

TORQUE SERIES

High Performance Anaerobic Adhesives/Sealants
Threadlocking, Threadsealing, Retaining, Gasketing

TORQUE ANAEROBIC PRODUCTS represent the latest technology in anaerobic adhesives/sealants. This new technology is specifically engineered to provide the fastest fixture and full cure times of any anaerobic on the market today. Offering consistent strength on both active and inactive surfaces, combined with higher torque and shear strength values, has made *TORQUE* the choice of engineers to meet their demanding application requirements. This family of products provides for maximum performance and reliability in your finished assembly. They can be used on as received parts that have mild oil contamination present on the surface. *TORQUE ANAEROBIC PRODUCTS* are single component, solvent free adhesives, that cure in the absence of air and in the presence with metal ions.

TECH TIP

Interested in dispensing systems to help your process? We have manual, semi-automated, and fully automated systems to fit every type of application requirement. Call a Application Specialist at 1-800-401-1441.

These anaerobic resins offer the best method to positively lock, retain, and seal a wide range of metal parts. Even in the tightest fitting assembly; voids are present which allows for movement and loosening of parts. *TORQUE ANAEROBIC PRODUCTS* form a tough, durable resin, that fills all these voids creating a unitized assembly that is completely resistant to shock, vibration, and extremely harsh environmental conditions. These chemical tools significantly reduce production cost while enhancing the reliability and performance of the finished assembly.



FEATURES

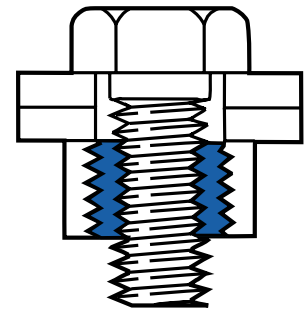
- Single component
- Tough, durable material
- Available in a full range of strengths and viscosities
- Solvent free
- Fills void between threaded and cylindrical parts
- Can be used right from the bottle or easily automated

BENEFITS

- Faster cure times
- Consistent on active or inactive surfaces
- Easy to use
- Promotes a more reliable finished product
- Eliminates corrosion
- Eliminates vibration loosening
- Eliminates fastener fatigue
- Eliminates other mechanical locking devices
- Allows for relaxed machining tolerances
- Reduces cost

RESULTS

- Increased product reliability
- Higher production output
- Lighter weight assemblies
- Improved finished product quality



TORQUE SERIES

Anaerobic Adhesives/Sealants Threadlocking

The *TORQUE THREADLOCKING SERIES* represents state of the art anaerobic technology, with world class performance. The *TORQUE THREADLOCKING SERIES* is manufactured to provide specific viscosities, strengths, and cure speeds to meet any application requirement. These anaerobic resins prevent against vibration loosening, while locking and sealing threaded assemblies and metal parts. They have excellent resistance to extremely harsh environments. *TORQUE THREADLOCKING* products are used in a wide range of assembly applications; from delicate electronic devices to heavy industrial equipment. They distribute the load on a fastener over the entire engagement length of the assembly, greatly reducing or completely eliminating fastener and material fatigue. They protect threaded areas by preventing rust and corrosion. These products significantly reduce production cost while enhancing the reliability of the finished product.

