

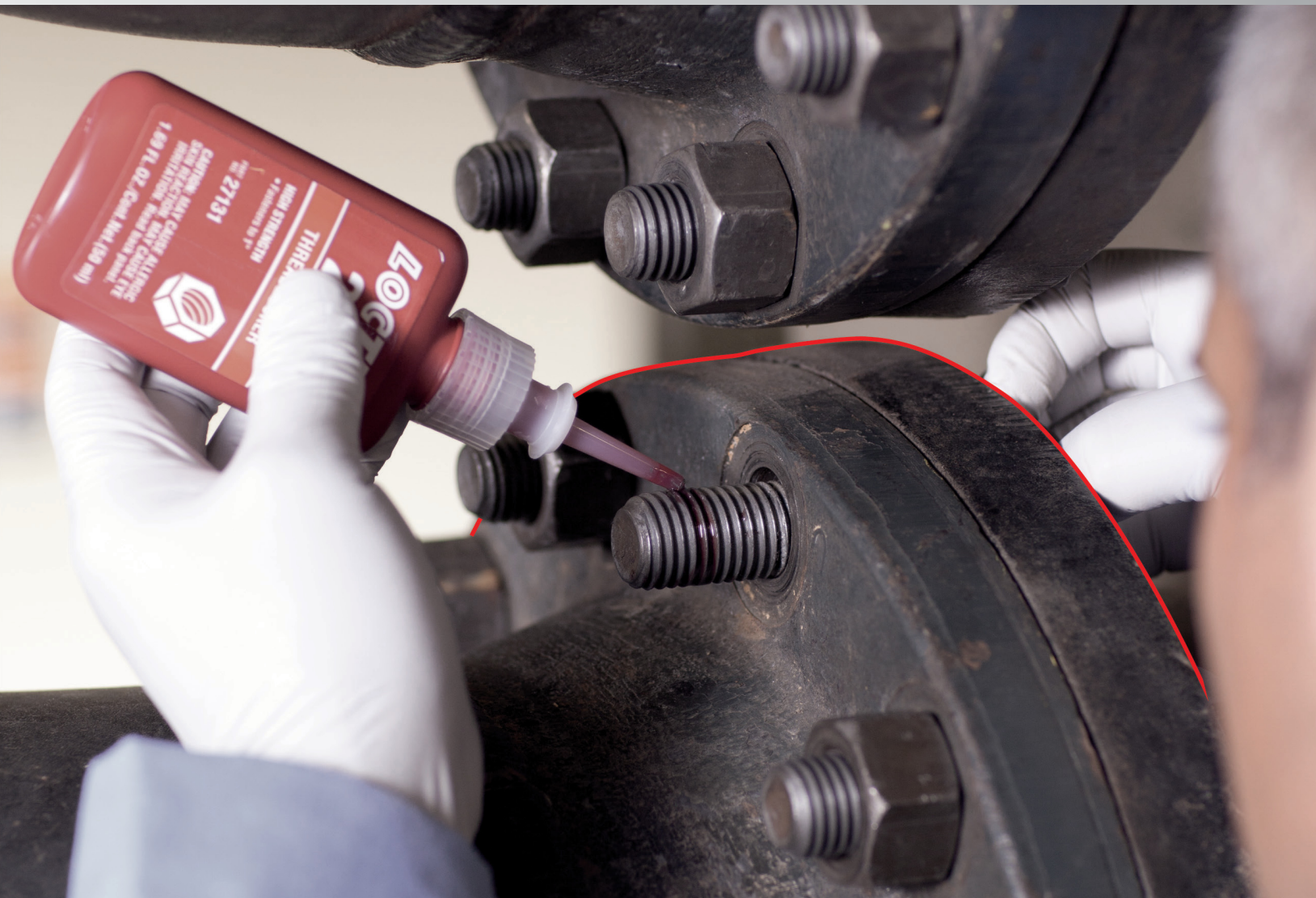


# The Adhesive Sourcebook

2015 VOLUME 19

*Your Source for*

**LOCTITE® PRODUCTS FOR DESIGN, ASSEMBLY,  
MANUFACTURING AND MAINTENANCE**



Excellence is our Passion



# 1 Why Adhesives?

Since the industrial revolution, engineers have been designing and specifying fasteners and other mechanical parts to assemble and maintain the equipment used in the production of their products.

