



Cross Reference Selection Chart

MIL SPEC	* PERMA BOND	** PERMA TEX	** LOC TITE	ND	PRODUCT	COLOR	APPROX. VISCOSITY [cP]	MAX GAP [FILL, IN]	TORQUE STRENGTH BREAK/PREVAIL [IN LB]	FIXTURE TIME [MIN]	DESCRIPTION
MIL-S-46163											
THREAD LOCKING											
Type II Grade M	LM113	-	222	111200	ScrewGrade®	Purple	1200 Thixotropic	.005	75/25	10-30	A low strength threadlocker that eliminates vibrational loosening, and seals against leakage and corrosion. Typical uses: soft metal fasteners, precision screws, and locking fasteners smaller than ¼" in diameter.
Type II Grade N	MM115	81789	242**	121200	NutGrade®	Blue	1200 Thixotropic	.005	120/45	10-30	A medium strength threadlocker. Seals nuts and bolts allowing disassembly using standard tools. Typical uses: studs and bolts, threaded pipe fittings, and locking nuts or bolts larger than ¼" in diameter.
Type II Grade O	HM118	81792	262	131600	StudGrade® CT	Red	1600 Thixotropic	.005	200/100	5-20	High strength threadlockers for maximum security. Suitable for most applications where disassembly is not required. Typical uses: studs, bolts, and threaded pipe fittings.
Type I Grade K	HM128	-	271	140500	StudGrade®	Red	500	.007	250/275	10-30	
Type I Grade L	HH120	-	277	146500	StudGrade® HD	Red	6500	.010	300/250	10-20	
Type III Grade R	HL126	81795	290	150012	Penetrating Adhesive Sealant	Green	12	.004	60/300	5-20	Designed specifically for use on pre-assembled connections. Seals small gaps through capillary action. Typical uses: pre-assembled fasteners and porous die castings.
SEALING											
	LM012	81802	569	440400	Hydraulic High Pressure Sealant	Brown	400	.007	45/23	60	Locks hydraulic and pneumatic connections producing a high pressure seal while allowing easy disassembly with standard tools. Typical uses: pneumatic fittings, small pipe threads, and hydraulic fittings.
	LH150	81800	592/565	420350	Instant Pipe Sealant	White	Paste	.012	N/A	240	Provides an instant low pressure seal on coarse fitted threads which is further strengthened as the product cures. Typical uses: low pressure pipes, sprinkler systems, and gas pipes.
	LH050	81800	567	460350	PTFE Instant Pipe Sealant	White	Paste	.012	20/30	240	A high viscosity thread & pipe sealant that provides an instant seal on fittings.
MIL-R-46082											
RETAINING											
Type I	HL138	81798	609/675	530125	Shaft & Bearing Retainer	Green	125	.005	3000	10-20	A high strength adhesive for retention of cylindrical components, where disassembly is not required. Typical uses: rotors, shafts, bushings, bearings, and pulleys.
Type II			640/642	560600	High Temperature Retainer	Green	600	.007	3000	60	
Type III	HM160	-	635	542000	Permanent Retainer	Green	2000	.015	4000	20-40	A high viscosity, very high strength gap filling product. Permanently retains slip and press fitted components. Permits larger machine tolerances. Typical uses: rotors, shafts, impellers, splines, and structural.
	HM161		680	541200	Permanent Retainer	Green	1200	.015"	3,500-4,600	20-40	
	-	-	660	539999	Fast Metal Retainer	Silver	Paste	.020	3000	10-30	A high strength adhesive. Can be used to repair and restore worn shafts, housings, and end bells, etc., while permitting disassembly with standard tools. Prevents bearing deformation and allows greater machining tolerances. Typical uses: repair of bearings, bushings, splines, and keyways.
GASKETING											
