

Assembly Solutions



Henkel.

Improving your designs, understanding your challenges

PROVEN SOLUTIONS FOR ALL YOUR NEEDS -TODAY AND TOMORROW



Manufacturers face daily challenges to reduce costs, improve efficiency, and increase innovation, to name just a few. You need a supplier with a broad product portfolio, a global footprint, and the engineering and application know-how to solve your challenges. You also need a partner who can help you maintain your high quality while developing advanced new products.

Henkel, the leading solutions provider for adhesives, sealants and functional coatings worldwide, offers much more than quality adhesives. With our history and experience in the industry, our experts can help you find ways to optimize your manufacturing processes and drive down costs. We can help you reduce weight, increase durability and enhance the reliability of your equipment. And we're continually developing innovations to help you succeed in the future.

Let us show you the value Henkel offers.

TABLE OF CONTENTS

THREADLOCKING Prevent fastener loosening and seizure

THREAD SEALING Prevent leaks – air, hydraulic pipe joints

GASKETING Prevent flange leaks – oil, transmission, coolant

RETAINING Prevent backlash – keyway wallow, spun bearings, shaft misalignment, wear, corrosion

INSTANT BONDING Bond dissimilar parts quickly and easily

STRUCTURAL BONDING Bond structural assemblies and repair damaged parts

FLEXIBLE BONDING AND SEALING Bond and seal parts that experience movement

ANTI-SEIZE LUBRICANTS Prevent rust, corrosion, galling or seizing on metal parts in extreme environments

CLEANING Clean and degrease parts and work surfaces

MOULD RELEASE AGENTS Release rubber and composites with ease while molding

LIGHT CURE ADHESIVES Bond parts quickly using UV / visible light

LOCTITE[®] EQUIPMENT SOLUTIONS Dispensing systems and consumables

LOCTITE[®] PRE-APPLIED SOLUTIONS

Precoated dry-to-touch assembly solutions



NEW PRODUCTS	26
SOLUTIONS TO COMMON ASSEMBLY CHALLENGES	28
PRODUCT ORDERING INFORMATION	30



THREADLOCKING Locking of threaded fasteners

- » PREVENTS LOOSENING FROM SHOCK AND VIBRATION
- » SINGLE COMPONENT CLEAN AND EASY TO APPLY
- » CAN BE USED ON VARIOUS SIZES OF FASTENERS REDUCES INVENTORY COSTS
- » FILLS GAP BETWEEN THREADS AND UNITIZES THE ASSEMBLY
- » STOPS RUST AND CORROSION

ARE THE PARTS ALREADY ASSEMBLED?

Helpful Hints:

- Clean parts with LOCTITE® SF 7070 ODC-Free Cleaner and Degreaser before applying the adhesive.
- If the threadlocker will be applied below 5°C, pre-treat with LOCTITE® 7649 Primer N.
- If the parts were in contact with aqueous washing solutions or cutting fluids that leave a protective layer on the surface, wash with hot water before use.



1/16" to 1/2" (M2 to M12)
High
20 min./24 hr.
10/29
150°C

Package Size & IDH

* Typical value @ 22°C

ADDITIONAL PRODUCTS			
Name	Strength/ Color	Breakaway/Prevail Torque (N.m)	Features
LOCTITE [®] 220	Low - Blue	9/19	Removable grade, wicking, for small threads of 1/4" (M6) or smaller
LOCTITE [®] 270	High - Red	26/36	Fasteners up to 3/4" (M20)
LOCTITE [®] 271	High - Red	28/31	Fasteners up to 1" (Up to M25)
LOCTITE [®] 272	High - Orange	22/24	High Temp up to 11/2" (M36)

50 ml bottle - 531724 250 ml bottle - 848069

YES

Wicking – Green

LOCTITE® 290



Recommended for locking pre-assembled fasteners, i.e. instrumentation screws, electrical connectors, and set screws. Also seals porosities in welds and metal parts.

Use LOCTITE® Primer to:

- Activate inactive surfaces.
 Speed cure times for faster
- return to service. 3. Speed curing through larger
- gaps and deep threads.
- 4.Substantially speed cure times on cold parts.
- 5. Act as a cleaning agent.
- БАЭ

LOCTITE[®] PRIMERS



	NC)	
	What strength do	o you require?	
Low – Purple	Medium - Blue	High – Red	Permanent - Red
	Oil tolerant		
LOCTITE [®] 222	LOCTITE® 243 Up	LOCTITE® 263 Up	LOCTITE [®] 277
Up to 1/4" (Up to M6)	1/4" to 3/4" (M6 to M20)	Up to 1"	For large bolts > 7/8" (>20mr
Low	Medium	High	Permanent
10 min./24 hr.	10 min./24 hr.	10 min./24 hr.	60 min./24 hr.
6/3	20/7	32/32	31/31
150°C	180°C	180°C	150°C

50 ml bottle - 848063 250 ml bottle - 848062

Recommended for low strength

controllers. Also for low strength

threadlocking of adjustment

screws, countersunk head

screws, and set screws; on collars, pulleys, tool holders, and

metals such as aluminum or

brass.

50 ml bottle - 1677003

With improved oil tolerance, LOCTITE® 243 Threadlocker is effective on all types of metal threaded fasteners. Prevents loosening on vibrating parts such as pump, motor mounting bolts, gear boxes, or presses. Removable with hand tools.





Engineered to cure consistently on a variety of metals, despite minor surface contaminants. Works on steel, stainless steel and most plated fasteners. Tolerates thread lubrication, anticorrosion and protection fluids. Heat required for removal.

50 ml bottle - 531723 250 ml bottle - 531722



High strength adhesive for locking and sealing large bolts and studs 1" (25 mm) or larger in diameter. Heat may be required to weaken bond before parts can be disassembled.