The first use of adhesives, on the other hand, dates back to 4000 B.C., and most advances in adhesive technology have taken place within the past 100 years.



The dictionary defines an adhesive as "a substance capable of holding materials together by surface attachment." This is a simple definition for materials that are used to replace traditional methods of fastening and joining products together, such as rivets, screws, staples, lock washers

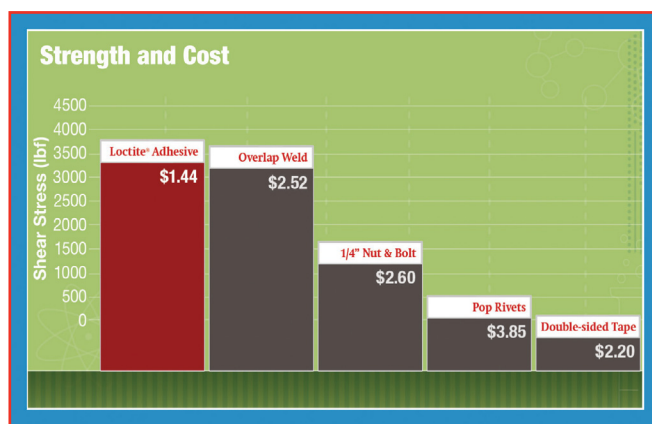
and more. As a global leader in the adhesive industry and originators of "liquid-locking" technology, Henkel's LOCTITE® brand adhesive continues to revolutionize the industry with more than an innovative line of adhesives. Most recently, Henkel was listed among the world's most innovative companies in 2011, according to Forbes magazine. Henkel offers a total solution to today's manufacturing and maintenance challenges.

Henkel Corporation's familiar LOCTITE® brand represents the most complete line of high performance adhesives, sealants, and dispensing/curing systems available anywhere from a single supplier. Used to hold complex machines together, LOCTITE® products are used to build everything from automobiles to dishwashers to tractors, and to the trucks that deliver them. LOCTITE® products make these machines and inner assemblies less expensive, more reliable and longer lasting.



## OVERALL BENEFITS OF ADHESIVES:

- Join dissimilar substrates, e.g., plastics, metals, etc.
- Distribute stresses evenly
- Fill large gaps
- Seal, bond and protect parts
- Improve cosmetic appearance
- Easily automate manufacturing processes
- Promote a competitive advantage
- Improve reliability, quality
- Reduce overall production costs



Now that you understand the benefits that LOCTITE® products offer, it's time to help you choose a viable alternative to mechanical fastening and joining methods. Introducing... **The Adhesive Sourcebook 2015.**

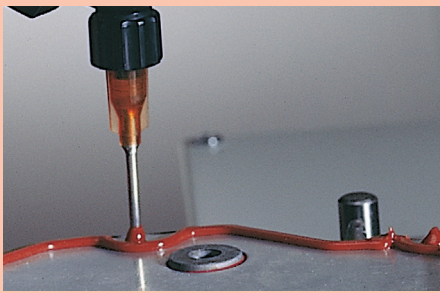


This comprehensive guide is designed to simplify the adhesive selection process. Each application area is formatted to provide useful decision trees, properties charts, and related dispensing equipment to provide you with a total solution for evaluation.

Need application assistance? Contact your local Henkel Adhesive and Sealant Specialist at 1-800-LOCTITE (1-800-562-8483).

