

Resinlab® EP1115 Clear Unfilled Epoxy Adhesive

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

Material Notes:

Resinlab™ EP1115 Clear is a two part unfilled epoxy adhesive designed for bonding of metals, ceramics and most plastics. This product gives good resistance to water, salt spray, inorganic acids and bases and most organic solvents. This product gives better water and temperature resistance than standard 5 minute epoxy. It was especially formulated to a 1:1 mix ratio for use in either MMD equipment or side by side dual cartridges for easy dispensing. A handling cure is normally achieved at room temperature within 2 – 4 hours with full cure in 24 hours. An elevated temperature cure schedule can be used to reach final properties quickly. 30 minutes at 60°C to 10 minutes at 100°C is typical. Information Provided by Resinlab L.L.C., an Ellsworth Adhesives Company.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Resinlab-EP1115-Clear-Unfilled-Epoxy-Adhesive.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.05 g/cc	1.05 g/cc	Part B; TM R050-16
	1.10 g/cc	1.10 g/cc	Mixed; TM R050-16
	1.16 g/cc	1.16 g/cc	Part A; TM R050-16
Water Absorption	0.88 %	0.88 %	TM R050-35
	@Time 86400 sec	@Time 24.0 hour	
Viscosity	16000 cP	16000 cP	Part A, RVT, #6, 2.5 rpm; TM R050-12
	50000 cP	50000 cP	Mixed; TM R050-12
	88000 cP	88000 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	37.9 MPa	5500 psi	TM R050-36
Tensile Strength, Ultimate	48.3 MPa	7000 psi	TM R050-36
Tensile Strength, Yield	34.5 MPa	5000 psi	TM R050-36
Elongation at Break	10 - 25 %	10 - 25 %	TM R050-36
Tensile Modulus	2.41 GPa	350 ksi	TM R050-36
Compressive Yield Strength	41.4 MPa	6000 psi	TM R050-38
Compressive Strength	172 MPa	25000 psi	Ultimate; TM R050-38
	172 MPa	25000 psi	Break; TM R050-38

Mechanical Properties	Metric ^{Pa}	English	Comments
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	80.0 $\mu\text{m}/\text{m}\cdot\text{°C}$	44.4 $\mu\text{in}/\text{in}\cdot\text{°F}$	below Tg
	@Temperature ≤ 55.0 °C	@Temperature ≤ 131 °F	
	200 $\mu\text{m}/\text{m}\cdot\text{°C}$	111 $\mu\text{in}/\text{in}\cdot\text{°F}$	above Tg
	@Temperature ≥ 55.0 °C	@Temperature ≥ 131 °F	
Thermal Conductivity	0.183 W/m-K	1.27 BTU-in/hr-ft ² -°F	
Maximum Service Temperature, Air	130 °C	266 °F	
Minimum Service Temperature, Air	-40.0 °C	-40.0 °F	
Glass Transition Temp, Tg	55.0 °C	131 °F	TM R050-25

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

Electrical Properties	Metric	English	Comments
Volume Resistivity	8.00e+12 ohm-cm	8.00e+12 ohm-cm	
Dielectric Constant	4.5	4.5	
	@Frequency 100 Hz, Temperature 25.0 °C	@Frequency 100 Hz, Temperature 77.0 °F	
Dielectric Strength	17.3 kV/mm	440 kV/in	

Processing Properties	Metric	English	Comments
Pot Life	8.0 - 12 min	8.0 - 12 min	Mass: 50g; TM R050-19

Descriptive Properties	Value	Comments
Color	Clear	
Mix Ratio	1:1	Weight and Volume

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