

Resinlab® EP1215 Clear Unfilled Epoxy Structural Adhesive

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

Material Notes:

Resinlab™ EP1215 Clear is a two part unfilled epoxy structural adhesive designed for bonding applications requiring high strength and good impact resistance. It cures completely at room temperature to a tough, flexible to semi-rigid polymer depending upon the mix ratio employed. It has good wetting and adhesion to most surfaces and has a free flowing viscosity. It has very good resistance to water, acids and bases and most organic solvents. It was especially formulated to allow users to vary mix ratio to achieve desired hardness and flexibility. It can be mixed anywhere from an A/B ratio of 2 to 1 to 1 to 2 by weight or volume. EP1215 will normally reach full cure at room temperature within 24 – 48 hours. Cure time can be accelerated by the application of heat. Times and temperatures from 2 hours at 65°C to 10 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-EP1215-Clear-Unfilled-Epoxy-Structural-Adhesive.php

Physical Properties	Metric	English	Comments
Specific Gravity	0.970 g/cc	0.970 g/cc	Part B; TM R050-16
	1.03 g/cc	1.03 g/cc	Mixed 1:2; TM R050-16
	1.06 g/cc	1.06 g/cc	Mixed 1:1; TM R050-16
	1.10 g/cc	1.10 g/cc	Mixed 2:1; TM R050-16
	1.16 g/cc	1.16 g/cc	Part A; TM R050-16
Water Absorption	0.78 %	0.78 %	Mixed 2:1; TM R050-35
	@Time 86400 sec	@Time 24.0 hour	
	1.81 %	1.81 %	Mixed 1:1; TM R050-35
	@Time 86400 sec	@Time 24.0 hour	
	2.66 %	2.66 %	Mixed 1:2; TM R050-35
	@Time 86400 sec	@Time 24.0 hour	
Viscosity	16500 cP	16500 cP	Part A, RVT, #6, 2.5 rpm; TM R050-12
	20500 cP	20500 cP	Mixed 2:1; TM R050-12
	22500 cP	22500 cP	Mixed 1:1; TM R050-12
	24000 cP	24000 cP	Mixed 1:2; TM R050-12
	28000 cP	28000 cP	Part B, RVT, #5, 2.5 rpm; TM R050-12

Mechanical Properties	Metric	English	Comments
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Mechanical Properties	Metric	English	Comments ^{TM R050-17}
	80	80	Mixed 1:1; TM R050-17
	85	85	Mixed 2:1; TM R050-17
Tensile Strength at Break	13.8 MPa	2000 psi	Mixed 1:2; TM R050-36
	44.8 MPa	6500 psi	Mixed 1:1; TM R050-36
	55.2 MPa	8000 psi	Mixed 2:1; TM R050-36
Tensile Strength, Ultimate	13.8 MPa	2000 psi	Mixed 1:2; TM R050-36
	44.8 MPa	6500 psi	Mixed 1:1; TM R050-36
	55.2 MPa	8000 psi	Mixed 2:1; TM R050-36
Tensile Strength, Yield	6.89 MPa	1000 psi	Mixed 1:2; TM R050-36
	13.8 MPa	2000 psi	Mixed 1:1; TM R050-36
	20.7 MPa	3000 psi	Mixed 2:1; TM R050-36
Elongation at Break	3.0 - 5.0 %	3.0 - 5.0 %	Mixed 1:1; TM R050-36
	3.0 - 6.0 %	3.0 - 6.0 %	Mixed 2:1; TM R050-36
	60 - 80 %	60 - 80 %	Mixed 1:2; TM R050-36
Tensile Modulus	0.138 GPa	20.0 ksi	Mixed 1:2; TM R050-36
	2.00 GPa	290 ksi	Mixed 1:1; TM R050-36
	2.76 GPa	400 ksi	Mixed 2:1; TM R050-36
Compressive Yield Strength	13.8 MPa	2000 psi	Mixed 1:2; TM R050-38
	48.3 MPa	7000 psi	Mixed 1:1; TM R050-38
	75.8 MPa	11000 psi	Mixed 2:1; TM R050-38
Compressive Strength	13.8 MPa	2000 psi	Break; Mixed 1:2; TM R050-38
	13.8 MPa	2000 psi	Ultimate; Mixed 1:2; TM R050-38
	44.8 MPa	6500 psi	Ultimate; Mixed 1:1; TM R050-38
	44.8 MPa	6500 psi	Break; Mixed 1:1; TM R050-38
	55.2 MPa	8000 psi	Break; Mixed 2:1; TM R050-38
	55.2 MPa	8000 psi	Ultimate; Mixed 2:1; TM R050-38
Compressive Modulus	0.483 GPa	70.0 ksi	Mixed 1:2; TM R050-38

Mechanical Properties	Metric	English	Comments
	2.41 GPa	350 ksi	Mixed 1:1; TM R050-38
	3.45 GPa	500 ksi	Mixed 2:1; TM R050-38
Adhesive Bond Strength	11.0 MPa	1600 psi	Lap shear; 2024 T3 Al Abraded / MEK Wipe; Mixed 2:1; TM R050-37
	13.1 MPa	1900 psi	Lap shear; 2024 T3 Al Abraded / MEK Wipe; Mixed 1:1; TM R050-37
	17.2 MPa	2500 psi	Lap shear; 2024 T3 Al Abraded / MEK Wipe; Mixed 1:2; TM R050-37

Thermal Properties	Metric	English	Comments
Maximum Service Temperature, Air	150 °C	302 °F	
Minimum Service Temperature, Air	-40.0 °C	-40.0 °F	
Glass Transition Temp, Tg	65.0 °C	149 °F	TM R050-25

Optical Properties	Metric	English	Comments
Transmission, Visible	90 %	90 %	clear; thickness not quantified

Electrical Properties	Metric	English	Comments
Volume Resistivity	8.30e+14 ohm-cm	8.30e+14 ohm-cm	
Dielectric Constant	3.0	3.0	
	@Frequency 100 Hz, Temperature 25.0 °C	@Frequency 100 Hz, Temperature 77.0 °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 °C	@Temperature 149 °F	
	1440 - 4320 min	24.0 - 72.0 hour	
	@Temperature 25.0 °C	@Temperature 77.0 °F	
Pot Life	120 min	120 min	Mass: 100g; Mixed 1:1; TM R050-19
	120 min	120 min	Mass: 100g; Mixed 1:2; TM R050-19
	150 min	150 min	Mass: 100g; Mixed 2:1; TM R050-19

Descriptive Properties	Value	Comments
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Descriptive Properties	Value	Comments
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Contact Songhan Plastic Technology Co.,Ltd.

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