

## Permabond ET538 Epoxy Resin

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

### Material Notes:

PERMABOND ET538 is a structural, room temperature curing epoxy adhesive that has excellent adhesion to a wide variety of surfaces such as wood, metal, ceramics and many plastic and composite materials. It exhibits good resistance to petrol, oils and water and has an extended cure time making it suitable for larger applications and batch production processes. Its thixotropic "non-slump" nature makes it suitable for gap filling or vertical application. 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 Good chemical resistance Non-drip rheology Information provided by Permabond.

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_Permabond-ET538-Epoxy-Resin.php](http://www.lookpolymers.com/polymer_Permabond-ET538-Epoxy-Resin.php)

Physical Properties	Metric	English	Comments
Specific Gravity	1.14 g/cc	1.14 g/cc	ET538A, Epoxy Resin
	1.42 g/cc	1.42 g/cc	ET538B, Polyamine Hardener
Viscosity	100000 cP @Temperature 25.0 °C	100000 cP @Temperature 77.0 °F	ET538B, Polyamine Hardener
	290000 cP @Temperature 25.0 °C	290000 cP @Temperature 77.0 °F	ET538A, Epoxy Resin
Storage Temperature	5.00 - 25.0 °C	41.0 - 77.0 °F	

Mechanical Properties	Metric	English	Comments
Hardness, Shore D	82	82	
Elongation at Break	9.0 %	9.0 %	
Adhesive Bond Strength	17.0 - 20.0 MPa	2470 - 2900 psi	Zinc, Shear
	18.0 - 20.0 MPa	2610 - 2900 psi	Mild steel, Shear
Peel Strength	3.20 kN/m	18.3 pli	ISO 4578

Thermal Properties	Metric	English	Comments
Thermal Conductivity	0.550 W/m-K	3.82 BTU-in/hr-ft <sup>2</sup> -°F	
Glass Transition Temp, Tg	45.0 °C	113 °F	

Processing Properties	Metric	English	Comments

Cure Time Processing Properties	180 - 240 min Metric	3.00 - 4.00 hour English	Handling time Comments
	4320 min	72.0 hour	full cure
Pot Life	120 - 180 min @Temperature 20.0 °C	120 - 180 min @Temperature 68.0 °F	
Shelf Life	12.0 Month	12.0 Month	

Descriptive Properties	Value	Comments
Appearance	Dark grey for Polyamine Hardener White for Epoxy Resin	
Maximum Gap Fill (mm)	5	
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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