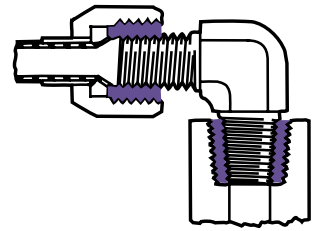




	COLOR	VISCOSITY	BREAKAWAY PREVAILING TORQUE	TEMP RANGE	CURE SPEED (FIXTURE/FULL)	SPECIFIC GRAVITY
TORQUE THREADLOCKERS						
TORQUE 21 TL Low strength threadlocking, low viscosity, for small screws, easy disassembly.	Violet	200 cps LT	40/25	-60 TO 350° F	10 Min/8 Hours	1.08
TORQUE 22 TL Low strength threadlocking, Ideal for small screws, 1/4" and smaller. Controlled lubricity for accurate clamp loading. Easy disassembly. MIL-S-46163A, Types II, Grade M	Purple	1,200 cps MT	75/50	-60 TO 350° F	10 Min/8 Hours	1.05
TORQUE 41 TL Medium strength threadlocking Low viscosity for fine tolerances and small diameter fasteners.	Blue	200 cps LT	150/75	-60 TO 350° F	10 Min/8 Hours	1.08
TORQUE 42 TL General purpose, medium strength, removable. Ideal for fasteners 3/4" or smaller. Controlled lubricity, for accurate clamp loading. MIL-S-46163A, Type II, Grade N	Blue	1,200 cps MT	150/75	-60 TO 350° F	10 Min/8 Hours	1.07
TORQUE 43 TL Medium strength, high viscosity, Improved oil resistance, larger diameter fasteners, removable.	Blue	5,000 cps MT	180/90	-60 TO 350° F	10 Min/8 Hours	1.08
TORQUE 62 TL High strength, permanent threadlocking. High lubricity for easy assembly. Rapid handling strength, excellent resistance to extreme chemical and environmental conditions. MIL-S-46163, Type I, Grade K	Red	3,500 cps MT	200/275	-60 TO 350° F	10 Min/8 Hours	1.05
TORQUE 71 TL High strength, permanent threadlocking. Ideal for fasteners up to 1". MIL-S-46163, Type I, Grade K	Red	500 cps MT	250/350	-60 TO 350° F	10 Min/8 Hours	1.12
TORQUE 72 TL High strength, permanent threadlocking. Excellent high temperature properties 450°F.	Red	9,000 cps HT	250/375	-60 TO 450° F	15 Min/24 Hours	1.11
TORQUE 77 TL High strength, permanent threadlocking. Higher viscosity for diameters over 1". MIL-S-46163A, Type II, Grade L	Red	7,000 cps MT	275/375	-60 TO 350° F	10 Min/8 Hours	1.12
TORQUE 90 TL High strength, wicking grade. Ideal for post application to pre assembled fasteners. Penetrates threads by capillary action. Secures screws, bolts, seals welds, porous metal parts. MIL-S-46163A, Type III, Grade R	Green	12 cps LT	150/275	-60 TO 350° F	10 Min/8 Hours	1.08

All of the Torque Threadlocking products are available in 10 mil, 50 mil, 250 mil, and 1 liter containers. Special packaging is available upon request.

Engineering Excellence
For technical product information call 1-800-401-1441



TORQUE SERIES

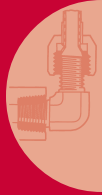
Anaerobic Adhesives/Sealants Threadsealing

TECH TIP

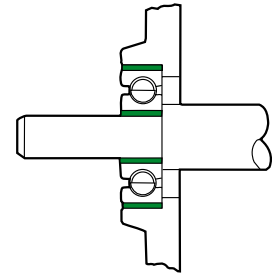
Need help with your application. Call 1-800-401-1441 and ask to speak with a Application Specialist in our Technical Department.

The *TORQUE* liquid thread sealants are specifically designed to seal and secure metal pipes and fittings by filling the space between threaded metal parts and hardening to prevent leakage. They do an excellent job of sealing in severe environmental conditions and prevent leakage that may be caused by vibration loosening, damaged threads, or temperature cycling. *TORQUE* liquid thread sealants seal instantly to moderate pressures and when fully cured; they seal to the burst strength of most piping systems. They have excellent resistance to a wide range of chemicals such as hydraulic fluids, oils, fuels, water, lubricants, etc. They are ready to use, single component, solvent free materials, designed to handle both low and high pressure applications. The *TORQUE THREADSEALING* products do not shrink, shred, tear, or relax. They are formed in place sealants conforming to the parts they are used on, creating a durable, positive seal. The *TORQUE THREADSEALING* family of products offers a full range of viscosities, strengths, and cure speeds that are designed to meet your specific application requirements.