	HH195	80478/32	515/518	730275	Flexible Gasket Maker	Purple	Gel	.010-.050	750	60-120	A high strength gasketing product for joints subject to excessive vibration or rapid heating and cooling. Can be applied to vertical surfaces and will instantly replace pre-formed gaskets with a shock-proof seal. Typical uses: compressor assemblies, motor flanges, and transmission assemblies.
MIL-A-46050C											
BONDING											
Type II Class 2	910	-	496	320090	Metal Bonding Cyanoacrylate	Clear	90	.006"	3000	20-40	Methyl-based cyanoacrylates specifically designed for bonding metallic surfaces.
Type II Class 3	-	-	415	322000	Metal Bonding, Large Gap Cyanoacrylate	Clear	2000	.008"	3300	30-50	
Type II Class 1	101	80092	420	310005	Wicking Cyanoacrylate	Clear	5	.002"	2900	10-30	A low viscosity ethyl cyanoacrylate designed specifically for the bonding of pre-assembled parts. Typical uses: plastic, rubber, and metal parts-including pre-assembled electrical components.
Type II Class 1	105	80092	495	310035	General Purpose Cyanoacrylate	Clear	35	.004"	3000	15-40	A low viscosity ethyl-based cyanoacrylate which exhibits fast cure speeds on a wide range of common materials such as metals, rubbers and plastics. Typical uses: loudspeaker components, rubber O-rings, belts and bumpers.
Type II Class 2	102	-	414	310100	Medium Viscosity Cyanoacrylate	Clear	100	.006"	3300	15-40	A medium viscosity ethyl-based cyanoacrylate particularly suitable for rubbers and plastics. It is fast acting and may be fillet cured using ND Excel Accelerators. Typical uses: rubber O-rings and rubber seals in domestic appliances.
Type II Class 3	200	-	416	311100	General Purpose, Porous Surface Cyanoacrylate	Clear	1100	.008"	3000	25-60	High viscosity ethyl-based cyanoacrylates with gap filling capabilities. Exhibits fast cure speeds on a wide range of common materials such as ceramics, metals, and plastic. Typical uses: fillet-curing of gaps using ND Excel Accelerator.
Type II Class 3	240	-	422	312500	High Viscosity, Large Gap Cyanoacrylate	Clear	2500	.008"	3300	25-60	
			409	319999	Cyanoacrylate Gel	Clear	Thixo Gel	.01"	3100	30-70	
MIL-S-22473											
ACTIVATING & PRIMING											
Grade N	-	-	7649	611113	Anaerobic Primer N	Green	3				Ozone-friendly primers which prepares surfaces prior to application and promotes increased cure speeds when used in conjunction with anaerobic adhesives. Typical applications: non-ferrous metals such as cadmium or chrome plated nuts and bolts, aluminum, and stainless steel.
Grade T	-	-	7471	612213	Anaerobic Primer T	Yellow	3				
	-	-	7070	600014	Safety Solvent & Degreaser	Clear	4				An ozone friendly surface preparation suitable for use with all adhesives. Removes contaminants ensuring that cure speed is not adversely affected, and will not corrode or leave behind a film. Typical uses: contaminated surfaces and chemically treated parts.
	-	-	7113	623415	Cyanoacrylate Accelerator-General Purposes	Clear	5				Cyanoacrylate accelerators specifically designed for use on pre-assembled parts. It reduces fixture time and ensures that excess adhesive is cured. Use of this product reduces blooming (frosting), and odor. Typical uses: porous materials and fast assembly line applications.
	-	-	712	624421	Cyanoacrylate Accelerator for Plastics	Clear	1				
	-	-	768	600031	Cyanoacrylate Adhesive-Debonder	Clear	1				A non-flammable-based solvent used to dissolve or remove cured cyanoacrylate adhesive from bonded parts, surfaces, and/or clothing.

* PermaBond is a Trademark of National Starch & Chemical Corp. ** Permatex, Loctite & 242 are Trademarks of Loctite Corp. ***ND Industries is a Trademark of ND Industries, Inc.