Name	Color	Viscosity	Base	On-Part Life	Dry Time	Package Size & IDH	Primer is optional with: Active surfaces: Brass, copper, bronze, iron, soft steel, nickel.
7649 Primer N	Clear/Green	2	Acetone	30 days	30 to 70 seconds	100 ml - 849297	
							Primer is required with: Inactive surfaces: Aluminum, stainless steel, magnesium, zinc black oxide, cadmium, titanium, and others.
7471 Primer T	Amber	2	Acetone/ Isopropanol	7 days	30 to 70 seconds	100 ml - 849296	



THREAD SEALING

- » LIQUIDS ENSURE COMPLETE CONTACT BETWEEN THREADS FOR A 100% SEAL
- » LIQUIDS WILL NOT CREEP, SHRINK, SHRED OR BLOCK SYSTEMS (INCLUDING FILTERS)
- » DISASSEMBLY CAN BE ACHIEVED EASILY WITH BASIC HAND TOOLS
- » REPLACES TAPES AND PASTES

ARE THE PARTS METAL OR PLASTIC?

Helpful Hints:

- If the sealant (LOCTITE[®] 545 Thread Sealant, LOCTITE[®] 565 Thread Sealant, LOCTITE[®] 567 Thread Sealant, or LOCTITE[®] 561 Pipe Sealant) will be applied below 5°C, pre-treat with LOCTITE[®] 7649 Primer N.
- All parts must be clean and dry before sealing use LOCTITE[®] SF 7070 ODC-Free Cleaner and Degreaser.

PLASTIC AND/ OR METAL

	Cord
HENKEL SOLUTIONS	LOCTITE [®] 55
Description	Cord
Maximum Thread Size	4" (10.16 cm)
Temperature Resistance	150°C
Maximum Pressure Resistance (N/mm²)/Cure Time	10,000 psi (68.9)/instant
Substrate to be Sealed	Metal, Plastic or Both
Instant Low Pressure Seal	Yes

Package Size & IDH

150 metres - 1752446

	ADDITIONAL PRODUCTS
Name	Features
LOCTITE [®] 572	Easy application by hand. Slow curing. For use on construction pipe sealing.
LOCTITE [®] 545	Low strength, fast curing for hydraulic / Pneumatic fittings.



Can be safely applied on metal and plastic threaded fittings. Potable water: NSF/ANSI 61 UL Listed and Ceritified to CSA International. **



METAL PARTS

Are the threads fine or coarse?

Fine

LOCTITE [®] 542 (Hydraulic & Pneumatic)	
Brown Liquid	
Up to 3/4" (1.90 cm)	
150°C	
10,000 psi (68.9)/24 hrs.	
Metal	
No	

50 ml bottle - 234422



Recommended for fine threaded fittings as used in hydraulic and pneumatic installations and small fittings in general. Carries German DVGW approval (NG-5146 AR 0855) Meets BS 6956 type A for sealing gas fittings. **

LOCTITE® 565 White to off White Paste Up to 2" (5.08 cm) 150°C 10,000 psi (68.9)/72 hrs. Metal Yes

> 50 ml bottle - 1751917 250 ml bottle - 1752552



A general-purpose instant sealant for tapered and straight/ tapered fittings.

LOCTITE® 567
White Paste
3" (7.62 cm)
250°C
10,000 psi (68.9)/72 hrs.
Stainless Steel, Aluminum
Yes

Coarse

50 ml bottle - 2146962 250 ml bottle - 2146695



Withstands temperatures to 204°C with excellent solvent resistance. Locks and seals tapered pipe threads and fittings, including high pressure applications. Disassembles with hand tools.

Metal No

LOCTITE® 577 (Up)

Yellow Paste

Up to 3" (7.62 cm)

180°C

10,000 psi (68.9)/72 hrs.

50 ml tottle tube - 2121780 250 ml tottle tube - 2121367



Medium strength, general purpose sealant for use on coarse, threaded components.

** All approvals are region specific. Please contact your Henkel Sales Representative for further information.



GASKETING Sealing and Flanges

DOES THE EXISTING GASKET NEED TO BE USED AS A SHIM?

Helpful Hints:

- If there are traces of old gasket left on the parts to be sealed, clean with LOCTITE[®] SF 790 Chisel Gasket Remover.
- All parts must be clean and dry before sealing use LOCTITE® SF 7070 ODC-Free Cleaner and Degreaser.
- Anaerobic products cure between metal surfaces with the absence of air.

Rigid

► HENKEL SOLUTIONS	LOCTITE [®] 510	LOCTITE® 518 Up
Color	Pink	Red
Gasket Type	Formed-in-place	Formed-in-place
Gap Fill	0.010" (0.25 mm)	0.010" (0.25 mm)
Cure Method	Anaerobic	Anaerobic
Fixture/Cure Time	N.A./24 hrs.	N.A./24 hrs.
Temperature Resistance (Continuous/Intermittent)	204°C/N.A.	150°C/N.A.
Instant Seal	Excellent	Excellent
Water/Glycol Resistance	Excellent	Excellent
Package Size & IDH	50ml tottle tube - 848390 250ml tottle tube - 848731	25ml Pen - 2415830

ADDITIONAL PRODUCTS	
Name	Features
LOCTITE [®] 515 Gasket Eliminator Flange Sealant	For flexible applications. Cure speed: Unprimed - 1 to 12 hours. Primed - 15 minutes to 2 hours.
LOCTITE [®] 790 Chisel Gasket Remover	Solvent. Dry time: Leave on surface for 5 to 10 minutes. Wipe/scrape clean.
LOCTITE [®] SI 5920	Designed for high temperature resistance and electrical insulating applications. Temperature resistance upto 360°C.



300ml cartridge - 910888

High temperature. Product has a temperature range to 204°C with excellent solvent and chemical resistance. Makes or dresses gaskets in rigid assemblies. Eliminates gasket compression set.



50 ml bottle - 2069174

Recommended for use on rigid iron, steel and aluminum flanges. Spray LOCTITE® SF 7649 Primer N on only one surface.



NO

Are you sealing a rigid or a stamped flange?

LOCTITE [®] 574
Red
Formed-in-place
0.010" (0.25 mm)
Anaerobic
N.A./24 hrs.
150°C/N.A.
Excellent
Excellent

50ml tottle tube - 848739 250ml tottle tube - 848734



Recommended for sealing rigid & semi-rigid metal flanges. Fast curing. Gives instant sealing.



LOCTITE® SI 587

Blue

Formed-in-place

0.250" (6.35 mm)

Moisture (RTV)

50 min. (Skin formation)

204°C/250°C

Excellent

Excellent

95g tube - 1266356

300ml cartridge - 1246389

All types of flanges including stamped sheet metal. Designed for superior bonding properties to oil contaminated metals.