# LOCTITE®





# The Adhesive Sourcebook 2015

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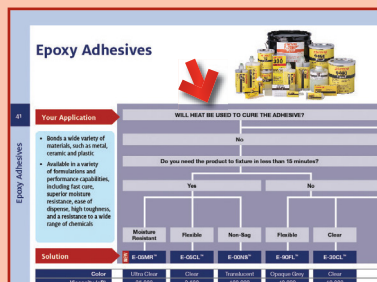
Your Source for  
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## ENHANCEMENTS

### Product Selection Made Easier

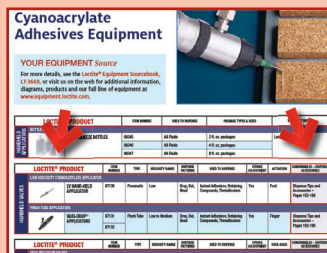
#### PRODUCT SELECTION DECISION TREES

Throughout *The Adhesive Sourcebook*, decision trees simplify the adhesive selection process by application area. Products featured in the decision trees have consistently demonstrated proven performance in handling a variety of applications. These products are often included in customers' initial product tests and evaluations.



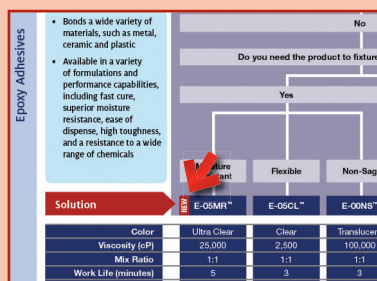
#### COMPLEMENTARY DISPENSING AND CURING EQUIPMENT

We've made it easier for you to select the right dispensing and/or curing equipment with the LOCTITE® product for your application.



#### NEW

Products listed in red indicate New or Preferred Product.



## ADDITIONAL RESOURCES AVAILABLE

*The Adhesive Sourcebook* is supported by technical product assistance over the phone and on the web.

### On the Phone

1-800-LOCTITE (562-8483) – U.S.  
1-800-263-5043 – Canada

Immediate technical assistance is available from 8 a.m. to 5 p.m. ET, Monday through Friday.

### Technical Product Assistance

**Application Assistance** – Receive local application assistance from the Henkel Adhesive and Sealant Specialist in your area.

### Website

[www.henkelna.com/loctite](http://www.henkelna.com/loctite)

In addition to support from your local representative, our website, [www.henkelna.com/loctite](http://www.henkelna.com/loctite), is your source for locating distributors, safety and technical data sheets, literature and product application assistance. Here is a brief overview of what our website has to offer:

**E-Catalog** – Gain quick and easy access to product descriptions, approvals/specifications, application suggestions, package specifications, technical and material safety data sheets, and more.

**Application Assistance** – Application assistance aids in narrowing the range of products suitable for your design and maintenance needs. Or send a message to your local Adhesive and Sealant Specialist to arrange “in-person” assistance.

**Distributor Locator** – Find a local distributor in the U.S. or Canada that has the product you need. All it takes is a zip or postal code.

**Data Sheets & Literature** – Instant access to Technical Data Sheets and Material Safety Data Sheets. View electronic versions of our design guides, bonding guides, quick reference tools and other special literature.

**What's New?** – Find out about new LOCTITE® product introductions, feature articles, trade show schedules and application success stories. Register online for adhesives seminars or CEU-accredited Manufacturing Reliability Training classes in your area.

**Your Source for  
LOCTITE® PRODUCTS  
FOR DESIGN, ASSEMBLY,  
MANUFACTURING &  
MAINTENANCE**

At Henkel Corporation, we invent more than just quality LOCTITE® products. We provide solutions to industry's biggest challenges. Whether we are reducing assembly cost, providing design and application assistance, or increasing the reliability of your process, Henkel is dedicated to earning and keeping the trust of its customers. Through this philosophy, Henkel has assumed a position of worldwide leadership.

