

# Adhesives for Maintenance, Repair & Overhaul

## Application: Bonding Rubber and plastic parts



Permabond cyanoacrylate gel is ideal for bonding rubber seals or broken plastic parts. This adhesive will also bond metal, wood and most other substrate materials

- Non-drip for easy application
- Rapid cure - no need to clamp for long periods
- Very high strength

Adhesive used: Permabond 2011

## Application: General repairs



Permabond ET500 is a rapid-curing 2-part epoxy adhesive. It will cure in much larger gaps than cyanoacrylate adhesive. Can be used on metal, most plastics, wood and composite materials.

Adhesives used: Permabond ET500

Permabond is a global, ISO 9001:2000 certified manufacturer of engineering adhesives and sealants for manufacturing, assembly, repair, and maintenance.

Engineers all round the world are using Permabond adhesives and sealants for threadlocking nuts and bolts, sealing pipes, replacing gaskets, repairing spun bearings or damaged metal parts and for repairing rubber seals or broken parts.

## Application: Threadlocking



Permabond threadlocking anaerobic adhesives enable you to lock screws, nuts, bolts, and studs to protect against loosening caused by vibration.

- Prevents nuts rusting onto bolts
- Low strength for parts which may require future disassembly
- Medium & high strength to prevent theft and vandalism
- More cost-effective than using mechanical fastenings
- Lubricates for easier assembly
- Machining tolerances can be increased
- Seals against leaks
- Stops nuts and bolts working loose due to vibration

Adhesive used: Permabond A1042

## Application: Thread sealing

Permabond thread sealing anaerobic adhesives are designed to replace traditional thread sealing materials such as hemp, PTFE tape, & pipe dope.

- No loose particles to clog valves
- Will not shred, creep, or relax over time
- Easy to apply, allows accurate positioning of pipes and fittings
- Lubricates for easier assembly
- Resistant to a wide variety of chemicals
- Typically seals to the burst pressure of the pipe when fully cured
- Grades suitable for water, gas, air, pure oxygen and hydraulic systems are available

Adhesive used: Permabond A1044



## Application: Gasketing

Permabond gasketing anaerobic adhesives are designed to replace traditional cork, wood, rubber, paper and silicone gaskets.

### Benefits

- No relaxation or shrinkage so no need to retighten over time
- One adhesive will replace many pre-cut gasket shapes
- No need to handle fragile gaskets
- No disintegration so no leaks or blockages



- Vibration proof
- No long-term embrittlement
- Easy to dismantle with normal tools
- Good for both rough and smooth surfaces; allows for wider machining tolerances
- 100% metal to metal contact for better stress distribution

Adhesive used: Permabond LH197

## Application: Retaining

Typical retaining applications include:

- Bearings into housings
- Bushings
- Keyways and splines
- Gears
- Rotors
- Pulleys
- Cylinder linings

### Benefits

- Augments/replaces slip fits
- Prevents corrosion
- Mounts bearings
- Restores correct fit
- Reduces machining time due to relaxed tolerances
- Rapid, quick and easy assembly of parts
- 100% surface-to-surface contact
- Allows for greater load carrying capacity



Adhesive used: Permabond A1046

# Product selector

Features	Typical Applications	Cure method	Viscosity (mPa.s) cP	Gap fill (mm) in	Handling time (steel)	Max. shear strength steel (MPa) psi	Temperature range (°C) °F
<b>Permabond A1042</b> Medium strength thread locker can be undone with normal tools	Threadlocking nuts and bolts, studs and screws	Anaerobic - lack of oxygen, presence of metal	8,000	(0.12) 0.005	<10 minutes	(12) 1700	(-55 to +150) -65 to +300
<b>Permabond A1044</b> Pipe sealant with excellent chemical resistance.	Sealing threaded water pipes, compressed air pipes, hydraulics	Anaerobic - lack of oxygen, presence of metal	70,000	(0.5) 0.02	<20 minutes	(17) 2500	(-55 to +150) -65 to +300
<b>Permabond LH197</b> Flexible gasket maker	Formed-in-situ gaskets - ideal for gearboxes, sumps etc.	Anaerobic - lack of oxygen, presence of metal	37,000	(0.3) 0.01	<30 minutes	(5) 700	(-55 to +150) -65 to +300
<b>Permabond A1046</b> High strength, rapid curing retaining adhesive	Bearing fit, repairing damaged keyways, splines, bonding cylindrical parts	Anaerobic - lack of oxygen, presence of metal	9000	(0.25) 0.01	<10 minutes	(25) 3600	(-55 to +150) -65 to +300
<b>Permabond 2011</b> Multipurpose cyanoacrylate gel	Bonding rubber seals, repairing broken parts	Moisture cure	Gel	(0.5) 0.02	<20 seconds	(24) 3500	(-55 to +80) -65 to +180
<b>Permabond ET500</b> Rapid-curing 2-part epoxy	Bonding and repairing wood, metal, composites.	2-part epoxy resin and hardener	17,000	(2.0) 0.08	<5 minutes	(14) 2000	(-40 to +80) -40 to +180

**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.**

## Contact Permabond

[www.permabond.com](http://www.permabond.com)

**USHelpline - 800-640-7599**

• **UK - 0800 975 9800**

• **Asia + 86 21 5773 4913**

• **General Enquiries +44(0)1962 711661**

• **Deutschland 0800 101 3177**

• **France 0805 111 388**

[info.europe@permabond.com](mailto:info.europe@permabond.com)

[info.americas@permabond.com](mailto:info.americas@permabond.com)

[info.asia@permabond.com](mailto:info.asia@permabond.com)



Permabond's sales engineers are available to assess your production line and find the best possible turnkey adhesive solution that will result in production efficiencies.

The experienced team of Permabond chemists is on hand to help you with custom formulations and fulfilling your technical data requests.



### Permabond Worldwide

Wherever your manufacturing or R&D site may be located, Permabond representatives can be called upon to assist you. We have an extensive network of trained distributors worldwide.



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Engineering Adhesives

*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.*