

Permabond 920 Cyanoacrylate, High temperature

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

Material Notes:

PERMABOND® 920 is the original 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 920 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 920 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°). Features & Benefits: Rapid development of high strength 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-920-Cyanoacrylate-High-temperature.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.10 g/cc	1.10 g/cc	Uncured
Viscosity	70 - 90 cP	70 - 90 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	PVC, Substrate Failure, Shear; ISO 4587
	>= 6.00 MPa	>= 870 psi	ABS, Substrate Failure, Shear; ISO 4587
	8.00 - 9.00 MPa	1160 - 1310 psi	Aluminum, Shear; ISO 4587
	10.0 MPa	1450 psi	Zinc, Shear; ISO 4587
	14.0 MPa	2030 psi	Phenolic, Shear; ISO 4587
	19.0 - 23.0 MPa	2760 - 3340 psi	Steel, Shear; ISO 4587
Impact	3.0 - 5.0	3.0 - 5.0	kJ/m^2 Adhesive Impact Strength; ASTM D950

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 ² -°F	
Maximum Service Temperature, Air	250 °C	482 °F	Secondary curing mechanism required
Minimum Service Temperature, Air	-62.2 °C	-80.0 °F	

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

Descriptive Properties	Value	Comments
Appearance	Colorless	Uncured
Maximum Gap Fill (mm)	0.15	
Strength Retention	30% at 250°C	Relative to 0°C
	65% 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.

Website : www.lookpolymers.com

Email : sales@lookpolymers.com

Tel : +86 021-51131842

Mobile : +86 13061808058

Skype : lookpolymers

Address : United North Road 215,Fengxian District, Shanghai City,China