



The Permabond range of anaerobic adhesives is formulated to provide superior performance benefits in applications with self-supporting or closely-mating metallic components such as retaining bearings, threadlocking, flange sealing, gasketing and sealing pipe work.

How do Permabond anaerobic adhesives work?

Permabond anaerobic adhesive formulations are designed to cure when air is absent and metal surfaces (both ferrous and non-ferrous) are present. The liquid adhesive fills imperfections in the metal surfaces and gaps between the mated parts. The adhesive then rapidly cures to an inert acrylic adhesive/sealant creating a solid 100% mechanical surface-to-surface contact and physical lock.

Retaining Compounds:

Retaining adhesives are for the permanent bonding of co-axial joints.

Typical applications include:

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

Benefits of using retaining adhesive include rapid, quick and easy assembly of parts. Tolerances can be relaxed, reducing machining times and eliminating the need for interference fits. Adhesive strength is usually higher than alternative methods of fixture. Adhesives have a better fatigue life as they prevent metal fretting (which can be an issue with interference fits).

Handy Tip: Apply adhesive to leading edges of both components and assemble with a rotating action. Take extra care to prevent adhesive entering mechanisms and bearing races!

Threadlocking:

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

Benefits

- Prevents nuts rusting on to bolts
- Permabond offer a range of strengths - low strength for large parts which may require future disassembly, medium strength and high strength permanent threadlockers 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 through vibration

Handy Tip: For blind holes, apply the adhesive directly into the bottom of the hole, not the fastener. If there is a void then apply the adhesive to the internal thread instead.

Pipe Sealing

Permabond pipesealing anaerobic adhesives are designed to replace traditional thread sealing materials such as hemp, PTFE tape, Boss White® and Boss Green® (for potable water).

Benefits

- 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
- Seals to the burst pressure of the pipe when fully cured
- Suitable for water, gas, air and hydraulic systems
- Resistant to a wide variety of chemicals

Handy Tip: Pipe joints sealed with low-strength pipe sealants can be dismantled using normal tools. Heating parts with a hot air gun or blow torch will help weaken adhesive and make parts easier to undo. Before re-using, clean pipe joints with a wire brush and chemically clean / degrease.

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
- Less machining - surfaces need not be so smooth
- 100% metal to metal contact = better stress distribution.



Not only do liquid gasketing adhesives give 100% contact between metal parts, but they also allow the engineer to cut down the amount of surface-finish machining, therefore reducing costs and increasing production rate.



Anaerobic Product Chart

Primary Application	Grade	Features	Colour	Viscosity (mPa.s)	Max. Gap Fill (mm)	Handling Time (mins) steel	Shear Strength (MPa) steel	Torque Strength (Nm) M10 steel		Service Temperature (°C)	Approvals
								Breakaway	Prevail		
Threadlocking	A011	Low strength	Red	500	0.12	15	5	4	5	-55 to +150	WRAS
	A1042	Rapid cure	Blue	2rpm: 8000 / 20rpm: 1700	0.12	5	12	16	8	-55 to +150	WRAS
	A113	General purpose	Blue	500	0.12	15	12	12	7	-55 to +150	WRAS
	A130	General purpose	Blue	2rpm: 8000 / 20rpm: 1800	0.12	15	12	12	7	-55 to +150	WRAS
	HM129	Permanent	Red	500	0.15	10	17	33	58	-55 to +150	
	HH131	High temperature	Red	2rpm: 23,000 / 20rpm: 7500	0.3	15	17	27	54	-55 to +230	DVGW
Retaining	A025	High temperature	Orange	750	0.2	15-30	8	13	23	-55 to +200	WRAS
	A118	Low viscosity	Green	400	0.12	15	21	15	35	-55 to +150	WRAS
	A126	Wicking	Green	10-30	0.05	15	10-20	14	34	-55 to +150	
	A134	High viscosity	Green	2rpm: 70,000 / 20rpm: 8000	0.5	15	21	30	50	-55 to +150	WRAS
	F200	Toughened	Brown	150	0.1	15	30	28	30	-55 to +100	WRAS
	F201	Toughened	Brown	2rpm: 9000 / 20rpm: 2500	0.5	15	30	28	30	-55 to +100	WRAS
	F202	Toughened	Brown	2rpm: 135,000 / 20rpm: 20,000	0.5	15	30	28	30	-55 to +100	WRAS
	A1024	Wicking	Yellow	10-20	0.05	<20	21	-	-	-55 to +150	
	A1046	Rapid cure	Green	2rpm: 9000 / 20rpm: 2500	0.25	5-10	25	30	50	-55 to +150	DVGW
	A1062	Dual cure, wicking	Green	10-20	0.05	20	7	-	-	-55 to +150	
	HM135	Rapid cure	Green	700	0.2	5-10	30	31	50	-55 to +200	WRAS
	HM162	High temperature	Green	1000	0.2	5	30	32	57	-55 to +200	
	HM163	For stainless steel	Green	3500	0.2	5	28	30	55	-55 to +150	
	HM165	High temperature	Green	2rpm: 25,000 / 20rpm: 10,000	0.3	15-20	20	35	50	-55 to +230	
	HH167	Metal repair	Silver	2rpm: 500,000 / 20rpm: 90,000	0.5	15	32	45	32	-55 to +150	
	Threadsealing	A1044	High strength	White	2rpm: 70,000 / 20rpm: 9000	0.5	15	17	20	10	-55 to +150
A129		Medium strength	Orange	2rpm: 65,000 / 20rpm: 20,000	0.5	15	12	12	7	-55 to +150	
A131		Low strength	White	2rpm: 40,000 / 20rpm: 6000	0.5	45	6	10	7	-55 to +150	WRAS, KIWA
MH052		Oxygen approved	Yellow	2rpm: 65,000 / 20rpm: 25,000	0.5	15	10	20	11	-55 to +150	WRAS, DVGW, BAM
A1058		Very low strength	White	300,000	0.5	90	8	8	6	-55 to +150	WRAS
HM146		High strength	Green	3000	0.3	20-40	20	30	48	-55 to +200	KTW
Gasketing	A136	General purpose	Red	2rpm: 75,000 / 20rpm: 18,000	0.5	<30	12	10	8	-55 to +150	WRAS
	MH196	High temperature	Red	2rpm: 500,000 / 20rpm: 100,000	0.5	15	10	20	23	-55 to +200	
	MH199	High temperature	Red	2rpm: 225,000 / 20rpm: 75,000	0.5	20	8	20	12	-55 to +200	
	LH197	Flexible	Green	2rpm: 50,000 / 20rpm: 20,500	0.3	20	5	10	5	-55 to +150	
	A905	Surface activator	Green	2							

T=Thixotropic P=Paste
ST=Slightly Thixotropic

