

### Major Features

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

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.

### Physical Properties

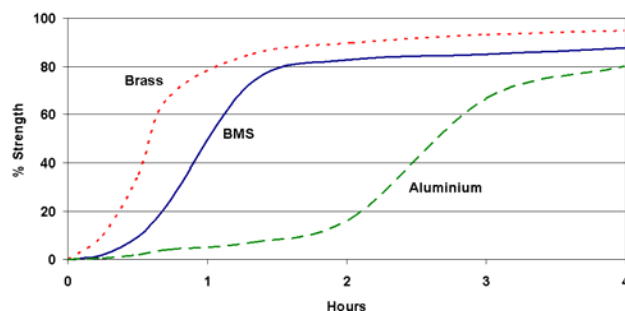
Chemical Type	Acrylic Single Part
Colour	Green
Viscosity @ 25°C mm <sup>2</sup> /s	500
Density	1.07
UV Fluorescent	Yes

### Performance

Maximum Gap Fill		0.12 mm
Max. Thread Size		M20 ¾"
Handling strength	Steel	10-25 minutes
Working strength		1 hour
Full strength		24 hours
Torque strength (Break / Prevail)	M10 Steel ISO10964	33 / 58 Nm
Shear strength	Steel Collar and Pin	21 MPa
Service Temp.		-55 to +150°C

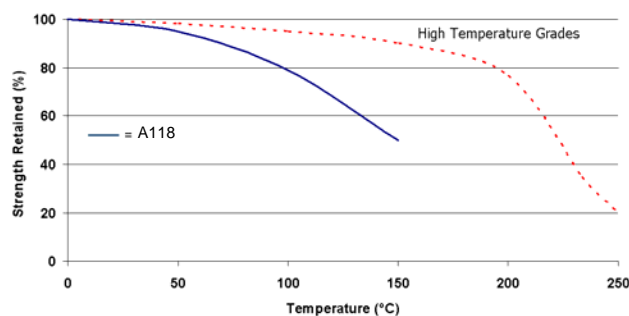
WRAS approved for contact with potable water

### Strength Development



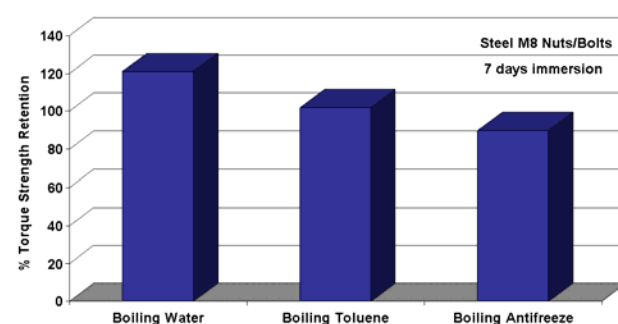
Cure times are typical at 23°C. Copper and its alloys will follow the faster cure while oxidised or passivated surfaces like stainless steel will tend towards the slower curve. Lower temperatures or large gaps will tend to extend the cure time. To reduce the cure time the use of Permabond A905, or heat,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

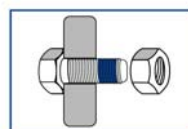
Removal: use normal tools to prise the surfaces apart. Ensure old adhesive is removed before reassembling the parts.

### 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

<b>Storage Temperature</b>	<b>5 to 25°C</b>
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
- ✓ Flexible grades

#### Toughened Acrylics

- ✓ Rapid cure
- ✓ Low odour

#### UV Light Cured

- ✓ Glass / plastic bonding
- ✓ Optically clear
- ✓ Non yellowing

### Contact Permabond:

**Europe:** Tel +44(0)1962 711 661  
 UK Helpline: 0800 975 9800  
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 France: 0805 11 13 88  
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