	COLOR	VISCOSITY	TEMP RANGE	SEALS TO OPERATING PRESSURE	SPECIFIC GRAVITY	CURE SPEED (FIXTURE/FULL)
TORQUE THREADSEALERS						
TORQUE 145 Liquid sealant for locking and sealing high pressure fluid power systems. Contains no fillers, will not clog filters. Packaged in: 50 mil bottle, 250 mil bottle, and 1 liter container.	Purple	10,000 cps	-60 TO 350° F	10,000 psi	1.20	15 Min/8 Hours
TORQUE 154 Refrigerant sealant. Excellent solvent resistance. For pipes up to 3" in diameter. Packaged in: 50 mil bottle, 250 mil bottle, and 1 liter container.	Red	2,500 cps	-60 TO 350° F	10,000 psi	1.02	10 Min/8 Hours
TORQUE 165 Controlled strength pipe sealant for easy disassembly. General purpose, instant sealing. Packaged in: 50 mil tube, 250 mil tube, 1 liter container, 75 mil accordian, and 125 mil accordian.	White	300,000 cps	-60 TO 350° F	10,000 psi	1.10	10 Min/8 Hours
TORQUE 170 Easy disassembly thread sealant. Seals and prevents vibration loosening. Lower viscosity for better flow and ease of application. Packaged in: 50 mil bottle, 250 mil bottle, and 1 liter container.	Blue	4,500 cps	-60 TO 400° F	10,000 psi	1.12	10 Min/8 Hours
TORQUE 171 High viscosity, fast fixturing sealant. Controlled strength for ease of disassembly. Packaged in: 50 mil tube, 250 mil tube, 1 liter container, 75 mil accordian, and 125 mil accordian.	White	40,000 cps	-60 TO 350° F	10,000 psi	1.08	5 Min/8 Hours
TORQUE 172 Low strength sealant for small threads and pneumatic fittings. Packaged in: 50 mil bottle, 250 mil bottle, and 1 liter container.	Blue	750 cps	-60 TO 350° F	10,000 psi	1.05	15 Min/8 Hours
TORQUE 173 Hydraulic sealant, general purpose, fittings up to 3/4". Ideal for fine threads. Medium strength. Packaged in: 50 mil bottle, 250 mil bottle, and 1 liter container.	Brown	500 cps	-60 TO 350° F	10,000 psi	1.06	10 Min/8 Hours
TORQUE 174 Hydraulic sealant, high viscosity, thixotropic. Ideal for larger tolerances. Medium strength. Packaged in: 50 mil bottle, 250 mil bottle, and 1 liter container.	Red	3,500 cps	-60 TO 350° F	10,000 psi	1.08	10 Min/8 Hours
TORQUE 175 Medium strength, flexible sealant, ideal for steam systems, dissimilar parts, and thermocycling applications. Replaces soldering of copper fittings. Packaged in: 50 mil bottle, 250 mil bottle, and 1 liter container.	Red	4,000 cps	-60 TO 350° F	10,000 psi	1.08	10 Min/8 Hours
TORQUE 176 Medium strength sealant for larger tolerances. Packaged in: 50 mil tube, 250 mil tube, 1 liter container, 75 mil accordian, and 125 mil accordian.	Blue	20,000 cps	-60 TO 350° F	10,000 psi	1.09	10 Min/8 Hours
TORQUE 177 Fast curing PTFE pipe sealant for gas and liquids. Highly thixotropic. Packaged in: 50 mil tube, 250 mil tube, 1 liter container, 75 mil accordian, and 125 mil accordian.	White	90,000 cps	-60 TO 350° F	10,000 psi	1.09	5 Min/6 Hours
TORQUE 178 High viscosity, PTFE pipe sealant. Medium strength, general purpose for use on coarse threads. Packaged in: 50 mil tube, 250 mil tube, 1 liter container, 75 mil accordian, and 125 mil accordian.	Yellow	50,000 cps	-60 TO 350° F	10,000 psi	1.09	10 Min/8 Hours
TORQUE 180 Very fast curing, high strength sealant for fittings up to 3/4". Packaged in: 50 mil bottle, 250 mil bottle, and 1 liter container.	Green	500 cps	-60 TO 350° F	10,000 psi	1.06	2 Min/6 Hours
TORQUE 181 Fast curing, high strength, high temperature thread sealant, for larger tolerances. Packaged in: 50 mil bottle, 250 mil bottle, and 1 liter container.	Green	3,500 cps	-60 TO 450° F	10,000 psi	1.10	15 Min/8 Hours
TORQUE 182 Delayed curing for maximum adjustment times, high strength, high viscosity thread sealant. Packaged in: 50 mil bottle, 250 mil bottle, and 1 liter container.	Red	6,000 cps	-60 TO 350° F	10,000 psi	1.11	60 Min/24 Hours
TORQUE 192 General purpose sealant for locking and sealing threaded fittings. Easy disassembly. Packaged in: 50 mil tube, 250 mil tube, 1 liter container, 75 mil accordian, and 125 mil accordian.	White	350,000 cps	-60 TO 450° F	10,000 psi	1.20	15 Min/8 Hours
TORQUE 193 Excellent for stainless steel. Good temperature resistance. Easy disassembly. Packaged in: 50 mil tube, 250 mil tube, 1 liter container, 75 mil accordian, and 125 mil accordian.	White	475,000 cps	-60 TO 450° F	10,000 psi	1.15	15 Min/8 Hours



