Permabond®
Engineering Adhesives

MARINE ADHESIVES



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.

KEY FEATURES & BENEFITS

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
- Form in place gasketmakers make any shape gasket
- Excellent resistance to water, oil, petrol and other chemicals.
- High temperature resistant products also available.



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 color to give a good aesthetic appearance



IDEAL FOR BONDING:

- ABS
- Acrylic
- Aluminum
- Carbon Fiber
- Composite
- EPDM
- FRP/GRP
- Ferrite
- Glass
- Laminate
- Leather
- Nylon
- Phenolic
- Polypropylene*
- Polyethylene*
- Polystyrene
- PVC
- Rubber
- Steel
- Titanium
- Zinc

...and many more!

*Specific grades only

Anaerobic Adhesives & Sealants for Marine Appications

Features	Typical Applications	Cure method	Viscosity (mPa.s) cP	Gap fill (mm) in	Max. shear strength steel (MPa) psi	Temperature range (°C) °F	Availability
Permabond A1042 Removable anaerobic threadlocker - prevents vibration loosening, corrosion, leakage	Threadlocking and sealing hydraulics	Anaerobic cure	2rpm: 8000 20rpm: 1700	(0.12) 0.005	(12) *1700*	(-55 to +150) *-65 to +300*	Europe, Middle East, Australia
Permabond MM115 Removable anaerobic threadlocker - prevents vibration loosening, corrosion, leakage	Threadlocking	Anaerobic cure	1300	(0.15) 0.006	(10) *1500*	(-55 to +150) *-65 to +300*	Americas & Asia
Permabond LM012 Hydraulic grade - no fillers	Sealing hydraulic connections	Anaerobic cure	2000	(0.2) 0.008	(5) *750*	(-55 to +175) *-65 to 350*	Americas & Asia
Permabond HM129 Permanent anaerobic threadlocker - can be used on oily / contaminated parts	Threadlocking nuts and bolts	Anaerobic cure	500	(0.15) 0.006	(17) *2000*	(-55 to +150) *-65 to +300*	Worldwide
Permabond MH196 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) *1450*	(-55 to +200) *-65 to +392*	Worldwide
Permabond A131 Thread sealant - suitable for sealing fuel, water, sprinkler, and heating pipework	Thread sealing	Anaerobic cure	2rpm: 40,000 20rpm: 6000	(0.5) 0.02	(6) *870*	(-55 to +150) *-65 to +300*	Europe, Middle East, Australia
Permabond LH050 Thread sealant - suitable for sealing fuel, water, sprinkler, and heating pipework	Thread sealing	Anaerobic cure	250,000	(0.5) 0.02	(7) *1000*	(-55 to +177) *-65 to 350*	Americas & Asia
Permabond A1046 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: 9000 20rpm: 2500	(0.25) 0.01	(25) *3600*	(-55 to +150) *-65 to +300*	Europe, Middle East, Australia
Permabond HM165 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) *2900*	(-55 to +230) *-65 to +446*	Worldwide
Permabond A134 High viscosity retaining adhesive, suitable for bonding larger parts	Bonding gears to shafts, bearings into housings	Anaerobic cure	2rpm: 70,000 20rpm: 8000	(0.5) 0.02	(21) *3000*	(-55 to +150) *-65 to +300*	Europe, Middle East, Australia



THREAD SEALING



THREADLOCKING



GASKETING



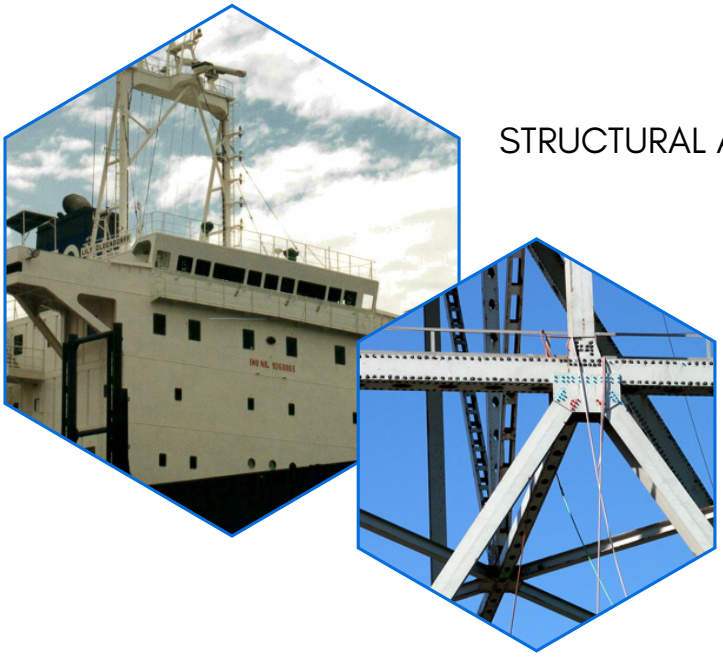
RETAINING

SEE BONDING and STRUCTURAL ADHESIVES ON THE FOLLOWING PAGE!

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
Permabond 2011 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
Permabond TA4200 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
Permabond TA4810 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
Permabond ET538 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	(30) 4,350	(-40 to +100) *-40 to +212*	Worldwide

***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.**



STRUCTURAL ADHESIVES

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