

## Permabond TA4820 Structural Acrylic Adhesive

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

### Material Notes:

PERMABOND TA4820 is a 2-part, 1:1 toughened methacrylate adhesive designed for bonding thermoplastics, thermosets, metals and composites. TA4820 has excellent adhesion to as received metal surfaces forming high strength bonds without surface preparation. It provides excellent durability and resistance to many common industrial solvents, fuels as well as environmental conditions. It cures rapidly at room temperature and has very good thixotropic properties allowing for easy dispensing through static mixers while maintaining good gap filling and non-sag properties. The long fixture time allows for accurate alignment of large components. Features & Benefits: Adhesion to a wide variety of substrates Fast cure at room temperature High shear and peel strength Good impact strength Good chemical resistance Information provided by Permabond.

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_Permabond-TA4820-Structural-Acrylic-Adhesive.php](http://www.lookpolymers.com/polymer_Permabond-TA4820-Structural-Acrylic-Adhesive.php)

Physical Properties	Metric	English	Comments
Density	0.960 g/cc	0.0347 lb/in <sup>3</sup>	TA4820B
	0.970 g/cc	0.0350 lb/in <sup>3</sup>	TA4820A
Viscosity	40000 - 60000 cP	40000 - 60000 cP	TA4820A
	@Temperature 25.0 °C	@Temperature 77.0 °F	
	40000 - 60000 cP	40000 - 60000 cP	TA4820B
	@Temperature 25.0 °C	@Temperature 77.0 °F	
	90000 - 100000 cP	90000 - 100000 cP	Mixed Viscosity
	@Temperature 25.0 °C	@Temperature 77.0 °F	
Storage Temperature	5.00 - 25.0 °C	41.0 - 77.0 °F	

Mechanical Properties	Metric	English	Comments
Tensile Strength	28.938 MPa	4197.1 psi	DIN 53283
Elongation at Break	15 - 20 %	15 - 20 %	
Adhesive Bond Strength	>= 11.7 MPa	>= 1700 psi	Fiber Glass, Shear; ASTM D1002
	20.67 - 27.56 MPa	2998 - 3997 psi	Aluminum, Shear; ASTM D1002
	24.1 - 31.0 MPa	3500 - 4500 psi	Steel, Shear; ASTM D1002
Peel Strength	2.625 - 3.50 kN/m	14.98 - 20.0 pli	

Thermal Properties	Metric	English	Comments
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CTE linear Thermal Properties	80.0 µm/m-°C Metric	44.4 µm/in-°F English	ASTM D696 Comments
Thermal Conductivity	0.100 W/m-K	0.694 BTU-in/hr-ft <sup>2</sup> -°F	ASTM C177

Electrical Properties	Metric	English	Comments
Volume Resistivity	2.00e+13 ohm-cm	2.00e+13 ohm-cm	ASTM D257
Dielectric Constant	4.6 @Frequency 1.00e+7 Hz	4.6 @Frequency 1.00e+7 Hz	ASTM D150
Dielectric Strength	30.0 - 50.0 kV/mm	762 - 1270 kV/in	ASTM D149

Processing Properties	Metric	English	Comments
Cure Time	15.0 - 18.0 min	0.250 - 0.300 hour	working strength
	30.0 - 35.0 min	0.500 - 0.583 hour	fixture timee
	1440 min	24.0 hour	full cure
Shelf Life	6.00 Month	6.00 Month	
	12.0 Month	12.0 Month	refrigerated

Descriptive Properties	Value	Comments
Appearance	Amber, TA4820B	Uncured
	Off-white, TA4820A	Uncured
Maximum Gap Fill (mm)	2	
Strength Retention	10% at 200°C	Relative to 0°C
	100% at 0°C	Relative to 0°C
	30% at 150°C	Relative to 0°C
	70% at 100°C	Relative to 0°C
	96% at 50°C	Relative to 0°C

## Contact Songhan Plastic Technology Co.,Ltd.

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