

Permabond offers a range of adhesive technologies suitable for use in shipbuilding, repair, and maintenance. Example applications include:

- Permabond adhesives are ideal for bonding gears to shafts, repairing and replacing spun bearings, bonding bushings and sealing and gasketing gear box housings.
- Permabond structural grade adhesives and metal plates are used to strengthen areas with stress cracks resulting from environmental and operational conditions.
- Permabond anaerobic FIP gaskets (form in place) are used to seal flanges and bolt holes on a ship's heat exchanger.
- Permabond retaining compounds offer an excellent alternative to welding or brazing. Gap filling and strong bonds in one step allows for relaxed tolerances of machined parts.

### Permabond® Adhesive and Sealant Features & Benefits

#### Benefits of Permabond anaerobic adhesives and sealants:

- Available in a range of viscosities to suit component size, diameter, and fit
- Prevent corrosion, metal fretting, vibration loosening.
- Machining tolerances can be relaxed (no more interference or shrink fits)
- Help lubricate parts making the assembly process much easier
- Permabond gasketmakers are ideal for making a whole variety of different shaped gaskets
- Excellent resistance to water, oil, petrol and other chemicals.
- High temperature resistant products also available.

#### Benefits of Permabond adhesives and sealants over welding or brazing

- Less skill involved - no need for a trained welder
- Reduced workplace hazards - no oxy-acetylene needed
- No pin prick weld holes; improved sealing
- More choice in terms of using dissimilar materials
- Adhesives available with metallic colour to give a good aesthetic appearance
- Reduced costs

#### Ideal for bonding:

ABS

Acrylic

Aluminium

Carbon Fibre

Composite

EPDM

Ferrite

FRP & GRP

Glass

Laminate

Leather

Nylon

Phenolic

Polycarbonate

Polyethylene\*

Polypropylene\*

Polystyrene

PVC

Rubber

Steel

Titanium

Zinc

+Many more materials

\*Specific grades only



# Marine Adhesives

Features	Typical Applications	Cure method	Viscosity (mPa.s) cP	Gap fill (mm) in	Max. shear strength steel (MPa) psi	Temperature range (°C) °F	Availability
<b>Permabond A1042</b> Removable anaerobic threadlocker - prevents vibration loosening, corrosion, leakage	Threadlocking and sealing hydraulics	Anaerobic cure	2rpm: 8,000 20rpm: 1700	(0.12) 0.005	(12) 1,700	(-55 to +150) -65 to +300	Europe, Middle East, Australia
<b>Permabond MM115</b> Removable anaerobic threadlocker - prevents vibration loosening, corrosion, leakage	Threadlocking	Anaerobic cure	1,300	(0.15) 0.006	(10) 1,500	(-55 to +150) -65 to +300	Americas & Asia
<b>Permabond LM012</b> Hydraulic grade - no fillers	Sealing hydraulic connections	Anaerobic cure	2,000	(0.2) 0.008	(5) 750	(-55 to +175) -65 to +350	Americas & Asia
<b>Permabond HM129</b> Permanent anaerobic threadlocker - can be used on oily / contaminated parts	Threadlocking nuts and bolts	Anaerobic cure	500	(0.15) 0.006	(17) 2,500	(-55 to +150) -65 to +300	Worldwide
<b>Permabond MH196</b> High viscosity anaerobic sealant for making formed-in-situ gaskets and for sealing flanges and bolt holes	Gasketing and flange sealing	Anaerobic cure	2rpm: 500,000 20rpm: 100,000	(0.5) 0.02	(10) 1,450	(-55 to +200) -65 to +392	Worldwide
<b>Permabond A131</b> Thread sealant - suitable for sealing fuel, water, sprinkler, and heating pipework	Thread sealing	Anaerobic cure	2rpm: 40,000 20rpm: 6,000	(0.5) 0.02	(6) 870	(-55 to +150) -65 to +300	Europe, Middle East, Australia
<b>Permabond LH050</b> Thread sealant - suitable for sealing fuel, water, sprinkler, and heating pipework	Thread sealing	Anaerobic cure	250,000	(0.5) 0.02	(7) 1,000	(-55 to +177) -65 to +350	Americas & Asia
<b>Permabond A1046</b> Toughened, rapid curing high strength retaining adhesive	Bonding gears to shafts, bearings into housings. Also ideal for sealing air conditioning refrigerant pipework	Anaerobic cure	2rpm: 9,000 20rpm: 2,500	(0.25) 0.01	(25) 3,600	(-55 to +150) -65 to +300	Europe, Middle East, Australia
<b>Permabond HM165</b> Toughened, rapid curing high strength retaining adhesive	Bonding gears to shafts, bearings into housings. Also ideal for sealing air conditioning refrigerant pipework	Anaerobic cure	2rpm: 25,000 20rpm: 10,000	(0.3) 0.012	(20) 2,900	(-55 to +230) -65 to +446	Worldwide
<b>Permabond A134</b> High viscosity retaining adhesive, suitable for bonding larger parts	Bonding gears to shafts, bearings into housings	Anaerobic cure	2rpm: 70,000 20rpm: 8,000	(0.5) 0.02	(21) 3,000	(-55 to +150) -65 to +300	Europe, Middle East, Australia



THREAD SEALING



THREADLOCKING



GASKETING



RETAINING

**If you can't see the exact product you are looking for, or need more in depth technical information, Permabond's technical team would be more than happy to help. For full, up-to-date technical information, please refer to the TDS (Technical Data Sheet).**

**SEE BONDING and STRUCTURAL ADHESIVES ON THE FOLLOWING PAGE!**

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<b>Permabond 2011</b> General purpose instant bonding gel	Repairing interior trim, bonding rubber mat edges to prevent trip hazards	Moisture cure	Gel	(0.5) 0.02	(24) 3,500	(-55 to +120) -65 to +250	Worldwide
<b>Permabond TA4200</b> Adhesive for structural bonding	Repair of ship's superstructure - metal bonding	Resin & hardener (room temperature cure)	45,000	(4) 0.16	(25) 3,600	(-40 to +120) -40 to +250	Europe, Middle East, Australia
<b>Permabond TA4810</b> Adhesive for structural bonding	Repair of ship's superstructure - metal bonding	Resin & hardener (room temperature cure)	175,000	(2) 0.08	(28) 4,000	(-40 to +120) -40 to +250	Americas & Asia
<b>Permabond ET538</b> 2-part epoxy for bonding of wood, fibre-glass, composites, metal etc. Excellent salt water resistance.	Hull, mast and deck construction & repair. Filling gaps and cracks.	Resin & hardener (room temperature cure)	Paste	(5) 0.2	(20) 2,900	(-40 to +100) -40 to +212	Worldwide

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## STRUCTURAL ADHESIVES

### Contact Permabond

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Distributor Stamp

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