Stamped

LOCTITE® SI 596

Red

Formed-in-place

0.250" (6.35 mm)

Moisture (RTV)

50 min. (Skin formation)

316°C

Excellent

Excellent

300ml cartridge - 317667

High temperature silicone sealant makes the repair of industrial furnaces, ovens, boilers, exhaust stacks, high temperature stacks, ducting and heating elements.

Formed-in-place
0.240" (6 mm)
Moisture (RTV)
20 min. (Skin formation)
204°C/N.A.
Excellent
Excellent

LOCTITE[®] SI 5900

Black

300ml cartridge - 1257126



Superior flexibility, withstand high relative joint movement. High adhesion, gives instant seal. Low odor, Low volaticity, Noncorrosive.



RETAINING Securing Cylindrical Assemblies

- BOND NON-THREADED CYLINDRICAL METAL ASSEMBLIES
- » HIGH AND MODERATE STRENGTH PRODUCTS CAN CARRY HIGH LOADS AND ELIMINATE FRETTING
- » FILL ALL VOIDS PREVENT CORROSION
- » REDUCE THE NEED FOR CLOSE TOLERANCES
- » 100% CONTACT LOAD AND STRESS ARE DISTRIBUTED EVENLY OVER THE JOINT

IS THE ASSEMBLY BADLY WORN?

Helpful Hints:

- If the retaining compound will be applied below 5°C, pre-treat with LOCTITE[®] 7649 Primer N.
- All parts must be clean and dry before sealing use ${\tt LOCTITE}^{\circledast}$ SF 7070 ODC-Free Cleaner and Degreaser.
- If the parts have been in contact with washing or cutting fluids containing nitrates, wash with hot water.

HENKEL SOLUTIONS LOCTITE® 660 Strength Required High Shear Strength (N/mm²) 3,335 psi (23) Diametrical Clearance Up to 0.020" (0.5 mm) Temperature Resistance 150°C Cure Time (Setup/Full Strength) 20 min./24 hr.

Package Size & IDH

50ml bottle - 1752417

YES - GAPS UP TO

0.020" (0.5 MM)

ADDITIONAL PRODUCTS		
Name	Features	
	Gives best resistance to dynamic, axial and radial loads. Recommended for retaining shafts, gears, pulleys, and similar cylindrical parts.	
LOCTITE [®] 620	Particularly suitable for applications where temperature resistance up to 200°C is required. Requires heat cure to achieve temperature resistance.	
LOCTITE [®] 603	For close-fitting parts (gap up to 0.1 mm) with light contamination. Typical applications include retaining roller bearings or oil impregnated bushings into housings.	



Used for repairing worn coaxial parts without remachining; enables reuse of worn bearing seats, keys, splines, tapers, or for retaining shims.





50ml bottle - 848752 250ml bottle - 848750



A controlled strength retaining compound that is ideal for cylindrical parts that require disassembly.

50ml bottle - 848744 250ml bottle - 848745

Recommended for parts that will need subsequent dismantling, i.e. retention of bearings onto shafts and into housings.



50 ml bottle - 1803363

Maximum strength. For use where high dynamic force or cyclic loading is expected. Offers high temperature performance and oil tolerance.

50ml bottle - 1865163 250ml bottle - 1865164



Press Fit/High Strength/Rapid Cure. Offers high temperature performance and oil tolerance.



INSTANT BONDING

- » ASSEMBLE PARTS QUICKLY AND EASILY
- » PEPAIR BROKEN PARTS
- » BOND DISSIMILAR PARTS

▶ WHAT IS THE BONDING APPLICATION REQUIREMENT?

Porous / absorbent material

HENKEL SOLUTIONS	LOCTITE [®] 401
ixture Time	15 sec.
Gap Fill (mm)	0.12
Temperature Resistance	120°C
Shear Strength, psi (N/mm²)	3200 (22)
Viscosity (cP)	110

Package Size & IDH

3g tube - 87993 20g bottle - 195758 50g bottle - 142576

ADDITIONAL PRODUCTS		
Name	Features	Gap Fill (mm)
LOCTITE [®] 480	Suitable for close-fitting parts	0.15
LOCTITE [®] 430	Metal bonder for close fitting parts 0.12	
LOCTITE [®] 420	Wicking type plastic bonder	0.05



Surface insensitive instant adhesive for difficult-to-bond, porous surfaces such as wood, paper, leather or fabric.



BONDING RUBBER, PLASTIC, METAL - INSTANT BONDING

Plastics / Rubber

(EPDM)

LOCTITE[®] 406

15 sec.

0.10

120°C

3200 (22)

20

20g bottle - 1669713

LOCTITE [®] 454
15 sec.
0.25
120°C
3200 (22)
Gel

20g bottle - 1752383 300g cartridge - 88525



Surface insensitive gel. Bonds porous & absorbent surfaces. Non-dripping, particularly suited for overhead applications.



Particularly suited for bonding rubbers & plastics. A must for every tool box for general maintenance & repair. Makes O-rings instantly. Wicking viscosity for tight bond lines.



Metal parts

LOCTITE[®] 415

30 sec.

0.20

80°C

3600 (25)

1500

20g bottle - 848003

500gm bottle - 849230

High viscocity adhesive offering maximum adhesion to metals. Ideal for bonding small metal parts for general maintenance.

General Purpose	
LOCTITE [®] 495	
20 sec.	
0.10	
120°C	
2750 (19)	
45	

20g bottle - 1669711



A general purpose adhesive designed to bond rubber, metal & plastic parts.



STRUCTURAL BONDING

- » ELIMINATES OR SIGNIFICANTLY REDUCES COSTLY MECHANICAL FASTENING METHODS SUCH AS RIVETS, SCREWS AND WELDS
- > IDEAL FOR QUICK REPAIRS AND STRUCTURAL ASSEMBLIES
- » EXCELLENT RESISTANCE TO SEVERE ENVIRONMENTAL CONDITIONS
- » BONDS DISSIMILAR MATERIALS, SUCH AS METAL TO PLASTIC
- » FILLS LARGE GAPS BETWEEN PARTS

▶ WHAT IS THE BONDING APPLICATION REQUIREMENT?

