Permabond TA4592 Toughened Acrylic Adhesive

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

Material Notes:

PERMABOND® TA4592 is a two component structural acrylic adhesive ideal for bonding magnets and ferrites for electric motors on fast-moving production lines. Permabond® TA4592 provides high strength while maintaining excellent flexibility, resulting in tough, durable bonds with outstanding impact and peel resistance. Mix ratio 1:1. Features & Benefits: Ideal for high speed production lines Fast cure at room temperature Compatible with external mix equipment High shear and peel strength Excellent impact strength Good chemical resistance Non-corrosive formulation Information provided by Permabond.

Order this product through the following link:
http://www.lookpolymers.com/polymer_Permabond-TA4592-Toughened-Acrylic-Adhesive.php

Physical Properties	Metric	English	Comments
Density	1.10 g/cc	0.0397 lb/in³	TA4592A
	1.10 g/cc	0.0397 lb/in³	TA4592B
Viscosity	5000 - 20000 cP @Temperature 25.0 °C	5000 - 20000 cP @Temperature 77.0 °F	TA4592B, at 20 rpm vibration
	10000 - 20000 cP @Temperature 25.0 °C	10000 - 20000 cP @Temperature 77.0 °F	TA4592A, at 20 rpm vibration
	15000 - 50000 cP @Temperature 25.0 °C	15000 - 50000 cP @Temperature 77.0 °F	TA4592B, at 2.5 rpm vibration
	40000 - 60000 cP @Temperature 25.0 °C	40000 - 60000 cP @Temperature 77.0 °F	TA4592A, at 2.5 rpm vibration
Storage Temperature	2.00 - 7.00 °C	35.6 - 44.6 °F	

Mechanical Properties	Metric	English	Comments
Tensile Strength	25.0 MPa	3630 psi	ASTM D2095
Adhesive Bond Strength	4.00 MPa	580 psi	Steel to Ferrite, after 3 minutes, Shear
	>= 14.0 MPa	>= 2030 psi	Substrate Failure, Steel to Ferrite, after 24 hours, Shear
	15.0 - 20.0 MPa	2180 - 2900 psi	Zinc, Shear
	20.0 - 25.0 MPa	2900 - 3630 psi	Mild steel, Shear
Impact	10 - 20	10 - 20	kJ/m² Adhesive Impact Strength; ASTM D950

Thermal Properties	Metric	English	Comments
CTE, linear	80.0 µm/m-°C	44.4 µin/in-°F	ASTM D696
Thermal Conductivity	0.100 W/m-K	0.694 BTU-in/hr-ft²-°F	ASTM C177

Processing Properties	Metric	English	Comments
Cure Time	0.167 - 0.500 min	0.00278 - 0.00833 hour	zinc, Fixture time
	1440 min	24.0 hour	full cure
Gel Time	<= 0.500 min	<= 0.500 min	
Shelf Life	3.00 Month	3.00 Month	at room temperature
	6.00 Month	6.00 Month	refrigerated

Descriptive Properties	Value	Comments
Appearance	Blue, TA4592A	Uncured
	Yellow-green, TA4592B	Uncured
Maximum Gap Fill (mm)	1	
Strength Retention	100% at 0°C	Relative to 0°C
	15% at 175°C	Relative to 0°C
	22% at 150°C	Relative to 0°C
	80% at 100°C	Relative to 0°C
	96% at 50°C	Relative to 0°C

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