
Dielectric Strength	35.0 kV/mm	888 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 min	24.0 hour	
	@Temperature 25.0 $^\circ\text{C}$	@Temperature 77.0 $^\circ\text{F}$	
Pot Life	20 min	20 min	Mass: 50g; TM R050-19

Descriptive Properties	Value	Comments
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Color Descriptive Properties	Off-White Value	Comments
Mix Ratio	100:47	Weight
	2:1	Volume

Contact Songhan Plastic Technology Co.,Ltd.

Website : www.lookpolymers.com

Email : sales@lookpolymers.com

Tel : +86 021-51131842

Mobile : +86 13061808058

Skype : lookpolymers

Address : United North Road 215,Fengxian District, Shanghai City,China