

## Features & Benefits

- Vibration resistant
- Can be applied post-assembly
- Improved fatigue life
- Seals porosity in welds and castings

## Description

**Permabond® A126** is a high-strength anaerobic adhesive for permanent assembly of coaxial assemblies or threaded metal components. The exceptionally low viscosity of this product makes it ideal for use on tight fitting components or where the adhesive needs to be applied after assembly. In addition it may also be used to seal porosity in welds or castings.

## Physical Properties of Uncured Adhesive

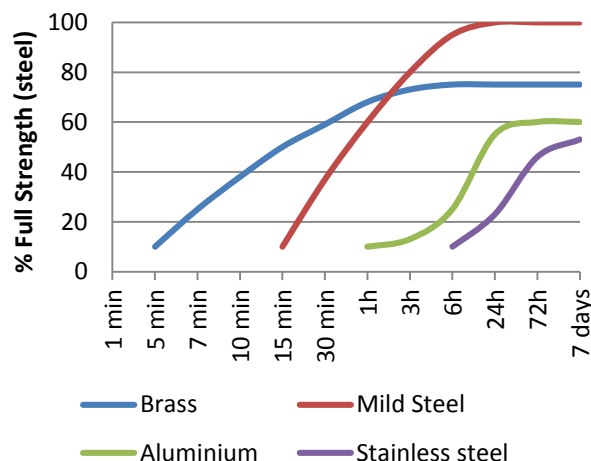
Chemical composition	Acrylic
Appearance	Green
Viscosity @ 25°C	10-30 mPa.s (cP)
Specific Gravity	1.0
UV fluorescence	Yes

## Typical Curing Properties

Maximum gap fill	0.05 mm <b>0.001 in</b>
Maximum thread size	M10 <b>½"</b>
Time taken to reach handling strength (M10 steel) @23°C	15 minutes*
Time taken to reach working strength (M10 steel) @23°C	1 hour
Full strength (M10 steel) @23°C	24 hours

\*Handling time at 23°C / 73°F. Copper and its alloys will make the adhesive cure more quickly, while oxidised or passivated surfaces (like stainless steel) will reduce cure speed. To reduce curing time, use Permabond activator A905 or ASC10. Alternatively, increasing the curing temperature will reduce curing time.

## Strength Development



Cure times are typical at 23°C. Copper and its alloys will follow the faster cure while oxidised or passivated surfaces like stainless steel will tend towards the slower curve. Lower temperatures or large gaps will tend to extend the cure time. To reduce the cure time the use of Permabond A905, ASC10, or heat can be considered.

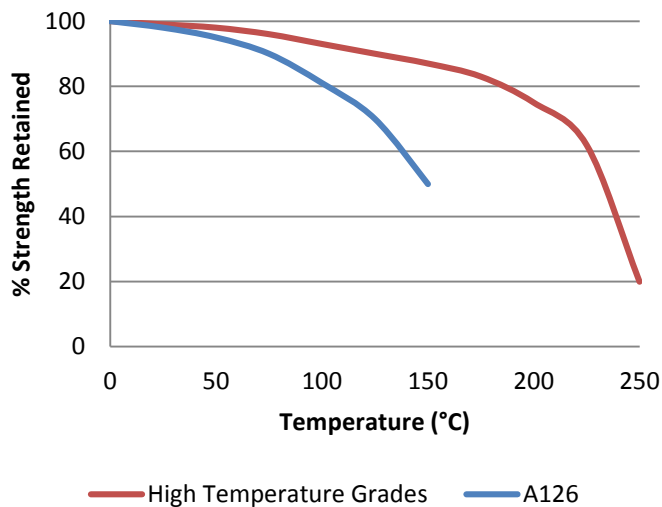
## Typical Performance of Cured Adhesive

Torque strength (M10 steel ISO10964)	Break 14 N·m <b>125 in.lb</b> Prevail 34 N·m <b>300 in.lb</b>
Shear strength (steel collar & pin ISO10123)	10-20 MPa <b>1450-2900 psi</b>
Coefficient of thermal expansion	90 x 10 <sup>-6</sup> mm/mm/°C
Dielectric strength	11 kV/mm
Thermal conductivity	0.19 W/(m.K)

