Permabond®
MRO Adhesives & Sealants

ISO 9001 Certified
"Our Science ... Your Success"

Permabond is a global manufacturer of engineering adhesives and sealants for manufacturing, assembly, repair, and maintenance.

Permabond manufactures cyanoacrylates (instant adhesives), anaerobics (for threadlocking, retaining, gasketing, and pipe sealing), structural adhesives (one or two component epoxies and toughened acrylic adhesives), modified epoxies, MS Polymers, polyurethanes, and UV - visible curable adhesives, and custom formulates for unique requirements.

The following pages have detail on popular anaerobic adhesives and sealants. The top 6 highest demand MRO products are listed below. Please contact Permabond if you don't see the product you need.

PERMANENT THREADLOCKER

Permabond HM128 is a red, high strength, medium viscosity, permanent threadlocker.

Approvals:

MIL-S-46163A Type I Grade K
ASTM D5363 (AN 0221)



Compare to Loctite® 271

REMOVABLE THREADLOCKER

Permabond MM115 is a blue removable threadlocker.

Approvals:

MIL -S-22473E Grade CVV
MIL-S-46163A Type II Grade N
ASTM D5363 (AN 0143 & AN 0321)



Compare to Loctite® 242

RETAINING COMPOUND

Permabond HL138 is a green, temperature resistant retaining compound.

Approvals:
MIL-R-46082B Type I
ASTM D5363 (AN 0411)



Compare to Loctite® 609

Permabond LH050 is UL classified for sprinkler systems and devices handling gasoline, petroleum oils, and natural gas. Permabond LH050 contains PTFE which lubricates to ease assembly.



Compare to Loctite 565

Permabond 910 is the original instant metal bonding cyanoacrylate. Trusted for over 50 years, Permabond 910 forms fast, strong bonds to metal and other materials.



Permabond 102 is ideal for plastics.

Compare to Loctite® 496 & 414

Loctite is a registered trademark of
Henkel Loctite Corporation, U.S.A

Permabond
Engineering Adhesives

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 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

Product	Description	Color	Viscosity cP
LM113	Removable, low strength, for small diameter fasteners	Purple	1,200
MM115	Removable, general purpose	Blue	1,300
MM115 Pure	Removable, general purpose, NSF/ANSI 61 Certified	Colorless	1,300
HM118	Removable, high strength	Red	1,800
HH120	Permanent, maximum strength, for large diameter bolts	Red	7,000
HL126	Wicking grade for post assembly, also used for weld sealing	Green	15
HM128	Permanent, general purpose	Red	500
HM129	Permanent, high strength, for up to 1" diameter fasteners	Red	500
HH131	Permanent, high temp. resistant, high strength, up to 1½" diameter fasteners	Red	2rpm: 23,000 20rpm: 7500

Product	Max. Gap Fill		Shear Strength, Steel		Torque, M10 Steel nuts & bolts				Handling Time, Steel mins	Temperature Range			
	in	mm	psi	N/mm²	Breakaway		Prevail			Min.		Max.	
					in•lb	N•m	in•lb	N•m		°F	°C	°F	°C
LM113	0.006	0.15	750	5	80	9	40	5	15	-65	-55	300	150
MM115	0.006	0.15	1,450	10	140	16	60	7	10	-65	-55	300	150
MM115 Pure	0.006	0.15	1,450	10	140	16	60	7	10	-65	-55	300	150
HM118	0.008	0.20	2,500	17	200	23	280	32	10	-65	-55	300	150
HH120	0.010	0.25	2,500	17	275	31	300	34	10	-65	-55	300	150
HL126	0.001	0.05	2175	15	125	14	300	34	15	-65	-55	300	150
HM128	0.006	0.15	2,500	17	275	31	350	40	15	-65	-55	300	150
HM129	0.006	0.15	2,500	17	290	33	520	58	10	-65	-55	300	150
HH131	0.012	0.30	2,500	17	240	27	480	54	15	-65	-55	445	230

Thread Sealing

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

Product	Description	Color	Viscosity cP
LM012	No fillers, hydraulic sealing	Brown	2,000
LH050	General purpose thread sealant, UL Listed	White	250,000
LH050 Pure	General purpose, NSF/ANSI 61 Certified	White	250,000
LH051	Automatic dispensing	White	2rpm:450,000 20rpm: 70,000
LH056	Fire protection grade	White	2rpm: 400,000 20rpm: 75,000
MH052	Medium strength for coarse threads, BAM approved for oxygen	Yellow	2rpm: 65,000 20rpm: 25,000
LH150	Stainless steel pipe sealant	White	260,000

Product	Max. Gap Fill		Shear Strength, Steel		Torque, M10 Steel nuts & bolts				Handling Time, Steel, mins	Temperature Range			
	in	mm	psi	N/mm²	Breakaway		Prevail			Min.		Max.	
					in•lb	N•m	in•lb	N•m		°F	°C	°F	°C
LM012	0.008	0.20	750	5	25	3	15	2	30	-65	-55	350	175
LH050	0.020	0.50	1,000	7	35	4	25	3	120	-65	-55	350	175
LH050 Pure	0.020	0.50	1,000	7	35	4	25	3	120	-65	-55	350	175
LH051	0.020	0.50	1,000	7	35	4	25	3	120	-65	-55	350	175
LH056	0.020	0.50	1,000	7	35	4	25	3	120	-65	-55	350	175
MH052	0.020	0.50	1,450	10	180	20	100	11	15	-65	-55	300	150
LH150	0.020	0.50	1,000	7	50	6	25	3	120	-65	-55	350	175