► HENKEL SOLUTIONS	LOCTITE [®] AA 324
Color	Amber
Viscosity (cP)	17000 CP
Mix Ratio	NA
Fixture Time	5 min.
Cure Time	24 hours
Temperature Resistance	175°C
Shear Strength	2700 psi

Package Size & IDH

ADDITIONAL PRODUCTS		
Name Features		
LOCTITE [®] AA 326	Fast fixture (within 1 minute).	
LOCTITE [®] AA 330	General purpose.	
LOCTITE [®] AA 331	Ultra fast fixture. Acid free.	

50ml bottle - 847577 250ml bottle - 847578



Surface insensitive instant adhesive for difficult-tobond, porous surfaces such as wood, paper, leather or fabric. Suitable for small gap. Specially formulated for toughness and impact strength. Use with LOCTITE® 7075 activator.



METAL

MULTIPLE SUBSTRATE

LOCTITE[®] EA E-30CL

Clear 10000 CP 2:1 > 180 mins 24 hours 120°C 3100 psi

OCTITE [®] AA H 3151	LOCTITE [®] EA E-214HP	LOCTITE [®] EA E-120HF
Light Yellow	Light Grey	Amber
70000 cP	Paste	30000 CP
1:1	NA	2:1
90 mins	NA	180 mins
24 hours	2 hours	24 hours
120°C	150°C	120°C
3780 psi	4820 psi	4300 psi

400ml cartridge - 1751922

300ml cartridge - 1617847

4300 psi 400ml - 1752564

50ml syringe - 1752546



Suitable for bonding a wide variety of plastic and metal substrates without the use of additional primer. Offers extended work life.



A one component acid free, heat cure epoxy with high strength, temperature resistance, non sag and non corrosive.



An amber, non-sag, aerospace grade epoxy with an extended open time to allow for the adjustment of large parts.



An ultra-clear, low viscosity, impact resistant epoxy with a 30-minute work life. An excellent glass bonder. Exhibits exceptional chemical resistance.



FLEXIBLE BONDING AND SEALING

- » BOND AND SEAL PARTS THAT EXPERIENCE MOVEMENT, SUCH AS VIBRATION, IMPACT, THERMO EXPANSION/CONTRACTION, ETC
- » SUITED FOR INDOOR AND OUTDOOR APPLICATIONS THAT REQUIRE RESISTANCE TO HEAT, HUMIDITY, TEMPERATURE SWINGS AND UV LIGHT

▶ IS THE REQUIREMENT TO SEAL THE SUBSTRATE OR BOND THEM TOGETHER?

	SEALING
	General Purpose
► HENKEL SOLUTIONS	TEROSON [®] MS 930
Colour	Black, White, Grey
Hardness [Shore A]	30
skin formation time [min]	18
Tensile strength [MPa]	1.0
Elongation at break [%]	250
Service temperature range [°C]	-50°C to +80°C

Package Size & IDH

310ml cartridge white-1656499 310ml cartridge grey-1656500 310ml cartridge black-1845185



- Soft-elastic
- Multi purpose
- UV & weathering
- resistance
- Good adhesion to wide variety of substrates
- 100% sealing



BONDING

2K Rapid Cure

TEROSON® MS 9399

Black, White, Grey

55

35

3.0

150

-40°C to 100°C

Medium Strength

TEROSON[®] MS 935

Black, White, Grey

290ml cartridge black-1940293

250 -40°C to 100°C 570ml sausage white-212653

General Purpose

TEROSON[®] MS 939

Black, White,

Off-White, Grey

55

5

3.0

570ml sausage white-212653 290ml cartridge grey-1846007 570ml sausage black-1752515

400ml white - 2048329

Windshield Bonding

 TEROSON® PU 8590

 Black

 60

 25

 8.0

 400

 -40°C to 90°C

310ml cartridge(N/M)-1574002 310ml kit - 1574212



- Good paintability
- Environmental
- resistance Easy smoothing
- Elastic sealant adhesive



- Very versatile across
- substrates UL Listing for electrical
- equipment • Excellent bonding and sealing
- even without primer Good environment & UV
- resistance
- Paintable



- Fast curing
- High initial strength
- Good sag resistanceIndependent from air /
- humidity Good UV and environmental
- Good UV and environmental resistance



Solvent - free composition

Higher reliability due to

Short setting time leads to

(retains elasticity even after

faster turn around

aging)

Excellent UV resistance

 Used with Teroson PU 8517H Primer



ANTI-SEIZE LUBRICANTS

» PROTECT AGAINST RUST, CORROSION, SEIZING AND GALLING
 » PROVIDE LUBRICATION IN EXTREME ENVIRONMENTS

▶ WHAT TYPE OF ANTI-SEIZE DO YOU REQUIRE?



Color	Silver
Solid Lubricating Agent	Graphite/Aluminum
Torque Coefficient*	0.18
Temperature Range	-30°C to +900°C
Metal-Free	No

Package Size & IDH

* K value on steel nuts and bolts

ADDITIONAL PRODUCTS			
Name Max Temp Features			
LOCTITE® LB 8700 Extreme Pressure Resistant Lubricant	399°C	MOS ₂ based thread lubricant	
LOCTITE® LB 8012 Low Friction Lubricant	399°C	Recommended for maximum lubricity at low speeds, high loads, Metal free formulation	



500g jar - 833783

Up to 871°C

LOCTITE[®] LB 8150 Silver

Grade Anti-Seize

Heavy duty, temperature resistant, petroleum based lubricant compound fortified with graphite and metallic flake. Inert and will not evaporate or harden in extreme cold or heat. For use in assemblies up to 871°C. ABS Approved. Tested to Mil-PRF-907E. CFIA Approved. **







Exclusive formula suspends copper and graphite in a high quality grease. Protects metal parts from rust, corrosion, galling, and seizing at temperatures to 982°C. Tested to Mil-PRF-907E. CFIA Approved. **



Copper-free. Recommended for stainless steel and other metal fittings. For preventing corrosion, seizing, and galling in harsh, chemical environments, and temperatures to 1315°C. ABS Approved. **



Metal free. Excellent lubricity. Provides outstanding lubrication to all metal including stainless steel, aluminum and soft metals up to 1315°C.



