

# Anaerobic Threadsealant

**Permabond®**  
Engineering Adhesives



## Features & Benefits

- 💧 Allows alignment of parts during cure
- 💧 No loose particles to clog valves
- 💧 Instant low pressure seal
- 💧 Excellent chemical resistance
- 💧 KIWA approved
- 💧 WRAS listed for contact with wholesome (potable) water

## Description

**Permabond® A131** is an anaerobic adhesive designed to seal threaded metal pipe connections carrying a wide variety of gases and liquids, including potable water. Suitable for use on both parallel and tapered threads, the delayed cure allows accurate alignment of components. Capable of giving an instant pressure seal and not drying out like many mastics, re-work can effectively be eliminated. Should disassembly be necessary, this can be accomplished using normal tools.

## Physical Properties of Uncured Adhesive

Chemical composition	Acrylic
Appearance	White
Viscosity @ 25°C	2rpm: 40,000 mPa.s (cP) 20rpm: 6,000 mPa.s (cP)
Specific Gravity	1.1
UV fluorescence	Yes

## Typical Curing Properties

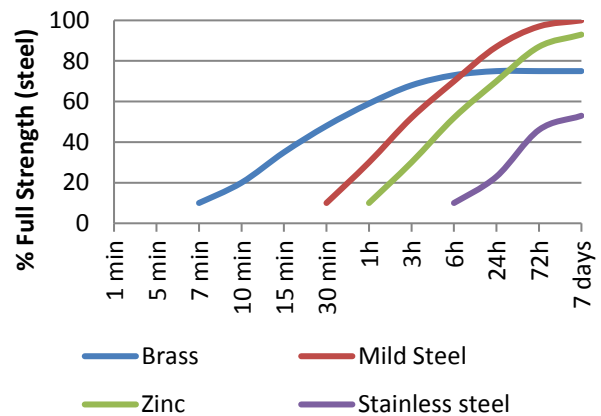
Maximum gap fill	0.5 mm <b>0.02 in</b>
Maximum thread size	M56 <b>2 in</b>
Time taken to reach handling strength (M10 steel) @23°C	45 minutes*
Time taken to reach working strength (M10 steel) @23°C	2 hours
Full strength (M10 steel) @23°C	24 hours

\*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.

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.

No representative of ours has any authority to waive or change the foregoing provisions but, subject to such provisions, our engineers are available to assist purchasers in adapting our products to their needs and to the circumstances prevailing in their business. Nothing contained herein shall be construed to imply the non-existence of any relevant patents or to constitute a permission, inducement or recommendation to practice any invention covered by any patent, without authority from the owner of this patent. We also expect purchasers to use our products in accordance with the guiding principles of the Chemical Manufacturers Association's Responsible Care® program.

## Strength Development

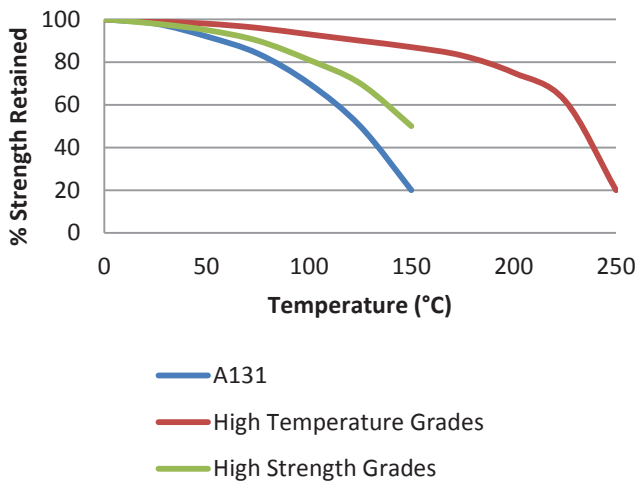


\*Cure times are typical at 23°C. Copper and its alloys will follow the faster cure while oxidised or passivated surfaces like stainless steel will tend towards the slower curve. Lower temperatures or large gaps will tend to extend the cure time. To reduce the cure time the use of Permabond A905, ASC10,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

## Typical Performance of Cured Adhesive

Torque strength (M10 steel ISO10964)	Break 10 N·m <b>90 in.lb</b> Prevail 7 N·m <b>60 in.lb</b>
Shear strength (steel collar & pin ISO10123)	6 MPa <b>870 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)

## 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.*

A131 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.

## 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

- 1) Apply a continuous bead circumferentially 1-2 threads from the leading edge.
- 2) Ensure sufficient is applied to give a complete seal.
- 3) For taper/parallel threads ensure adhesive is positioned where the threads will engage fully. Gaps, and therefore cure times, may be greater than expected with this joint configuration.
- 4) Tighten with normal tools.

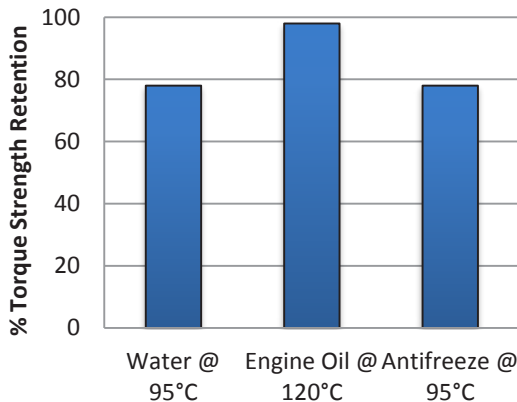
## Video Link

Threadsealant directions for use:  
<https://youtu.be/6Db9pLS7WCA>



## Chemical Resistance

Steel M8 nuts & bolts  
7 days immersion



***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.***

## 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.

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

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.**

No representative of ours has any authority to waive or change the foregoing provisions but, subject to such provisions, our engineers are available to assist purchasers in adapting our products to their needs and to the circumstances prevailing in their business. Nothing contained herein shall be construed to imply the non-existence of any relevant patents or to constitute a permission, inducement or recommendation to practice any invention covered by any patent, without authority from the owner of this patent. We also expect purchasers to use our products in accordance with the guiding principles of the Chemical Manufacturers Association's Responsible Care® program.