

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

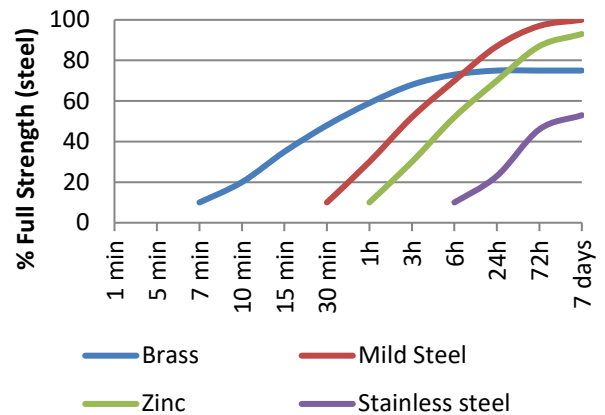
| | |
|----------------------|--|
| Chemical composition | Methacrylate ester |
| Appearance | White |
| Viscosity @ 25°C | 2rpm: 40,000 mPa.s (cP) 20rpm: 6,000 mPa.s (cP) |
| Specific Gravity | 1.1 |
| UV fluorescence | Yes |

Typical Curing Properties

| | |
|---|-----------------------|
| Maximum gap fill | 0.5 mm 0.02 in |
| Maximum thread size | M56 2 in |
| 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.

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.

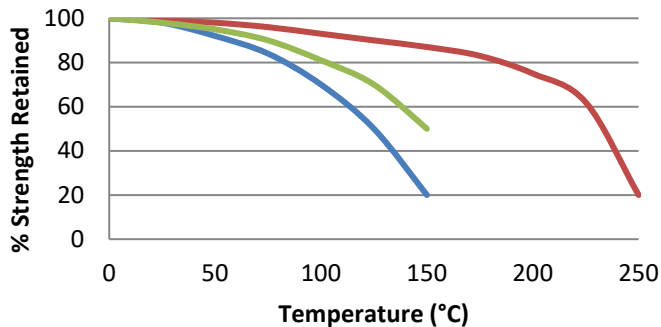
Typical Performance of Cured Adhesive

| | |
|--|---|
| Torque strength (M10 steel ISO10964) | Break 10 N·m 90 in.lb Prevail 7 N·m 60 in.lb |
| Shear strength (steel collar & pin ISO10123) | 6 MPa 870 psi |
| Coefficient of thermal expansion | 90 x 10 ⁻⁶ mm/mm/°C |
| Dielectric strength | 11 kV/mm |
| Thermal conductivity | 0.19 W/(m.K) |

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Hot Strength



- A131
- High Temperature Grades
- High Strength Grades

"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

Best results are obtained on bare metal surfaces. Remove paint, hemp fibres, PTFE tape or any other surface contamination from the bond area that could inhibit the cure. The use of a suitable solvent-based cleaner (such as acetone or isopropanol) is recommended to remove oil, grease, and other contaminants. Allow the solvent to evaporate before applying the adhesive.

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 around the circumference of the male thread (normally 1-2 threads back from the leading edge).
- 2) For taper/parallel threads ensure adhesive is positioned where the threads will engage fully. Gaps and cure times may be greater than expected with this joint configuration.
- 3) Ensure sufficient adhesive is applied to give a complete seal.
- 4) Tighten the components with suitable tools. Do not adjust. Allow the product to fully cure before using the part (lower temperatures or large gaps will extend the cure time).

NB: Adhesive outside of a closed joint (i.e., excess material) will remain uncured due to air contact. Adhesive inside the joint will cure solid. Ensure the adhesive viscosity is suitable for your thread size.

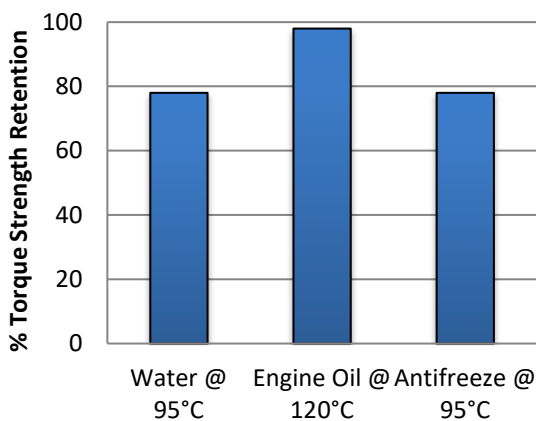
Video Link

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.

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