Prevents seizure, galling, and friction in stainless steel and other metal parts up to 399°C. NSF H1 rated for incidental food contact. **



Formulated to protect assemblies exposed directly or indirectly to fresh and salt water, this anti-seize works especially well in high humidity conditions. It has excellent lubricity, superior water washout spray resistance, and prevents galvanic corrosion. ABS Approved.**

** All approvals are region specific. Please contact your Henkel Sales Representative for further information.

CLEANING » CLEAN AND DEGREASE WORK SURFACES, PARTS AND HANDS

▶ WHAT TYPE OF CLEANER DO YOU REQUIRE?



Package Size & IDH

100ml can - 849292





Solvent based (acetone) general parts cleaner, evaporates very fast, removing dirt, resins, lacquer, oils and greases from metals. Recommended for pre assembly cleaning.







Removes gaskets from any type of assembly in 10 to 15 minutes. Prepares metal parts for new gaskets, eliminating scraping and sanding. Works on wood; non-corrosive on aluminum. Not for use with plastics, Linoleum, or synthetic fibers.



Biodegradable, all-purpose, industrial strength, concentrated cleaner and degreaser. Can be economically diluted with water. Formulated for wipe down, pressure spraying, ad immersion cleaing processes at room temperature or heated. Non-flammable and non-toxic. Contains no ODCs.



A non-aqueous, hydrocarbonbased solvent designed for cleaning and degreasing surfaces to be bonded with adhesives, as well as for general purpose industrial cleaning. Safe on aluminum, rubber, and most plastics, and will not cause flash rusting on water-sensitive parts. Dries residue-free. Contains no ozone-depleting compounds (ODCs).



Aggressively penetrates, dissolves, and removes oil and grease from parts. Dries quickly with no residue. Contains no ODCs.



MOULD RELEASE AGENTS

- » MULTIPLE RELEASES



► FREKOTE MOULD RELEASE AGENTS				
	SOLVENT BASED	WATER	BASED	
	FRP release	Rubber release	Rubber release	
HENKEL SOLUTIONS	LOCTITE [®] FREKOTE [®] 770-NC	LOCTITE [®] FREKOTE [®] R-120	LOCTITE [®] FREKOTE [®] R-220	
Description	Quick curing	Ready to use	Highly filled elastomers	
Moulding Process	Cast Compression Molding Lay-up RTM Vacuum Bagging Filament Winding	Compression Transfer	Difficult molding application, especially for high aspect ratic parts	
Application Temperature	15°C - 60°C	60°C - 204°C	60°C - 205°C	
Cure Time and Temperature	Cure at room temperature for 5-10 minutes	25 minutes at 60°C or 10 minutes at 93°C or 4 minutes at 150°C	25 minutes at 60°C or 10 minutes at 93°C or 4 minutes at 150°C	
Package Size & IDH	1 gal drum - 416032	20 litre - 1661893	5 gal - 2007063	



Versatile release agent which provides high slip where mould geometry problems are encountered. It cures rapidly at RT to give a high gloss finish to the moulded parts. It is a low odour, clear fast evaporating solution that can be used with FRP composites, epoxies, polyester resins, vinyl resins and thermoplastics.



A water-based, semi-permanent release agent for rubber molding. Capable of releasing all natural and synthetic polymers including some thermoplastic urethanes.



Offers excellent release and slip properties and is recommended for the most demanding rubber molding applications, such as EPDM rubber, and will also release thermoplastic urethanes and solid polyurethane cast elastomers.



LIGHT CURE ADHESIVES

- » CURES IN SECONDS WHEN EXPOSED TO UV / VISIBLE LIGHT SOURCES
- » SINGLE COMPONENT EASY TO USE
- » EXCELLENT BOND STRENGTHS TO PLASTIC AND GLASS
- » DUAL CURE FORMULATIONS FOR CURING WHERE LIGHT CANNOT REACH



LIGHT CURE ADHESIVES

GLASS BONDING

HENKEL SOLUTIONS LOCTITE® AA 349 Appearance Clarity / Color Clear Ultraviolet Cure Type **Key Substrates** Glass, metal Viscosity cP (Brookfield, 25°C) 9500 Elongation at break, % 300 Shore Hardness D 70 **Temperature Range** -54°C to 150°C 50ml - 1751830 Package Size & IDH 1 litre - 1751833

GENERAL PURPOSE

50ml - 847579 250ml - 848070

MEDICAL APPLICATION

LOCTITE [®] AA 3081
Clear
Ultraviolet
Glass, metal, some thermoplastics
100
7.6
D 74
-54°C to 150°C

1 litre - 1752409



A medium viscosity adhesive that bonds & seals glass to glass, or glass to metal components. Electrical properties of the material makes it suitable for potting and tacking.



A high viscosity adhesive that creates a tough, flexible bond resistant to vibration and shock. Effective on a wide range of materials. Cures in minutes using an activator, UV light or both.



A low viscosity, UV cure adhesive that has excellent adhesion to glass, metal & certain thermoplastics. ISO 10993 compliant.



LOCTITE[®] EQUIPMENT SOLUTIONS

- » PRECISION DISPENSING
- » ELIMINATES WASTE
- » INCREASED PRODUCTIVITY DUE TO AUTOMATION



Since 1971, Henkel Corporation has designed, built and integrated high-quality equipment solutions. From simple handheld devices to fully automated systems, Henkel offers a complete line of standard off-the-shelf LOCTITE® brand dispensing and light curing equipment, which can be integrated easily into your manufacturing process.

From water-thin liquids to high-viscosity pastes, LOCTITE® brand equipment is capable of dispensing and curing a wide variety of adhesives, sealants and other industrial fluids.

In addition to our standard line of equipment, Henkel offers a number of resources to support your dispensing needs:

- Custom Equipment Systems We can modify any LOCTITE® brand standard system or customize a system to meet your specific assembly needs.
- Equipment Website Locate details on LOCTITE® brand standard and custom equipment, parts and
- accessories, and equipment services. To learn more about our equipment, visit www.equipment.loctite.com or contact your Henkel Sales Representative. • Adhesive and Sealant Specialists – Henkel Adhesive and Sealant Specialists are available across the continent to personally assist you with new assembly challenges or to help you re-engineer an existing application for improved performance and cost savings using LOCTITE® brand products.

