

Permabond ET515 Epoxy Resin

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

Material Notes:

PERMABOND® ET515 is a 1:1 mixable epoxy adhesive. ET515 is a semi-flexible toughened adhesive with good adhesion to a variety of substrates such as wood, metal, ceramics and some plastics and composites. It's a relatively fast curing epoxy; reaching handling strength in 15 minutes. It is ideal for bonding different materials where differential thermal expansion is anticipated. Features & Benefits: Adhesion to a wide variety of substrates Full cure at room temperature Easy to apply High shear and peel strength Good impact strength Information provided by Permabond.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Permabond-ET515-Epoxy-Resin.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.14 g/cc	1.14 g/cc	ET515A, Epoxy Resin
	1.14 g/cc	1.14 g/cc	ET515B, Polyamine Hardener
Viscosity	19000 cP	19000 cP	ET515B, Polyamine Hardener
	@Temperature 25.0 °C	@Temperature 77.0 °F	
	20000 cP	20000 cP	ET515A, Epoxy Resin
	@Temperature 25.0 °C	@Temperature 77.0 °F	
Storage Temperature	5.00 - 25.0 °C	41.0 - 77.0 °F	

Mechanical Properties	Metric	English	Comments
Hardness, Shore D	40	40	
Elongation at Break	30 %	30 %	
Adhesive Bond Strength	3.00 - 5.00 MPa	435 - 725 psi	FRP Glass/Polyester, Shear; ASTM D1002
	4.00 - 6.00 MPa	580 - 870 psi	FRP Glass/Epoxy, Shear; ASTM D1002
	4.00 - 6.00 MPa	580 - 870 psi	Carbon Fiber, Shear; ASTM D1002
	8.00 - 12.0 MPa	1160 - 1740 psi	Mild steel, Shear; ASTM D1002
Peel Strength	2.40 - 3.20 kN/m	13.7 - 18.3 pli	ISO 4578

Thermal Properties	Metric	English	Comments
Thermal Conductivity	0.300 W/m-K	2.08 BTU-in/hr-ft ² -°F	
Maximum Service Temperature, Air	80.0 °C	176 °F	

Thermal Properties <small>Temperature, Air</small>	Metric <small>°C</small>	English	Comments
Glass Transition Temp, Tg	40.0 °C	104 °F	

Processing Properties	Metric	English	Comments
Cure Time	15.0 - 30.0 min	0.250 - 0.500 hour	handling time
	4320 min	72.0 hour	full cure
Pot Life	10.0 - 15.0 min	10.0 - 15.0 min	
	@Temperature 20.0 °C	@Temperature 68.0 °F	
Shelf Life	12.0 Month	12.0 Month	

Descriptive Properties	Value	Comments
Appearance	Amber for Polyamine Hardener	
	Colorless for Epoxy Resin	
Maximum Gap Fill (mm)	2	
Strength Retention	10% at 150°C	Relative to 0°C
	100% at 0°C	Relative to 0°C
	30% at 100°C	Relative to 0°C
	93% at 50°C	Relative to 0°C

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