

## Permabond 105 Cyanoacrylate, for difficult rubbers

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

### Material Notes:

PERMABOND® 105 is a low viscosity high purity cyanoacrylate adhesive. It is ideal for use on hard-to-bond plastics and rubbers such as natural rubber, EPDM and butyl rubber. Cyanoacrylate adhesives are single component adhesives that polymerize rapidly when pressed into a thin film between parts. The moisture adsorbed on the surface initiates the curing of the adhesive. Strong bonds are developed extremely fast and on a great variety of materials. These properties make PERMABOND cyanoacrylates ideal adhesives for high speed production lines. Features & Benefits: Natural and synthetic rubber bonding Ideal for hard to bond plastics 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-105-Cyanoacrylate-for-difficult-rubbers.php](http://www.lookpolymers.com/polymer_Permabond-105-Cyanoacrylate-for-difficult-rubbers.php)

Physical Properties	Metric	English	Comments
Specific Gravity	1.10 g/cc	1.10 g/cc	Uncured
Viscosity	30 - 50 cP	30 - 50 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	>= 5.00 MPa	>= 725 psi	PC, Substrate Failure, Shear; ISO 4587
	>= 6.00 MPa	>= 870 psi	ABS, Substrate Failure, Shear; ISO 4587
	>= 6.00 MPa	>= 870 psi	PVC, Substrate Failure, Shear; ISO 4587
	6.00 - 8.00 MPa	870 - 1160 psi	Aluminum, Shear; ISO 4587
	6.00 - 8.00 MPa	870 - 1160 psi	Zinc, Shear; ISO 4587
	12.0 - 14.0 MPa	1740 - 2030 psi	Phenolic, Shear; ISO 4587
	18.0 - 22.0 MPa	2610 - 3190 psi	Steel, Shear; ISO 4587
Impact	3.0 - 5.0	3.0 - 5.0	$\text{kJ/m}^2$ Adhesive Impact Strength; ASTM D950

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 Properties	0.100 W/m-K Metric	0.694 BTU-in/hr-ft <sup>2</sup> -°F English	Comments
Maximum Service Temperature, Air	82.2 °C	180 °F	
Minimum Service Temperature, Air	-62.2 °C	-80.0 °F	

Electrical Properties	Metric	English	Comments
Dielectric Constant	2.5 @Frequency 10000 Hz	2.5 @Frequency 10000 Hz	
Dielectric Strength	25.0 kV/mm	635 kV/in	

Processing Properties	Metric	English	Comments
Cure Time	0.0833 - 0.167 min	0.00139 - 0.00278 hour	Buna N Rubber, handling time
	0.0833 - 0.167 min	0.00139 - 0.00278 hour	Phenolic, handling time
	0.0833 - 0.167 min	0.00139 - 0.00278 hour	PVC, handling time
	0.0833 - 0.167 min	0.00139 - 0.00278 hour	ABS, handling time
	0.167 - 0.250 min	0.00278 - 0.00417 hour	Steel, handling time
	<= 0.333 min	<= 0.00556 hour	EPDM, handling time
	1440 min	24.0 hour	full strength

Descriptive Properties	Value	Comments
Appearance	Colorless	Uncured
Maximum Gap Fill (mm)	0.1	
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
	55% at -50°C	Relative to 0°C
	90% at 50°C	Relative to 0°C

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