

## Features & Benefits

- 💧 PFAS-free formulation
- 💧 Replaces tapes and yarns
- 💧 Low breakaway torque for easy disassembly
- 💧 Shock and vibration resistant
- 💧 100% reactive – no solvents

## Approvals

DVGW Gas Approval /  
 KTW-BWGL Drinking Water Compliant /  
 WRAS Drinking Water Approval

## Description

**PERMABOND® LH055** 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, its thixotropy prevents migration from threads before and after curing. Should disassembly be necessary, this can be accomplished using normal tools.

## Typical Physical Properties of Uncured Adhesive

Chemical composition	Methacrylate ester
Appearance	White
Viscosity @ 25°C	Brookfield 20rpm: 25,000 mPa.s (cP) Thixotropic
Specific Gravity	1.00
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 zinc) @23°C*	30 minutes
Time taken to reach working strength (M10 zinc) @23°C	2 hours
Full strength (M10 zinc) @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.

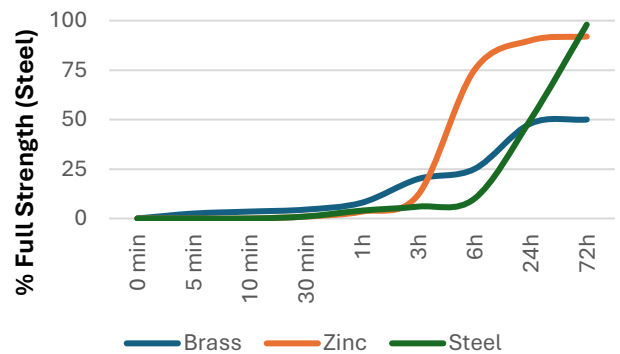
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## Typical Performance of Cured Adhesive

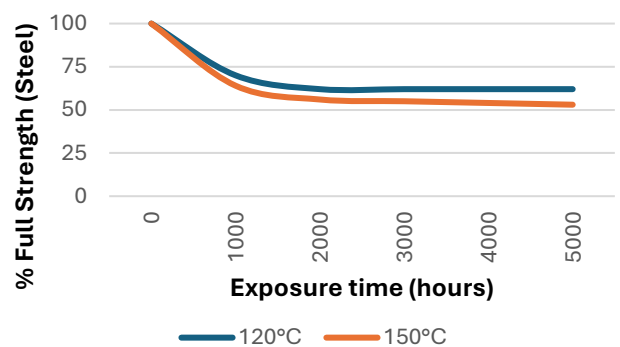
Torque strength (M10 zinc ISO 10964)	Break 8 N-m <b>70 in.lb</b> Prevail 3 N-m <b>25 in.lb</b>
Shear strength (Steel collar & pin ISO 10123)	5 MPa <b>725 psi</b>
Coefficient of thermal expansion	90 x 10 <sup>-6</sup> mm/mm/°C
Dielectric strength	11 kV/mm
Thermal conductivity	0.19 W/(m.K)

## Strength Development



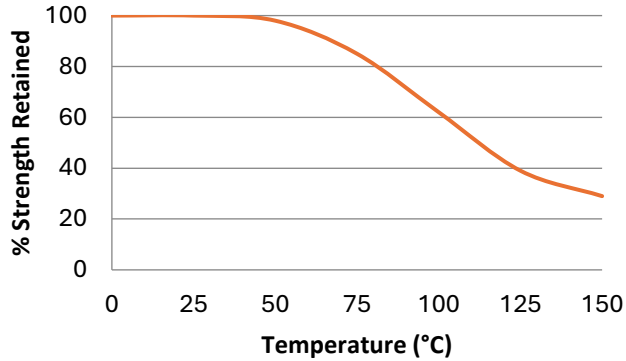
\*Cure times are typical at 23°C. Copper and its alloys will follow the faster cure while oxidised or passivated surfaces like stainless steel will tend towards the slower curve. Lower temperatures or large gaps will tend to extend the cure time. To reduce the cure time the use of Permabond® A905, ASC10,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

## Heat Ageing



\*\*"Heat ageing" Breakaway strength on M10 Zinc-plated bolts, cured for 7 days at 25°C, aged at temperature indicated above then tested at 25°C according to ISO 10964.

## 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.

Permabond® LH055 can withstand higher temperatures for brief periods (such as for paint-baking and wave soldering processes) provided the joint is not unduly stressed.

## Chemical Resistance

Immersion (1000 hrs)	Temperature (°C)	Strength Retention (%)
Brake Oil	25	100
Gasoline	25	90
Motor Oil	25	70

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

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.

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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## 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>



## 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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