TORQUE SERIES

Anaerobic Adhesives/Sealants Retaining

TECH TIP

Have a difficult application and nothing seems to work. Adhesives Systems, Inc. offers customized solutions to fit your specific requirement.

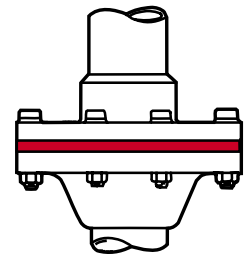
The *TORQUE RETAINING SERIES* is engineered to greatly increase the shear strength of cylindrical, non threaded assemblies. These products fill the inner space and surface irregularities between the parts forming a tough, durable polymer, that creates a unitized, strong, precision assembly, preventing corrosion. They are single component, solvent free compounds that are ready to use right from the bottle, or can be easily automated. The *TORQUE RETAINING SERIES* is formulated in a wide range of viscosities, gap filling ability, cure times and strength characteristics. This technology greatly enhances the reliability and performance properties of the finished assembly. Even in the best press fit application there is only 20 to 30 percent actual metal contact between the surfaces. The *TORQUE RETAINING SERIES* fills all the voids between the parts increasing the over all strength of the assembly by 2 to 3 times that of the original press fit. Other retaining and locking devices can be eliminated such as keyways, set screws, splines, tapers, knurls, etc. Machining tolerances can be relaxed lowering the cost of the assembly and simplifying the assembly process. Improved quality, reliability, cost effectiveness, ease of use, are just a few of the many benefits the *TORQUE RETAINING SERIES* brings to improve the manufacturing techniques in your assembly applications.