Form-in-Place 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

Product	Description	Color	Viscosity cP
HH190	General purpose flange sealant	Purple	300,000
MH196	Fast curing, high temperature resistant	Red	2rpm: 500,000 20rpm: 100,000
LH197	Flexible, easy to remove	Green	2rpm: 50,000 20rpm: 20,500
MH199	Highly thixotropic, high temperature resistant	Red	2rpm: 225,000 20rpm: 75,000

Product	Max. Gap Fill		Shear Strength, Steel		Handling Time, Steel, mins	Temperature Range			
						Min.		Max.	
	in	mm	psi	N/mm²		°F	°C	°F	°C
HH190	0.012	0.30	900	6	15	-65	-55	250	120
MH196	0.020	0.50	1,450	10	15	-65	-55	390	200
LH197	0.012	0.30	750	5	20	-65	-55	300	150
MH199	0.020	0.50	1,100	8	20	-65	-55	390	200



Retaining Compounds

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

Typical retaining compound applications include:

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

Product	Description	Color	Viscosity cP
HH040	General purpose, maximum gap fill	Green	5,000
HH040 Pure	General purpose, NSF/ANSI 61 Certified	Colorless	5,000
HL138	General purpose, press fit	Green	225
HM160	General purpose, slip fit	Green	600
HM161	Gap fill, slip fit	Green	2,000
HM162	Fast curing, high temperature resistant	Green	1,000
HM165	Maximum gap fill, high temperature resistant	Green	2rpm: 25,000 20rpm: 10,000
HH167	Maximum gap fill, metal repair	Silver	2rpm: 500,000 20rpm: 90,000

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

Product	Max. Gap Fill		Shear Strength, Steel		Torque, M10 Steel nuts & bolts				Fixture Time, Steel mins	Temperature Range			
					Breakaway		Prevail			Min.		Max.	
	in	mm	psi	N/mm²	in•lb	N•m	in•lb	N•m		°F	°C	°F	°C
HH040	0.010	0.250	2,000	14	220	25	330	37	15	-65	-55	300	150
HH040 Pure	0.010	0.250	2,000	14	220	25	330	37	15	-65	-55	300	150
HL138	0.005	0.127	2,300	16	180	20	315	36	10	-65	-55	250	120
HM160	0.008	0.203	2,000	14	270	30	450	50	15	-65	-55	350	177
HM161	0.010	0.254	3,500	24	275	31	400	45	10	-65	-55	300	150
HM162	0.008	0.203	4,300	30	280	32	510	57	5	-65	-55	390	200
HM165	0.012	0.305	2,900	20	310	35	450	50	<20	-65	-55	446	230
HH167	0.020	0.500	4,700	32	400	45	280	32	15	-65	-55	300	150

Product Selection Guide by Specification - Permabond holds many customer approvals and specifications. Please call for specific information.

Military Specifications & Standards

MIL-S-22473E[1] • ASTM D5363[2]

Permabond Grade	Grade	ASTM D5363 Assigned #	Group	Class	Grade
HH120	AVV	AN 0124	01	2	4
HL126	AA	AN 0111	01	1	1
MM115	CVV	AN 0143	01	4	3
LM012	HVV	AN 0163	01	6	3
ASC10	N & T	N/A	N/A	N/A	N & T

MIL-S-46163A[1] • ASTM D5363[2]

Permabond Grade	Type / Grade	ASTM D5363 Assigned #	Group	Class	Grade
HH120	I / L	AN 0211	02	1	1
HL126	III / R	AN 0261	02	6	1
HM118	II / O	AN 0331	03	3	1
HM128	I / K	AN 0221	02	2	1
LM113	II / M	AN 0311	03	1	1
MM115	II / N	AN 0321	03	2	1
ASC10	F	N/A	N/A	N/A	N & T

MIL-R-46082B[1] • ASTM D5363[2]

Permabond Grade	Type	ASTM D5363 Assigned #	Group	Class	Grade
HL138	I	AN 0411	04	1	1
HM160	II	AN 0412	04	1	2
HM161	III	AN 0421	04	2	1

[1]MIL-SPECS are for existing designs ONLY [2]ASTM D5363 is for NEW designs

MIL-A-46050C[1]

Permabond Grade	Type/Class
101	Type II, Class 1
102	Type II, Class 2
105	Type II, Class 1
108	Type II, Class 3
170	Type I, Class 3
268	Type II, Class 3
790	Type II, Class 1
791	Type II, Class 1
792	Type II, Class 2
795	Type II, Class 3
798	Type II, Class 3
799	Type II, Class 4
910	Type I, Class 2
910FS	Type I, Class 1
919	Type V, Class 1
920	Type V, Class 2
922	Type V, Class 3
QFS16	All Types

CID A-A-3097

Permabond Grade	Type/Class
101	Type II, Class 1
108	Type II, Class 3
200	Type II, Class 3
791	Type II, Class 1
792	Type II, Class 2
795	Type II, Class 3
910	Type I, Class 2
910FS	Type I, Class 1
QFS16	All Types

Additional Certifications

Permabond Grade	Certification
HH040 PURE, LH050 PURE and MM115 PURE	NSF / ANSI 61 Certified
LH050 & LH150	UL Classified

Contact us

Contact Permabond

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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. Always refer to current product technical data sheet for most recent and accurate technical information.