

## Features & Benefits

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

## Description

**PERMABOND® PT328** 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. Its long pot life makes it suitable for covering large areas. It has excellent environmental and chemical resistance.

## Physical Properties of Uncured Adhesive

|                      | PT328 A                             | PT328 B                             |
|----------------------|-------------------------------------|-------------------------------------|
| Chemical composition | Polyurethane                        | Isocyanate                          |
| Appearance           | Black                               | Cream                               |
| Viscosity @ 25°C     | 4000-8000 mPa.s (cP)<br>Thixotropic | 3000-6000 mPa.s (cP)<br>Thixotropic |
| Specific Gravity     | 1.25                                | 1.45                                |

## Typical Curing Properties

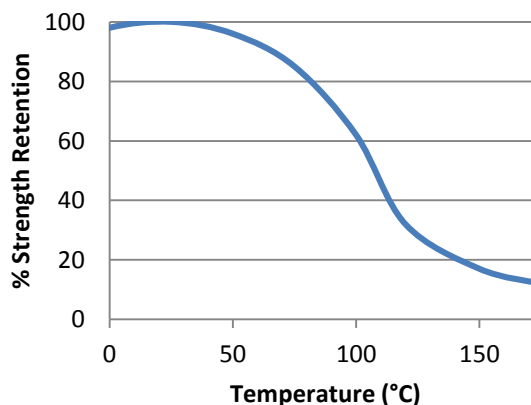
|  |                                      |
|--|--------------------------------------|
| Ratio of use   | 1 : 1 by volume                      |
| Maximum gap fill   | 5 mm (0.2 in)                        |
| Pot life   | 15-20 minutes                        |
| Handling time (steel) ISO4587 (0.3 N/mm <sup>2</sup> shear strength is achieved) | 90-120 minutes                       |
| Full cure  | @23°C: 4-5 days<br>@90°C: 30 minutes |

## Typical Performance of Cured Adhesive

|   |  |
|---|--|
| Shear strength* (ISO4587)                     | Zinc: 5-6 MPa (700-900 psi)<br>Steel: 12-18 MPa (1700-2600psi)<br>FRP Glass Epoxy: 5-7 N/mm <sup>2</sup> (700-1000psi)<br>FRP Glass Polyester: 12-14 N/mm <sup>2</sup> (1700-2000psi)<br>Carbon Fibre: 9-11 N/mm <sup>2</sup> (1300-1600psi) |
| Tensile strength ISO 37                       | 15-20 MPa (2200-2900 psi)  |
| Elongation at break ISO 37                    | <20%   |
| Hardness ISO 868                              | 60-75 Shore D  |
| Coefficient of thermal expansion (ASTM D-696) | 85 x 10 <sup>-6</sup> 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.

PT328 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.

## 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 4-5 days for adhesive to fully cure. Accelerated cure times may be achieved by heating.

## Storage & Handling

|   |                            |
|---|----------------------------|
| Storage Temperature                                     | 15 to 25°C<br>(60 to 77°F) |
| Shelf Life<br>Stored in original unopened<br>containers | 6 months                   |

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

## 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

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