

Permabond 922 Cyanoacrylate, High temperature

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

Material Notes:

PERMABOND® 922 is the original allyl cyanoacrylate adhesive. It is a single part, moderate viscosity liquid that will cure rapidly at room temperature when pressed into a thin film between parts. PERMABOND 922 will cure to fixture strength in 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 922 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°F). 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-922-Cyanoacrylate-High-temperature.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.10 g/cc	1.10 g/cc	Uncured
Viscosity	1200 - 2000 cP @Temperature 25.0 °C	1200 - 2000 cP @Temperature 77.0 °F	Uncured
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	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 $\mu\text{m/m-}^\circ\text{C}$	50.0 $\mu\text{in/in-}^\circ\text{F}$	
Thermal Conductivity	0.100 W/m-K	0.694 BTU-in/hr-ft ² -°F	
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
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Processing Properties	Metric10 min	English117 hour	Comments, handling time
	<= 0.333 min	<= 0.00556 hour	Steel, handling time
	<= 0.750 min	<= 0.0125 hour	Buna N Rubber, handling time
	<= 0.750 min	<= 0.0125 hour	Phenolic, handling time
	1440 min	24.0 hour	full strength

Descriptive Properties	Value	Comments
Appearance	Colorless	Uncured
Maximum Gap Fill (mm)	0.4	
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

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