

Permabond 731 Cyanoacrylate, toughened

Category : Polymer , Adhesive , Thermoset , Acrylic/Cyanoacrylate Adhesive

Material Notes:

PERMABOND® 731 is a toughened cyanoacrylate with very good impact and peel strength when compared to a conventional cyanoacrylate. It bonds rapidly at room temperature and its viscosity is stable over the shelf life of the product. This provides consistent performance. The product adheres to a variety of surfaces including steel, aluminum, galvanized steel, plastics and elastomers. Features & Benefits: Longer cure allows accurate alignment Toughened and flexible Ease of use – no mixing or heat cure Bonds most materials 100% reactive, no solvents Information provided by Permabond.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Permabond-731-Cyanoacrylate-toughened.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.10 g/cc	1.10 g/cc	Uncured
Viscosity	100 - 200 cP	100 - 200 cP	Uncured
	@Temperature 25.0 °C	@Temperature 77.0 °F	
Storage Temperature	2.00 - 7.00 °C	35.6 - 44.6 °F	

Mechanical Properties	Metric	English	Comments
Hardness, Shore D	85	85	ISO 868
Adhesive Bond Strength	4.00 MPa	580 psi	Acrylic, Shear; ISO 4587
	5.50 MPa	798 psi	PVC, Shear; ISO 4587
	10.0 MPa	1450 psi	Zinc, Shear; ISO 4587
	13.0 - 15.0 MPa	1890 - 2180 psi	Aluminum, Shear; ISO 4587
	24.0 - 30.0 MPa	3480 - 4350 psi	Steel, Shear; ISO 4587
Impact	5.0 - 10	5.0 - 10	kJ/m^2 Adhesive Impact Strength; ASTM D950
Peel Strength	1.60 - 2.40 kN/m	9.13 - 13.7 pli	ASTM D903

Thermal Properties	Metric	English	Comments
CTE, linear	90.0 $\mu\text{m/m}^\circ\text{C}$	50.0 $\mu\text{in/in}^\circ\text{F}$	
Thermal Conductivity	0.100 W/m-K	0.694 BTU-in/hr-ft ² -°F	

Electrical Properties	Metric	English	Comments
	2.5	2.5	

Dielectric Constant Electrical Properties	Metric @ Frequency 10000 Hz	English @ Frequency 10000 Hz	Comments
Dielectric Strength	25.0 kV/mm	635 kV/in	

Processing Properties	Metric	English	Comments
Cure Time	0.250 - 0.333 min	0.00417 - 0.00556 hour	Buna N Rubber, handling time
	0.250 - 0.333 min	0.00417 - 0.00556 hour	Neoprene, handling time
	<= 0.500 min	<= 0.00833 hour	Phenolic, handling time
	<= 0.500 min	<= 0.00833 hour	Steel, handling time
	0.500 - 0.750 min	0.00833 - 0.0125 hour	ABS, handling time
	2.00 - 3.00 min	0.0333 - 0.0500 hour	Aluminum, handling time
	1440 min	24.0 hour	full strength

Descriptive Properties	Value	Comments
Appearance	Colorless	Uncured
Maximum Gap Fill (mm)	0.15	
Strength Retention	10% at 150°C	Relative to 0°C
	100% at 0°C	Relative to 0°C
	50% at 100°C	Relative to 0°C
	75% at -50°C	Relative to 0°C
	90% at 50°C	Relative to 0°C

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