	COLOR	VISCOSITY	GAP FILL	SHEAR STRENGTH STEEL/STEEL	TEMP RANGE	CURE SPEED (FIXTURE/FULL)	SPECIFIC GRAVITY
TORQUE RETAINING COMPOUNDS							
TORQUE 03 RC Excellent for oily surfaces and other contamination. Prevents corrosion, provides strength up to 3,800 psi, temperature resistance to 350° F. MIL-R-46082B, Type I	Green	125 cps	.005"	3,800 psi	-65 TO 350° F	10Min/8 Hours	1.10
TORQUE 09 RC General purpose, low viscosity retaining compound. Fixtures in under 10 minutes, providing shear strength up to 3,800 psi, works well on similar and dissimilar metals. Temperature resistance to 350° F. MIL-R-46082B, Type I	Green	125 cps	.005"	3,800 psi	-65 TO 350° F	15Min/8 Hours	1.10
TORQUE 20 RC High strength, high temperature retaining compound. Shear strength up to 4,000 psi, radial clearance up to .015". Fixtures in under 15 minutes.	Green	8,500 cps	.015"	4,000 psi	-65 TO 450° F	15Min/8 Hours	1.16
TORQUE 35 RC Medium viscosity, ideal for slip fitted parts. Fixtures in 10 minutes, shear strength up to 4,200 psi, temperature up to 350° F. MIL-R-46082B, Type III	Green	2,000 cps	.010"	4,200 psi	-65 TO 350° F	10Min/8 Hours	1.05
TORQUE 38 RC Maximum strength for extremely high dynamic loading. 4,500 psi in shear strength, radial clearance up to .010".	Green	2,500 cps	.010"	4,500 psi	-65 TO 350° F	2Min/8 Hours	1.019
TORQUE 40 RC Medium strength, delayed curing for maximum adjustment times, up to 40 minutes. High temperature up to 450° F. MIL-R-46082B, Type II	Green	600 cps	.007"	3,500 psi	-65 TO 450° F	40 Min/8 Hours	1.12
TORQUE 41 RC General purpose, controlled strength retaining. Excellent for parts that require disassembly. Radial clearance up to .010".	Yellow	750 cps	.010"	1,800 psi	-65 TO 350° F	15Min/8 Hours	1.07
TORQUE 48 RC Fast curing, high strength. Working temperatures up to 350° F. Fixtures in under 2 minutes.	Green	500 cps	.006"	4,000 psi	-65 TO 350° F	2 Min/8 Hours	1.13
TORQUE 60 RC Repair compound for worn threads and/or machine parts. Restores parts to correct tolerances. Fills gaps up to .020".	Silver	250,000 cps	.020"	3,500 psi	-65 TO 350° F	10Min/24 Hours	1.13
TORQUE 75 RC Low viscosity, delayed curing up to 30 minutes for positioning and adjustment. Ideal for press fits. MIL-R-46082B, Type I	Green	125 cps	.005"	3,500 psi	-65 TO 350° F	30Min/24 Hours	1.09
TORQUE 80 RC High strength for slip fitted parts, 4,200 psi. Fixtures in under 5 minutes with gap filling up to .015".	Green	1,400 cps	.015"	4,200 psi	-65 TO 450° F	5 Min/8 Hours	1.11

Packaging: The Torque Series Retaining Compounds are available in 10 mil, 50 mil, 250 mil, and 1 liter containers. Special packaging is available upon request.



TORQUE SERIES

Anaerobic Adhesives/Sealants Gasketing

TECH TIP

Need more training for engineering, assembly personnel, plant safety, etc. Adhesive Systems, Inc. will conduct seminars at your facility. Call 1-800-401-1441 to get more of the details.

The *TORQUE GASKETING SERIES* allows for maximum clamp loading and positive sealing of mating flanges and housings. These liquid gasketing materials are ideally suited for applications where there are small gaps on rigid metal to metal assemblies. They create a formed in place gasket, eliminating the need for large inventories of pre cut gaskets. The *TORQUE GASKETING SERIES* keys into the surface of the flanges when they are mated together creating a positive, uniform seal in the joint. This material does not shrink, tear, or relax when fully cured and it is not necessary to re-torque flange bolts when using these products. They are extremely durable materials, that have exceptional pressure and chemical resistance. They are available in a full range of strengths, cure times, and viscosities, to meet specific application requirements. The *TORQUE GASKETING SERIES* is a total leak prevention system. They are single component, solvent free materials, that fill all the voids, surface gaps, and irregularities, allowing for a positive seal between mating flanges, along with improving the structural integrity of the assembly.