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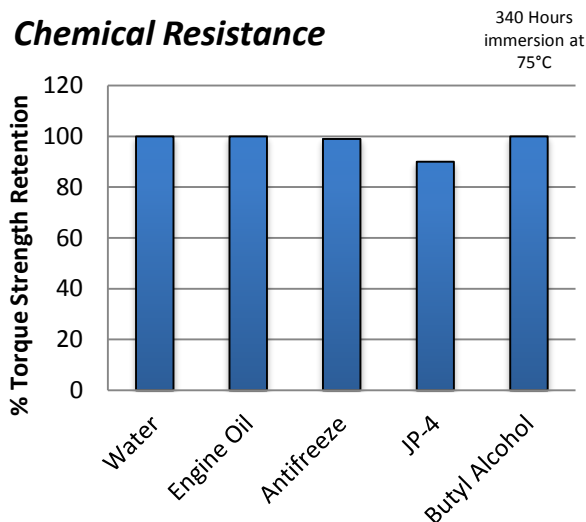
## Hot Strength



*"Hot strength" Breakaway strength on M10 Zinc plated bolts according to ISO 10964. Cured at 23°C for 24 hours then conditioned for 30 minutes at testing temperature.*

A126 can withstand higher temperatures for brief periods (such as for paint baking and wave soldering processes) providing the joint is not unduly stressed. The minimum temperature the cured adhesive can be exposed to is -55°C (-65°F) depending on the materials being bonded.

## Chemical Resistance



***This product is not recommended for use in contact with oxygen, oxygen rich systems and other strong oxidizing materials. This product may adversely affect some thermoplastics and users must check compatibility of the product with such substrates before using.***

## Surface Preparation

Though the anaerobic adhesives will tolerate a slight degree of surface contamination, best results are obtained on clean, dry and grease free surfaces. The use of a suitable solvent-based cleaner (such as acetone or isopropanol) is recommended.

In general, roughened surfaces (~25µm) give higher bond strengths than polished or ground surfaces.

To reduce the curing time, especially on inactive surfaces (such as zinc, aluminium and stainless steel), the use of Permabond A905 or ASC10 can be considered.

## Directions for Use

### For use as retainer:

- 1) Apply a circumferential bead; preferentially to the female component. Assemble with a twisting action. Can be post applied to assembled parts.
- 2) For larger components use thixotropic products to prevent run off.
- 3) Take care to ensure adhesive does not enter ball races or other mechanisms.

### For use as threadlocker:

- 1) Due to the wicking viscosity of the adhesive, it can be post-applied (so nuts and bolts already assembled). Apply adhesive to the juncture where the nut and bolt meet.
- 2) For blind holes apply several drops down the internal threads into the bottom of the hole.

### For use as porosity sealant:

- 1) Expose the weld. Remove dirt, rust, scale, and/or paint from the weld area to expose the metal surface.
- 2) Bleed the system of all water and pressure to allow the A126 to wick into the porosities.
- 3) Heat the area to 50°C (120°F) or higher. Using heat will expand and activate the metal as well as evaporate any water. **HEAT SHOULD NOT BE USED WITH A CHEMICAL SYSTEM.** Consult the MSDS for information on the flash point, flammability and heat stability of the chemicals involved.
- 4) Apply A126 to the warm welds with a brush, swab or clean rag. Wet the area thoroughly with the product so that it can wick into all the open areas within the metal and form a new seal.
- 5) If the porosity is large or there are several pin-holes in the same area, several applications may be necessary to maximize the amount of A126

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that wicks into the voids to assure a permanent seal.

- 6) Within five to ten minutes the product should cure with the capability of handling a low pressure. Within an hour it should be able to handle 200psi to 500psi of pressure. Recharging of a sprinkler system can be done after that period.
- 7) After an hour wipe away any surface residue.

## Storage & Handling

Storage Temperature	5 to 25°C (41 to 77°F)
Users are reminded that all materials, whether innocuous or not, should be handled in accordance with the principles of good industrial hygiene. Full information can be obtained from the Safety Data Sheet.	

## **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

### **Contact Permabond:**

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