

Permabond A1044 is a rapid curing sealant designed to lock and seal metal pipe connections, offering very good resistance to even the most aggressive chemicals. Permabond A1044 can be used to seal against most gases and liquids and can provide an instant pressure seal, minimising down time and speeding up production processes. Unlike PTFE tape or hemp, Permabond A1044 will not shred or dry out, so it will provide a durable seal, helping to extend the life of the components.

Major Features

- * Instant low pressure seal
- * Does not shread or dry out
- * Excellent chemical resistance
- * Good high pressure resistance

Physical Properties

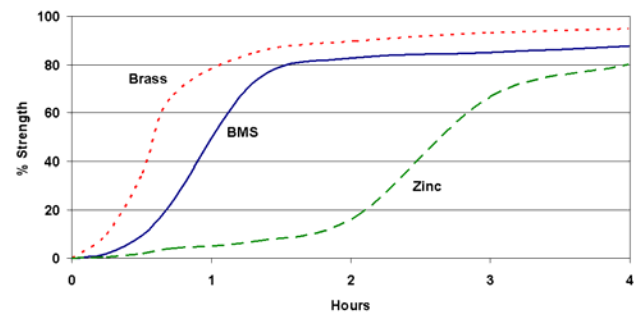
Chemical Type	Acrylic Single Part
Colour	White
Viscosity @ 25°C mPa.s	75,000 Thixotropic
Density	1.09
UV Fluorescent	Yes

Performance

Maximum Gap Fill		0.5 mm
Max. Thread Size		M80 3"
Handling strength	Steel	10-25 minutes
Working strength		1 hour
Full strength		24 hours
Torque strength	Steel M8 Nuts and Bolts	18 Nm
Shear strength	Steel Collar and Pin	17 MPa
Service Temp.		-55 to +150°C

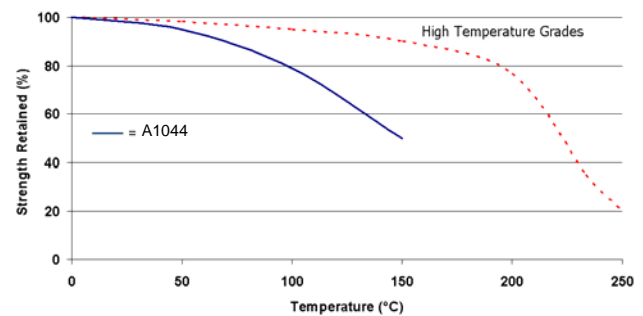
WRAS approved for contact with potable water

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, or heat, can be considered.

Hot Strength



The reduction in strength shown here is reversed on cooling providing the joint is not overstressed. Exposure to higher temperatures may be acceptable for short periods

Chemical Resistance

Immersion (1,000 Hours)	Temperature (°C)	Strength Retention (%)
Engine Oil	125	100
Water/Glycol	75	93
Leaded Petrol	23	100
Unleaded Petrol	23	100
Diesel	23	98
Brake Fluid	23	95
99% IMS	23	95
Acetone	23	60

This product is not recommended for use in joints which will be in contact with either steam or pure oxygen. Avoid prolonged contact with strong acids, alkalis and very polar solvents

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 Permabond Cleaner A 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 can be considered.

Adhesive Application



Gasketing

Apply as a bead, by roller, silkscreen or stencil. Ensure all potential leak paths such as flange bolt holes are encircled.

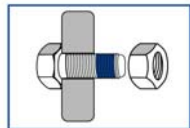
Removal: use normal tools to prise the surfaces apart. Ensure old adhesive is removed before reassembling the parts.

Retaining

Apply a circumferential bead; preferentially to the female component. Assemble with a twisting action.



For larger components use thixotropic products to prevent run off. Take care to ensure adhesive does not enter ball races or other mechanisms.



Thread Locking

Apply sufficient adhesive to the bolt to ensure adequate coverage. For coarse threads use thixotropic grades.

For blind holes adhesive should be applied to the lower end of the female thread to ensure it is not forced out of the joint during assembly.

Thread Sealing

Apply a continuous bead circumferentially 1-2 threads from the leading edge. Ensure sufficient is applied to give a complete seal.

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.

Tighten with normal tools.



Storage and Handling

Storage Temperature

5 to 25°C

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 Material Safety Data Sheet.

Other products in the Permabond range....

Anaerobics

- ✓ Toughened, Gas & Water approved
- ✓ High temperature resistance

Cyanoacrylates

- ✓ Low bloom / low odour
- ✓ Flexible, high temperature resistance

Epoxies

- ✓ Fast cure, toughened and flexible grades

Toughened Acrylics

- ✓ Rapid cure, low odour

UV Light Cured

- ✓ Glass / plastic bonding
- ✓ Optically clear, non yellowing

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