LOCTITE [®] EQUIPMENT RANGE				
DISPENSING SYSTEM	CONSUMMABLES	MOTION CONTROL	LIGHT CURE	
 Adhesive Bottles Pneumatic Syringe Tube bonding Controllers and reservoirs Hand held, soft pack and cartridge Volumetric dispensing - single component, two component Handheld applicators, valves Hotmelt dispenser Anaerobic dispenser Dispense monitoring system 	 High Precision Stainless Steel Dispense Tips Tapered Dispense Tips General-Purpose Dispense Tips Flexible Dispense Tips Cartridge Accessories LOCTITE[®] Brand Static Mix Nozzles & Accessories LOCTITE[®] Brand Syringe Accessories LOCTITE[®] Brand Spare Parts 	 Benchtop Robot Gantry Robot SCARA Robot Rotary Dispense System Mounting hardware and guarding enclosures 	 Led light curing devices Led flood systems Wand systems Cure chambers & flood systems Cure conveyors High intensity light sources Assurecure[®] system Light meters 	

Static Mix Tip	Integrated Semi Automatic Dispenser	LOCTITE® H/Held 300 ml Cartridge Disp
IDH - 720173	IDH - 1390321 / 1390322 + 318654	IDH - 88632
Mix nozzles for 50 ml to 400 ml	For low to high viscosity dispensing	For elastic adhesives and sealants dispensing
Desktop Servo Robot 331	Peristaltic Handpump	Digital Syringe System
-	Peristaltic Handpump IDH - 88631	Digital Syringe System IDH - 88633
Desktop Servo Robot 331		

LOCTITE[®] PRE-APPLIED SOLUTIONS

» THE EFFICIENT & RELIABLE WAY TO LOCK & SEAL THREADED PARTS

Products with a pedigree

For over 50 years the LOCTITE® brand has been at the leading edge of securing threaded fasteners with adhesives. This has led LOCTITE® becoming the number one brand for sealing and locking threaded components worldwide and is widely accepted as being best method to ensure component security & reliability.

Now, threaded parts can be pre-coated with a solvent free locking medium that is dry-to-touch and will only cure on assembly ensuring clean, efficient & user friendly assembly. LOCTITE® offers a complete range of Dri-Seal®, Dri-Loc® and Anti-Seize Pre-Applied coatings, for locking and/or sealing threaded parts. This means that there is no longer a need to apply adhesives, sealants, or any other locking or sealing device during assembly.

LOCTITE® Pre-Applied products have many benefits such as:

- Vibration resistant resulting in equipment reliability
- Dry to touch coating ease of handling
- Ease of automation higher speed of assembly
- Guaranteed quality trusted by leading automotive OEMs worldwide
- Any fastener becomes a self locking / self sealing fastener
- Reduced component costs and assembly time

In addition, every product in LOCTITE's Pre-Applied range of coatings is environmentally friendly.

For the Dri-Loc[®] and Dri-Seal[®] products manufacturing, application and the drying process are all water based and are free of organic solvents. They are all brightly coloured which enables easy inspection and identification of different grades.

LOCTITE[®] Pre-Applied Centres have fully automatic coating machines, which allow almost any size or shape, of a bolt, screw, stud, plug, nut etc. to be coated. Any pre-treated component can be reused after disassembly by applying the appropriate liquid LOCTITE[®] threadlocking or threadsealing product.

When to use LOCTITE® Dri-Loc®, Dri-Seal® and Anti-Seize

Dri-Loc®

is a locking adhesive which provides excellent resistance to vibration loosening on any threaded fastener including nuts. The adhesive is activated during assembly and cures to form a tough polymer that eliminates movement between the threads and provides a total seal.

Dri-Seal[®] / Vibra Seal[®]

is used to permanently seal tapered and parallel threads. It gives excellent torque tension (lubricating) characteristics to aid assembly. It gives an instant seal and prevents leakage whilst allowing disassembly.

Anti-Seize

is a pre-applied high temperature, antigalling, thread lubricant that is dry to touch. For use on applications such as exhaust manifold bolts, and catalytic converter. Once applied, the part can be reused up to five times.

Dri-Loc [®]			
Name Features			
204	204 Highest Strength		

Dri-Seal®		
Name Features		
5061 General Purpose		
516 Big Thread		

Anti-Seize		
Name	Features	
17015	Dry-to-touch Anti-Seize Anti-gally High Temperature resistance upto 650°C	



LOCTITE HY 4090 STRUCTURAL HYBRID ADHESIVE



Henkel's innovative technology delivers the strength of a structural adhesive with the speed of an instant adhesive

LOCTITE HY 4090 structural hybrid adhesive is an innovative hybrid technology that provides the bond strength and speed that you need to solve your design and assembly challenges. With the strength of a structural adhesive and the speed of an instant adhesive, LOCTITE HY 4090 offers both performance and versatility.

This powerful combination provides impact resistance, high strength bonding on a variety of substrates and excellent chemical resistance – making LOCTITE HY 4090 the essential adhesive solution. LOCTITE HY 4090 opens the door to new applications and new solutions.

Some of many key benefits of LOCTITE[®] 4090:

- Strength of a structural adhesive
- Speed of an instant adhesive
- Impact and vibration resistance
- Temperature resistance up to 150°C

•	Gap	filling	แท	to	5	mm	
	Jup	1111115	up	.0	2		

• Suitable for a variety of substrates, including metals, most plastics and rubbers



TECHNICAL DATA		PROPERTIES OF CURED MATERIAL		
COLOR	Slightly cloudy to light yellow	LAP SHEAR STRENGTH, ISO 4587, AFTER 24 HOURS, 22°C	Steel (grit blasted) Aluminum (etched) Polycarbonate	17 N/mm² 13 N/mm² 6.9 N/mm²
APPEARANCE	High viscosity gel	HIGH GAP FILL	Up to 5 mm depending on bond geometry	
MIX RATIO (VOLUME)	1:1	TEMPERATURE RESISTANCE	-40°C to 15	50°C
WORKING TIME	3 to 5 min.	CHEMICAL RESISTANCE	Very good chemical/sc	olvent resistance

