

## Permabond 919 Cyanoacrylate, High temperature

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

### Material Notes:

**Features & Benefits:** Rapid development of high strength; Ease of use – no mixing or heat cure; Bonds most materials; 100% reactive, no solvents. PERMABOND® 919 is an allyl cyanoacrylate adhesive. It is a single part, low viscosity liquid that will cure rapidly at room temperature when pressed into a thin film between parts. PERMABOND 919 will cure to fixture strength in 10 seconds on most surfaces, and rapidly develops high strength with full cure obtained in 24 hours. The adhesive was specifically designed to meet the high temperature resistance required by certain applications. It provides excellent bond strength to steel, aluminum, and most metal surfaces. The cyanoacrylate will also adhere well to a wide variety of other materials including most types of plastic and rubber. In order to withstand high temperature environments, PERMABOND 919 was designed with a secondary curing mechanism that is activated at temperatures higher than 150°C (302°F). The procedure to activate this mechanism is as follows: 1) Parts are bonded and clamped at room temperature for four hours. 2) The clamped parts are then heated at 150°C (302°F) for two hours. 3) After the two hours, the bond will be thermally resistant up to 250°C (482°). Information provided by Permabond.

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_Permabond-919-Cyanoacrylate-High-temperature.php](http://www.lookpolymers.com/polymer_Permabond-919-Cyanoacrylate-High-temperature.php)

Physical Properties	Metric	English	Comments
Specific Gravity	1.10 g/cc	1.10 g/cc	Uncured
Viscosity	2.0 - 6.0 cP	2.0 - 6.0 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	2.00 MPa	290 psi	Gum rubber, Shear; ISO 4587
	3.50 MPa	508 psi	Polystyrene, Shear; ISO 4587
	4.00 MPa	580 psi	ABS, Shear; ISO 4587
	4.00 MPa	580 psi	Valox, Shear; ISO 4587
	7.00 MPa	1020 psi	PC, Shear; ISO 4587
	14.0 MPa	2030 psi	Phenolic, Shear; ISO 4587
	16.0 - 18.0 MPa	2320 - 2610 psi	Aluminum, Shear; ISO 4587
	20.0 - 22.0 MPa	2900 - 3190 psi	Steel, Shear; ISO 4587
Impact	3.0 - 5.0	3.0 - 5.0	kJ/m <sup>2</sup> Adhesive Impact Strength; ASTM D950

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

Processing Properties	Metric	English	Comments
Cure Time	$\leq 0.250$ min	$\leq 0.00417$ hour	NBR Rubber, handling time
	$\leq 0.333$ min	$\leq 0.00556$ hour	Buna N Rubber, handling time
	$\leq 0.333$ min	$\leq 0.00556$ hour	Phenolic, handling time
	$\leq 0.333$ min	$\leq 0.00556$ hour	Steel, handling time
	1440 min	24.0 hour	full strength

Descriptive Properties	Value	Comments
Appearance	Colorless	Uncured
Maximum Gap Fill (mm)	0.05	
Strength Retention	30% at 250°C	Relative to 0°C
	60% at 150°C	Relative to 0°C
	75% at -50°C	Relative to 0°C
	90% at 50°C	Relative to 0°C

## Contact Songhan Plastic Technology Co.,Ltd.

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