Technisches Datenblatt

Produkt:	PT321
Hersteller:	PERMABOND ENGINEERING ADHESIVES
Warengruppe:	KLEBSTOFF
Artikelgruppe:	2-K KLEBSTOFF
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PERMABOND® PT321

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PERMABOND® PT321

Polyurethane Adhesive

Technical Datasheet

Features & Benefits

- Adhesion to a wide variety of substrates
- Cures at room temperature
- Easy 1:1 mix ratio
- Good resistance to impact and vibration
- Thixotropic, non-slump rheology

Description

PERMABOND® PT321 is a 2-part, room temperature curing polyurethane adhesive. It is ideal for use on a wide variety of substrate materials including metals, plastics and composites.

Physical Properties of Uncured Adhesive

	PT321 A	**PT321 B**
Chemical composition	Polyurethane	Isocyanate
Appearance	Black	Cream
Viscosity @ 25°C	4000-8000 mPa.s *(cP)* Thixotropic	3000-6000 mPa.s *(cP)* Thixotropic
Specific Gravity	1.25	1.45

Typical Curing Properties

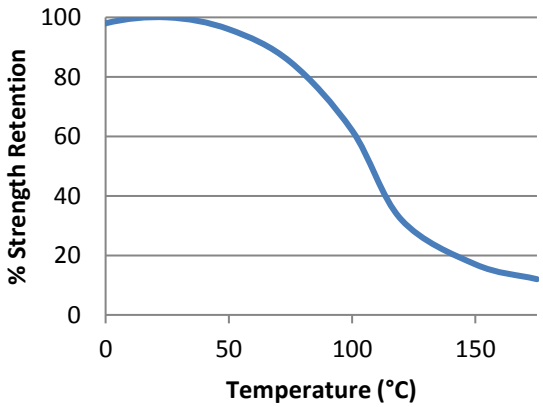
Ratio of use	1 : 1 by volume
Maximum gap fill	5 mm *(0.2 in)*
Pot life	60-90 seconds
Handling time (steel) ISO4587 *(0.3 N/mm² shear strength is achieved)*	10-15 minutes
Full cure	@23°C: 24 hours @90°C: 30 minutes

Typical Performance of Cured Adhesive

Shear strength* (ISO4587)	Zinc: 6-8 MPa *(900 -1200 psi)* Steel: 18-25 MPa *(2600 -3600 psi)* Carbon fibre: 6-8 MPa *(900 -1200 psi)*
Tensile strength (ISO37)	20-25 MPa *(2900-3600 psi)*
Elongation at break (ISO37)	<10%
Hardness (ISO868)	70-80 Shore D
Coefficient of thermal expansion (ASTM D-696)	85 x 10^{-6} 1/K

**Strength results will vary depending on the level of surface preparation and gap.*

Hot Strength



"Hot strength" shear strength tests performed on mild steel. Product fully cured at room temperature and conditioned to pull temperature for 30 minutes before testing.

PT321 can withstand higher temperatures for brief periods providing the joint is not unduly stressed. The minimum temperature the cured adhesive can be exposed to is -40°C (-40°F) depending on the materials being bonded.

The information given and the recommendations made herein are based on our research and are believed to be accurate but no guarantee of their accuracy is made. In every case we urge and recommend that purchasers before using any product in full-scale production make their own tests to determine to their own satisfaction whether the product is of acceptable quality and is suitable for their particular purpose under their own operating conditions. THE PRODUCTS DISCLOSED HEREIN ARE SOLD WITHOUT ANY WARRANTY AS TO MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR ANY OTHER WARRANTY, EXPRESS OR IMPLIED.
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Additional Information

This product is not recommended for use in contact with strong oxidizing materials. This product may affect some thermoplastics and users must check compatibility of the product with such substrates.
Information regarding the safe handling of this material may be obtained from the Safety Data Sheet.
Users are reminded that all materials, whether innocuous or not, should be handled in accordance with the principles of good industrial hygiene.

This Technical Datasheet (TDS) offers guideline information and does not constitute a specification.

Surface Preparation

Surfaces should be clean, dry and grease-free before applying the adhesive. Permabond Cleaner A is recommended for the degreasing of most surfaces. Some metals such as aluminium, copper and its alloys will benefit from light abrasion with emery cloth (or similar), to remove the oxide layer.

Directions for Use

1) Surfaces must be clean, dry and grease-free prior to bonding.
2) Shake cartridge (or stir bulk material) before use if separation has occurred.
3) Apply a thin bead of adhesive pre-mixed through a static mixer nozzle. (Alternatively bulk material can be dispensed via metered dispensing equipment).
4) Assemble components and clamp.
5) Maintain pressure until handling strength is achieved.
6) Allow 24 hours for adhesive to fully cure. Accelerated cure times may be achieved by heating.

Video Links

Surface preparation:
https://youtu.be/8CMOMP7hXjU

Polyurethane directions for use:
https://youtu.be/xUh2cf0b7O8

Other Products Available

Anaerobics

- Thread lockers
- Thread sealants
- Gasket makers
- Sealants / retainers

Cyanoacrylates

- Instant adhesives
- For rapid bonding of metals, plastics, rubber and many other materials

Epoxies

- Two-part room temperature cure adhesives
- Single-part heat cure adhesives
- Modified Technology (MT) flexible grades available

MS-Polymers

- Single-part, moisture-curing, flexible sealants

Polyurethanes

- Two-part room temperature curing adhesives

Toughened Acrylics

- Rapid curing, high strength structural adhesives

UV Light Cured Adhesives

- Glass / plastic bonding
- Optically clear
- Non-yellowing

Storage & Handling

Storage Temperature	5 to 25°C *(41 to 77°F)*

Due to separation (common in Polyurethane adhesives) it may be necessary to shake or stir product thoroughly before use.

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