

Permabond A118 is an anaerobic adhesive designed to provide permanent locking and sealing of metal parts such as bearings, gears, studs and other threaded components. It exhibits high strength, excellent durability and resistance to vibration, fatigue and fretting corrosion. These features allow machining tolerances to be relaxed, and mechanical locking devices to be eliminated, with consequent cost savings.

Major Features

- * Excellent chemical resistance
- * Improved fatigue life
- * Lower cost than interference fit
- * Low shrinkage during cure

Physical Properties

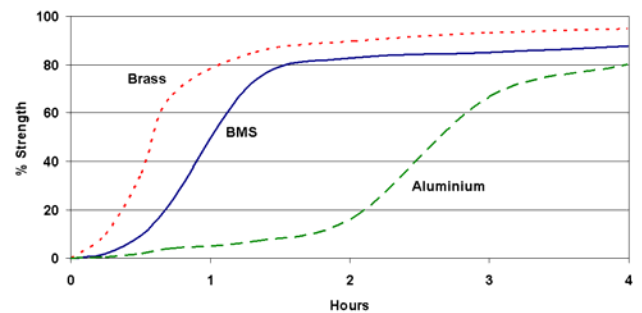
Chemical Type	Acrylic Single Part
Colour	Green
Viscosity @ 25°C mm ² /s	500
Density	1.07
UV Fluorescent	Yes

Performance

Maximum Gap Fill Max. Thread Size		0.12 mm M20 3/4"
Handling strength	Steel	10-25 minutes
Working strength		1 hour
Full strength		24 hours
Torque strength	Steel M8 Nuts and Bolts	25 Nm
Shear strength	Steel Collar and Pin	21 MPa
Service Temp.		-55 to +150°C

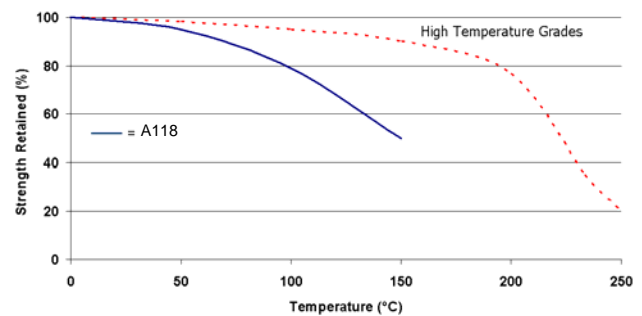
WRAS approved for contact with potable water

Strength Development



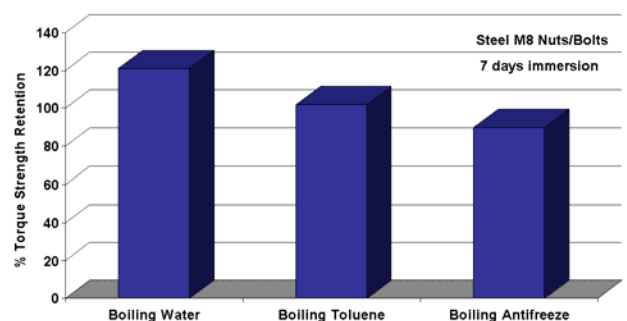
Cure times are typical at 23°C. Copper and its alloys will follow the faster cure while oxidised or passivated surfaces like stainless steel will tend towards the slower curve. Lower temperatures or large gaps will tend to extend the cure time. To reduce the cure time the use of Permabond A905, or heat,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



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.

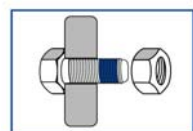
Removal: use normal tools to prise the surfaces apart. Ensure old adhesive is removed before reassembling the parts.

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

Contact Permabond:

Europe: Tel +44(0)2380 611 400
UK Helpline: 0800 9759800
Deutschland: 0800 10 13 177
France: 0805 11 13 88
info.europe@permabond.com

US: Tel 00 1 732-868-1372
Helpline 800-640-7599
info.americas@permabond.com

Asia: Tel 00 886 939 49 3310
info.asia@permabond.com

www.permabond.com

The information given and the recommendations made herein are based on our experience and are believed to be accurate. No guarantee as to, or responsibility for, their accuracy can be given or accepted, however, and no statement herein is to be treated as a representation or warranty. In every case we urge and recommend that purchasers, before using any product, make their own tests to determine, to their own satisfaction, its suitability for their particular purposes under their own operating conditions.