	COLOR	VISCOSITY	GAP FILL	TEMP RANGE	CURE STATE	CURE SPEED (FIXTURE/FULL)	SPECIFIC GRAVITY
TORQUE GASKETING PRODUCTS							
TORQUE GM 10 General purpose, flange sealant. Forms a flexible seal, with gap filling up to .050".	Purple	275,000 cps	.010"-.050"	-65 TO 350° F	Flexible	15 Min/8 Hours	1.10
TORQUE GM 20 Forms a rigid gasket, adds structural integrity to the assembly, fills gaps to 0.050".	Orange	500,000 cps	.030"-.050"	-65 TO 350° F	Rigid	30 Min/8 Hours	1.08
TORQUE GM 25 Fast curing, flexible, high viscosity gasketing material, ideal for high speed production.	Red	125,000 cps	.010"-.020"	-65 TO 350° F	Flexible	5 Min/8 Hours	1.20
TORQUE GM 30 Excellent to use on flexible metal assemblies. Will not tear, shrink, or relax. Excellent solvent resistance, fills gaps to 0.050".	Red	800,000 cps	.010"-.050"	-65 TO 350° F	Flexible	20 Min/8 Hours	1.1
TORQUE GM 35 Long curing, semi rigid gasketing material. Allows for maximum adjustment times on extended assembly operations.	Green	20,000 cps	.010"-.020"	-65 TO 350° F	Semi-rigid	90 Min/8 Hours	1.25
TORQUE GM 40 Excellent for applications that require high temperature properties (450° F) and chemical/solvent resistance.	Red	200,000 cps	.010"-.020"	-65 TO 450° F	Rigid	30 Min/8 Hours	1.16
TORQUE GM 45 Extremely flexible, withstands flange movement and vibration. Holds to a vertical surface.	Blue	100,000 cps	.010"-.020"	-65 TO 350° F	Flexible	45 Min/8 Hours	1.12
TORQUE GM 50 Fast curing material with good gap filling properties. High viscosity material, eliminates compression sets.	Orange	40,000 cps	.010"-.020"	-65 TO 350° F	Semi-rigid	5 Min/6 Hours	1.11
TORQUE GM 60 Superior gasket dressing performance. Never hardens, excellent chemical resistance. Temperature resistance up to 600° F. Ideal as a high performance gasketing material and/or thread sealer.	Blue	Gel	.010	-60 TO 600° F	Flexible/ Reusable	Instant Seal	1.09

Packaging: Gasket Maker products are available in 50 mil tubes, 250 mil tubes, 1 liter containers, and 15 liter pails. GM 60 is available in a 3 ounce tube and a 250 mil brush top can. Special packaging of Gasket Maker products is available upon request.

Engineering Excellence
For technical product information
call 1-800-401-1441

Surface Preparation Products

TORQUE SERIES SURFACE PREPARATION PRODUCTS are used to insure the maximum performance of the *TORQUE SERIES* anaerobic adhesives and sealants. *ADHESIVE SYSTEMS, INC.*, as a responsible manufacturer with concern for the environment, formulates these products with “non ozone depleting” chemicals. *TORQUE PRIMER N* and *PRIMER T* are used to speed the curing and increase the gap filling properties of *TORQUE ANAEROBIC PRODUCTS*. They are ideally suited for applications that require exceptionally fast fixture times on surfaces that are inactive. They increase the activity of the parts being assembled by priming the surfaces and removing contaminants that may be present. Both *TORQUE PRIMER N* and *PRIMER T* are solvent based products, and *TORQUE PRIMER SF* is a solvent free formulation. *TORQUE SAFETY SOLVENT* is a industrial strength cleaner that removes grease, oil, and dirt from the parts being assembled. Proper surface preparation on component parts that have a high level of contamination and/or involve inactive surfaces will greatly enhance the performance of the products in the finished application.



	BASE	COLOR	VISCOSITY	ON PART LIVE
TORQUE SURFACE PREPARATION PRODUCTS				
PRIMER T	Heptane	Green	2 cps	Up to 7 Days
PRIMER N	Heptane	Clear/Bluish green	2 cps	Up to 30 Days
PRIMER SF	Modified Methacrylate	Green/Amber	5 cps	24 Hours
SAFETY SOLVENT	Acetone	Clear/Amber	2 cps	N/A



Engineering Excellence

For technical product information

call 1-800-401-1441

ANAEROBICS: LOCKING, SEALING, RETAINING, GASKETING