

Permabond TA437 Toughened Acrylic Adhesive

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

Material Notes:

PERMABOND TA437 is a single component structural acrylic adhesive designed primarily for bonding metals, ferrites and ceramics. The typical fixture time of TA437 when used with Initiator 41 is 30 – 45 seconds. The fast fixture time of TA437 makes it an ideal adhesive for high speed production lines. When the use of the activator is not desirable, the material can be used by itself but the fixture time will be 3-5 minutes. This product provides high strength, tough, durable bonds with good impact resistance. Features & Benefits: Adhesion to a wide variety of substrates Fast cure at room temperature No mix application High shear and peel strength Good impact strength High temperature resistance Information provided by Permabond.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Permabond-TA437-Toughened-Acrylic-Adhesive.php

Physical Properties	Metric	English	Comments
Density	1.10 g/cc	0.0397 lb/in ³	uncured
Viscosity	115000 - 125000 cP @Temperature 25.0 °C	115000 - 125000 cP @Temperature 77.0 °F	Uncured
Storage Temperature	5.00 - 25.0 °C	41.0 - 77.0 °F	

Mechanical Properties	Metric	English	Comments
Tensile Strength	30.0 MPa	4350 psi	DIN 53288
Adhesive Bond Strength	4.00 MPa	580 psi	Steel to Ferrite using Initiator 41 after 3 minutes, Shear
	>= 14.0 MPa	>= 2030 psi	Substrate Failure, Steel to Ferrite using Initiator 41 after 24 hours, Shear
	14.0 - 20.0 MPa	2030 - 2900 psi	Mild steel, Shear
Impact	10 - 20	10 - 20	kJ/m ² Adhesive Impact Strength; ASTM D950
Peel Strength	3.40 - 4.00 kN/m	19.4 - 22.8 pli	ISO 4578

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-ft ² -°F	ASTM C177

Electrical Properties	Metric	English	Comments
Volume Resistivity	2.00e+13 ohm-cm	2.00e+13 ohm-cm	ASTM D257

Electrical Properties	Metric	English	Comments
Dielectric Constant	@Frequency 1.00e+7 Hz	@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	0.500 - 0.750 min	0.00833 - 0.0125 hour	handling time with initiator 41
	3.00 - 5.00 min	0.0500 - 0.0833 hour	handling time with no initiator
	30.0 - 60.0 min	0.500 - 1.00 hour	working strength
	1440 min	24.0 hour	full cure
Shelf Life	12.0 Month	12.0 Month	

Descriptive Properties	Value	Comments
Appearance	Orange viscous liquid	Uncured
Maximum Gap Fill (mm)	0.5	
Strength Retention	100% at 0°C	Relative to 0°C
	15% at 250°C	Relative to 0°C
	35% at 200°C	Relative to 0°C
	65% at 150°C	Relative to 0°C
	85% at 100°C	Relative to 0°C
	95% at 50°C	Relative to 0°C

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