LOCTITE[®] EA E-30 HV

High Performance Potting & Bonding Epoxy Compound

FEATURES



Excellent thermal resistance

Reliable performance in extreme conditions even upto 180°C



Excellent electrical insulation

Great choice for electrical insulation application Dialectical strength of 19.2 KV/mm



Fast fixture strength

3X-8X increase in production 4 hrs fixture time

PROPERTIES	LOCTITE [®] EA E-30 HV	CONVENTIONAL SOLUTION
Temperature Resistance (intermittent)	180°C	120°C
Dielectrical Strength KV/mm	19.2	17.3
Fixture Time	4 hours	6 hours

SUBSTRATE VERSALITY





PLASTIC



OPTICAL FIBER



METAL



CERAMIC



SOLUTIONS TO COMMON ASSEMBLY CHALLENGES

» LOCTITE[®] ENGINEERING ADHESIVES AND SEALANTS ARE DESIGNED TO OFFER YOU MORE RELIABILITY AND COST-SAVINGS OVER CONVENTIONAL ASSEMBLY METHODS.

THREADLOCKING				
Traditional Method	Problem	LOCTITE [®] Solution		
LOCKNUTS	 Double cost. Requires extra space. Corrodes in place. Time consuming to assemble. 	 Locks single nut. Uses standard parts. Seals against corrosion. Fast assembly. 		
SPRING WASHERS	 Not an effective locking system. Can damage contact faces. Large inventory. 	 Completely vibration proof. No damage, No corrosion. One bottle size for all size threads. 		
NYLON INSERTS	 On-torque needed. Ineffective under severe vibration. Requires good access. Should not be re-used. 	 Low on-torque. Effective on adverse conditions. Easy to apply. Allows parts to be re-used. 		
TAB WASHERS / SPLIT PINS	 Difficult production use. Expensive. Special design required. 	 Apply manually or automatically. Uses standard parts. 		

THREAD SEALING				
Traditio	nal Method	Problem	LOCTITE [®] Solution	
TAPES		 Shredding clogs pipes. Manual application only. Elbow alignment. Overtightening causes damage. Poor vibration resistance. 	 Unused sealant flushed away. Automation possible. Seals/locks in any position. Vibration proof. 	
PASTES		 Creeping/shrinkage. Poor chemical resistance. Poor vibration resistance. 	 Sealed for life. Resists most solvents. Vibration proof. 	
'O' RINGS	0	 Large inventory needed. Easily damaged. Special joint design. 	 Universal products. No parts to handle. Uses standard parts. 	
CONE FITTINGS	G	 Costly machining. Easily damaged. 	 Use standard parts. Use with damaged cone fitting to ensure complete seal. 	



GASKETING				
Traditional Met	hod	Problem	LOCTITE [®] Solution	
PRE-FORMED MATERIALS	 Relaxation. Re-torquing. Corrosion/fred Manual applic Large invento 	cation.	 Constant seal / no re-torquing. Total seal. Automation possible. 	
'O' RINGS	 Manual applic Extra machini Large invento 	ng operation.	 Automation possible. Standard parts used. No parts to handle. Low inventory 	
SEALING COMPOUNDS	• Often solvent • Can cause clo • Re-torquing. • Messy.		 Solvent-free. Unused adhesive flushed away. No relaxation. Accurate application. 	
CUTTING PAPER GASKETS	• Time consumi • Operator skill. • Inconsistent p		 Little preparation. Easy to apply. Constant performance. 	

RETAINING				
Traditional Method		Problem	LOCTITE [®] Solution	
PRESS FIT		High stress.Fretting possible.Assembly equipment required.	 Load spread over joint. Can use lighter parts. Hand assembly possible. Relaxed tolerances. 	
GRUB SCREWS		Poor metal to metal contact.Low torque transmission.Extra machining.	 100% contact. Total surface contact creates high torque capability. Basic machining. 	
KEYS	P	 Prone to backlash and chattering. Costly to produce. Accurate machining. 	 No movement/fretting eliminated. One adhesive suits many applications. Allows relaxed tolerances. 	
SPLINES		Costly machining.Special designProne to wear.	• Basic machining • Normal parts. • No movement / fretting.	
PINS	D.	High stress concentration.Prone to backlash.Costly machining.	 Distributed stress. No movement / fretting. No extra work. 	



