Anaerobics

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:

- Enhanced torque resistance compared to mechanical joining.
- 5 times greater load carrying capacity than mechanical jointing methods.
- Greater design freedom due to possibility of joining dissimilar materials.
- Protection against corrosion.
- Reduced machining tolerances in part design.
- 100% surface-to-surface contact, thus improving strength and vibration resistance.

Threadlocking:

- Fast cure speeds for quick pressure testing.
- Dismantleable and permanent threadlocking that increases project versatility.
- 100% leak-free seal, even with miss-threaded fittings.
- Protection against corrosion.
- Wicking sealants to penetrate tight fitting or pre-assembled parts.

Pipe Sealing

- PTFE based formulations for durable, long-term sealing.
- Inert cured material; resistant to acids, solvents and glycol based products.
- Multiple viscosities; to seal both fine and coarse threads.
- Fast cure speeds for quick pressure testing; instantly sealing to 1000psi (70bar).
- Dismantleable and permanent sealants that increase project versatility.
- 100% leak-free pipe sealing even with miss-threaded pipes.
- Final cure strength that exceeds that of most pipe materials.

Gasketing

- Fast cure and high strength that eliminates flange re-tightening.
- A full range of viscosities for various gap-filling requirements.
- Fast cure speeds for quick pressure testing
- High-temperature resistant products available.
- Dismantleable and permanent gasketing grades, expanding project versatility.
- Excellent flexural and vibration tolerance with no loss in seal integrity.

Benefits

- Liquid adhesive provides greater surface-to-surface contact than mechanical fasteners.
- Quick curing without air; accelerates assembly rates.
- Resistant to oils, solvents and other surface treatments.
- Available in permanent and removable formulations.
- Superior bond strength; often exceeds that of substrate material.
- Wide temperature range; from -50 to +230°C.
- Gap fill capability from interference fits up to 0.5mm.
- Seals, bonds and locks with one product.

Permabond®
Engineering Adhesives

Permabond Anaerobic Adhesives Comparison Chart

This table represents a selection of the complete range of Permabond anaerobic adhesives. For more detailed technical information and product Material Safety Data Sheets, visit www.permabond.com. To discuss your specific application requirements, call the Permabond Helpline and our technical advisors will recommend the best adhesive for you.

Primary Application	Grade	Features	Colour	Viscosity (mPa.s)	Max. Gap Fill	Handling Time (mins)	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	3	-55 to +150	WRAS
	A1042	Rapid cure	Blue	8,000 ST	0.12	5	12	16	7	-55 to +150	WRAS
	A113	General purpose	Blue	500	0.12	15	12	16	7	-55 to +150	WRAS
	HM129	Permanent	Red	500	0.15	10	17	32	56	-55 to +150	
	HH131	High temperature	Red	10,000 T	0.3	15	17	27	54	-55 to +230	
Retaining	**A025**	High temperature	Orange	750	0.2	15	8	26	46	-55 to +200	WRAS
	A118	Low viscosity	Green	500	0.12	15	21	33	58	-55 to +150	WRAS
	A126	Wicking	Green	30	0.05	15	21	33	58	-55 to +150	WRAS
	A134	High viscosity	Green	70,000 T	0.5	15	21	33	58	-55 to +150	WRAS
	F201	Toughened	Brown	9,000 ST	0.2	15	30	33	58	-55 to +100	WRAS
	F202	Toughened	Brown	135,000 T	0.5	15	30	33	58	-55 to +100	WRAS
	A1046	Rapid cure	Green	9,000 ST	0.25	5	25	33	58	-55 to +150	DVGW
	HM135	Rapid cure	Green	500	0.2	5	30	38	65	-55 to +200	WRAS
	HM163	Good gap fill	Green	4,000 T	0.5	5	28	40	70	-55 to +150	
	HM162	High temperature	Green	800	0.2	5	30	32	62	-55 to +200	
	HM165	High temperature	Green	10,000 T	0.3	15	26	28	54	-55 to +230	
	HH167	Metal repair	Silver	500,000 P	0.5	15	32	32	45	-55 to +150	
Threadsealing	**A1044**	High strength	White	70,000 T	0.5	15	17	24	12	-55 to +150	WRAS
	A129	Medium strength	Orange	65,000 T	0.5	15	12	12	5	-55 to +150	WRAS
	A131	Low strength	White	40,000 T	0.5	45	6	10	4	-55 to +150	WRAS
	MH052	Oxygen approved	Yellow	50,000 T	0.5	15	10	20	11	-55 to +150	WRAS, DVGW, BAM
	A1058	For large dia. pipes	White	300,000 P	0.5	90	8	N/A	N/A	-55 to +150	WRAS, DVGW
Gasketing	**A136**	General purpose	Red	75,000 T	0.5	45	12	N/A	N/A	-55 to +150	WRAS
	MH196	High temperature	Red	150,000 T	0.5	15	10	N/A	N/A	-55 to +200	
	MH199	High temperature	Red	185,000 T	0.5	20	8	N/A	N/A	-55 to +200	
	LH197	Flexible	Green	37,000 T	0.3	20	5	N/A	N/A	-55 to +150	
	A905	Surface activator	Green	2							

T = Thixotropic ST = Slightly thixotropic P = Paste

The strength development figures listed here are typical for steel surfaces at 23°C. Copper and its alloys will give a faster cure whilst oxidised or passivated surfaces such as stainless steel or zinc will require longer times. Full strength will generally be achieved within 24 hours at room temperature. The properties quoted here are nominal values: please consult our technical group or refer to the Technical Data Sheet if more

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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