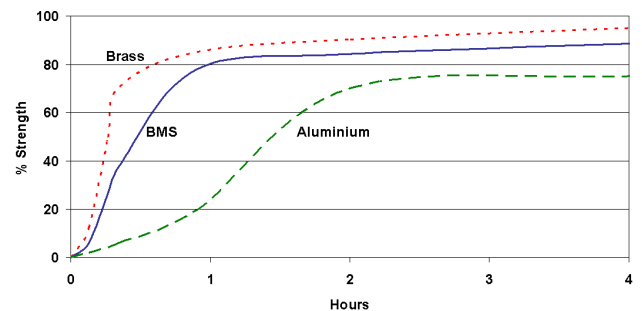


Major Features

- * Rapid Cure
- * Very high strength
- * Suitable for use with non ferrous metals
- * Excellent temperature resistance
- * Excellent chemical resistance

Permabond HM135 is a fast curing, medium viscosity, anaerobic adhesive for locking and sealing threads and retaining cylindrical components. It gives maximum torque strength on brass or plated brass components and provides excellent temperature and chemical resistance. The product is suitable for contact with potable water and is WRAS listed.

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.

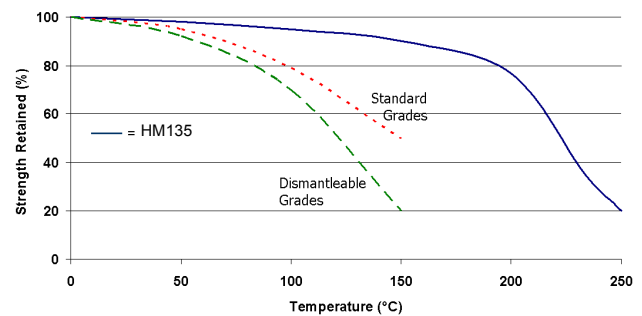
Physical Properties

Chemical Type	Acrylic Single Part
Colour	Green
Viscosity @ 25°C mPa.s	500
Density	1.1
UV Fluorescent	No

Performance

Maximum Gap Fill		0.2 mm
Max. Thread Size		M25 3/4"
Handling strength		5 minutes
Working strength		2 hours
Full strength		4 hours
Torque strength (Break / Prevail)	M10 Zn Plated ISO10964	38 / 65 Nm
Shear strength	Steel	30 MPa
Service Temp.		-55 to +200°C

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	85	80
Unleaded Petrol	23	95
Brake Fluid	23	100
99% IMS	23	75
Acetone	23	95

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

WRAS approved for contact with potable water

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 ($\sim 25\mu\text{m}$) 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.

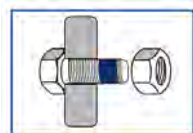
Removal: use normal tools to prise the surfaces apart. Ensure old adhesive is removed before reassembling the parts.

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
- ✓ Flexible grades

Toughened Acrylics

- ✓ Rapid cure
- ✓ Low odour

UV Light Cured

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

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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.

19/04/2006