PRODUCT ORDERING INFORMATION

Product Name	IDH No.	Pkg. Size	Page	Product Name	IDH No.	Pkg. Size I	Page
LOCTITE 222 THREADLOCKER	848062	250 ml bottle	5	LOCTITE AA 324 STRUCTURAL ADHESIVE	847578	250ml bottle	14
LOCTITE 222 THREADLOCKER	848063	50 ml bottle	5	LOCTITE AA 324 STRUCTURAL ADHESIVE	847577	50ml bottle	14
LOCTITE 243 THREADLOCKER	531707	250 ml bottle	5	LOCTITE AA H 3151 STRUCTURAL ADHESIVE	1751922	400ml cartridge	15
LOCTITE 243 THREADLOCKER	1367282	50 ml bottle	5	LOCTITE AA H 3151 STRUCTURAL ADHESIVE	398434	50ml cartridge	15
LOCTITE 243 THREADLOCKER	1427418	10 ml bottle	5	LOCTITE EA E-214HP	1617847	300ml cartridge	15
LOCTITE 243 THREADLOCKER	833788	1 litre bottle	5	LOCTITE EA E-120HP	1752564	400ml	15
LOCTITE 263 THREADLOCKER	1511183	250 ml bottle	5	LOCTITE EA E-30CL	1752546	50ml syringe	15
LOCTITE 263 THREADLOCKER	1367281	50 ml bottle	5	LOCTITE LB 771 NICKEL ANTI-SEIZE	1751839	1 lb	19
LOCTITE 277 THREADLOCKER	531722	250 ml bottle	5	LOCTITE LB 8009 HEAVY DUTY ANTI-SEIZE	1751851	510gm	19
LOCTITE 277 THREADLOCKER	531723	50 ml bottle	5	LOCTITE LB 8014 FOODGRADE ANTI-SEIZE	1751942	2 lb	19
LOCTITE 290 THREADLOCKER	848069	250 ml bottle	4	LOCTITE LB 8023 MARINE GRADE ANTI-SEIZE	1752448	16 OZ	19
LOCTITE 290 THREADLOCKER	531724	50 ml bottle	4	LOCTITE LB 8150 SILVER ANTI-SEIZE	833783	500g jar	18
LOCTITE 401 INSTANT ADHESIVE	1669715	20g bottle	12	LOCTITE MR 5408 BELT DRESSING & CONDITIONER	1752531	12 OZ	23
LOCTITE 401 INSTANT ADHESIVE	833784	1litre bottle	12	LOCTITE SF 7061 SURFACE CLEANER	849292	100ml aerosol can	20
LOCTITE 406 INSTANT ADHESIVE	1669713	20g bottle	13	LOCTITE SF 7070 ODC-FREE CLEANER AND DEGREASE	R 1522516	10litre bucket	21
LOCTITE 415 INSTANT ADHESIVE	848003	20g bottle	13	LOCTITE SF 7070 ODC-FREE CLEANER AND DEGREASE	R 1423361	150g bottle	21
LOCTITE 415 INSTANT ADHESIVE	849230	500gm bottle	13	LOCTITE SF 7070 ODC-FREE CLEANER AND DEGREASE	R 1423327	425g bottle	21
LOCTITE 454 INSTANT ADHESIVE	1752383	20g bottle	13	LOCTITE SF 7611 PRO STRENGTH PARTS CLEANER	1752427	190z aerosol can	21
LOCTITE 454 INSTANT ADHESIVE	88525	300g cartridge	13	LOCTITE SF 7840 NATURAL BLUE	789705	20litre bucket	21
LOCTITE 495 INSTANT ADHESIVE	1669711	20g bottle	13	LOCTITE SF 7840 NATURAL BLUE	789065	5litre bottle	21
LOCTITE 510 FLANGE SEALANT	910888	300ml cartridge	8	LOCTITE SF 790 CHISEL GASKET REMOVER	1751840	510g aerosol can	21
LOCTITE 510 FLANGE SEALANT	848731	250ml tottle tube	8	LOCTITE SF 790 CHISEL GASKET REMOVER	1409698	510g bottle	21
LOCTITE 510 FLANGE SEALANT	848390	50ml tottle tube	8	LOCTITE SI 587 BLUE	1266356	95g tube	9
LOCTITE 518 FLANGE SEALANT	2118117	250ml tottle tube	8	LOCTITE SI 587	1246389	300ml cartridge	9
LOCTITE 518 FLANGE SEALANT	2118119	50ml tottle tube	8	LOCTITE SI 5900	1257126	300ml cartridge	9
LOCTITE 542 THREAD SEALANT	848736	250 ml bottle	7	LOCTITE SI 596 HIGH TEMP RED SILICONE	317667	300ml cartridge	9
LOCTITE 542 THREAD SEALANT	848735	50 ml bottle	7	TEROSON MS 930 BLACK	1845185	310ml cartridge black color	16
LOCTITE 55 PIPE SEALING CORD	1752446	150 metres	6	TEROSON MS 930 GREY	1656500	310ml cartridge grey color	16
LOCTITE 565 THREAD SEALANT	1752552	250 ml bottle	7	TEROSON MS 930 WHITE	1656499	310ml cartridge white color	16
LOCTITE 565 THREAD SEALANT	1751917	50 ml bottle	7	TEROSON MS 935 BLACK	1940293	290ml cartridge black color	17
LOCTITE 567 THREAD SEALANT	1752545	250 ml bottle	7	TEROSON MS 9399	2048329	400ml white	17
LOCTITE 567 THREAD SEALANT	1752537	50 ml bottle	7	TEROSON MS 939 BLACK	1752515	570ml sausage black color	17
LOCTITE 574 FLANGE SEALANT	848734	250ml tottle tube	9	TEROSON MS 939 GREY	1846007	290ml cartridge grey color	17
LOCTITE 574 FLANGE SEALANT	848739	50ml tottle tube	9	TEROSON MS 939 WHITE	212653	570ml sausage white color	17
LOCTITE 577 THREAD SEALANT	2121367	250 ml tottle tube	7	TEROSON PU 8590	1574002	310ml cartridge	17
LOCTITE 577 THREAD SEALANT	2121780	50 ml tottle tube	7	TEROSON PU 8590	1574212	310ml kit	17
LOCTITE 609 RETAINER	848745	250ml bottle	11	LOCTITE FREKOTE 770-NC	416032	1 gal drum	22
LOCTITE 609 RETAINER	848744	50ml bottle	11	LOCTITE FREKOTE R-120	1661893	20 litre	22
LOCTITE 638 RETAINER	1865048	250ml bottle	11	LOCTITE FREKOTE R-220	2007063	5 gal	22
LOCTITE 638 RETAINER	1865160	50ml bottle	11	LOCTITE AA 349 LIGHT CURING ADHESIVE	1751830	50ml bottle	23
LOCTITE 641 RETAINER	848750	250ml bottle	11	LOCTITE AA 349 LIGHT CURING ADHESIVE	1751833	1 litre bottle	23
LOCTITE 641 RETAINER	848752	50ml bottle	11	LOCTITE AA 352 STRUCTURAL ADHESIVE	847579	50ml bottle	23
LOCTITE 648 RETAINER	1865164	250ml bottle	11	LOCTITE AA 352 STRUCTURAL ADHESIVE	848070	250ml bottle	23
LOCTITE 648 RETAINER	1865163	50ml bottle	11	LOCTITE AA 3081 LIGHT CURING ADHESIVE	1752409	1 litre bottle	23
LOCTITE 660 RETAINER	1752417	50ml bottle	10				



The competitive advantage to secure your success



L@CTITE. BONDERITE. TECHNOMELT. TEROSON. AQUENCE.

Henkel Jebel Ali FZCo.

Dubai Silicon Oasis HQ 341044 Dubai, UAE Tel: +971 4 3893 333 LoctiteGCC@henkel.com

Henkel Arabia

Second Industrial City, Exit 15, Zone-D P.O. Box 25790, Riyadh 11476, KSA Phone: +966 1 265 2655

It rademarks, except where otherwise noted, are the properties of or used under licence by Henkel.
 Copyright 2017. Henkel. All rights reserved. IN-0768-AG/AssemblySolutions/0617