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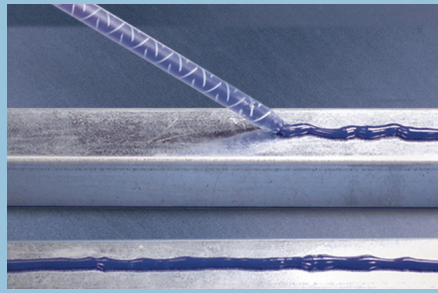
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# LOCTITE®

# Bonding



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Henkel Adhesive and Sealant Product Specialists are available to assist you with new product designs, or to help you re-engineer an existing application for improved performance and cost savings. They can also set up testing of your parts at the Henkel Customer Engineering Center. For application assistance, call **1-800-LOCTITE (562-8483)**; within Canada, call 1-800-263-5043; or, contact us through the web at [www.henkelna.com/loctite](http://www.henkelna.com/loctite).

**STRAIGHT FROM** *The Source*

## WHY BOND ASSEMBLIES?

The use of adhesives can provide a great alternative to many of the industry failures we see today. For successful bonding, knowledge of adhesive methodology is essential. The most frequent causes for adhesive failure do not involve adhesive strength. Rather, they are attributed to inadequate preparation of the substrates and improper adhesive selection. The most important factor in proper adhesive selection is assessing the environment the adhesive must withstand. Once the environmental factors have been recognized, adhesive selection becomes more easily defined because other factors – such as joint design, substrates, load and stress cycles – can often be varied or altered with minor design changes.

## BONDING

Adhesive bonding is a process in which two similar or dissimilar materials are united permanently. Adhesives build “bridges” between the surfaces of substrates to be joined.

## ADVANTAGES OF ADHESIVE BONDING COMPARED TO CONVENTIONAL JOINING METHODS:

- More uniform stress distribution over the entire bond face: This has a very positive effect on the static and dynamic strength achieved. Where welding and riveting result in localized stress peaks, adhesive bonding achieves uniform distribution and absorption of stress loads.
- No change in surface and texture of the joined materials: Welding temperatures may change the texture and, therefore, the mechanical properties of materials. In addition, welding, riveting and bolting all affect the visual appearance of the parts.
- Weight saving: Adhesives are particularly popular for light-weight constructions, where thin-walled parts (wall thickness < 0.5 mm) must be joined.
- Sealed joints: Adhesives also act as sealants, preventing loss of pressure or liquids, blocking the penetration of condensation water and protecting against corrosion.
- Joins dissimilar materials and reduces the risk of corrosion: The adhesive forms an insulating film to prevent contact corrosion when different types of metals are joined. It also acts as electrical and thermal insulator.



PERFORMANCE CONSIDERATIONS	ADHESIVE CATEGORY								
	CYANOACRYLATES	EPOXIES	HOT MELTS	LIGHT CURE	SILICONES	ELASTOMERS	URETHANES	2-PART ACRYLICS	2-STEP ACRYLICS
<b>BENEFITS</b>	Wide range of bonding applications/ ease of use	Wide range of formulations	Versatile, fast, large gap filling	Rapid cure/ adhesion to plastics/bond on demand	Excellent temperature resistance	Flexible, paintable, bonder/sealant	Excellent toughness/ flexibility	Good impact resistance/ flexibility	Good impact resistance/ no-mix
<b>LIMITATIONS</b>	Low polar solvent resistance	Mixing required	Limited heat resistance	Light cure required	Low adhesion resistance	High temperature resistance	Sensitive to moisture	Mixing required	Primer required
<b>TEMPERATURE RESISTANCE</b>									
Typical for the category	-65°F to 210°F (-54°C to 99°C)	-65°F to 180°F (-54°C to 82°C)	-65°F to 250°F (-54°C to 121°C)	-65°F to 300°F (-54°C to 149°C)	-65°F to 400°F (-54°C to 204°C)	-65°F to 200°F (-54°C to 93°C)	-65°F to 250°F (-54°C to 121°C)	-65°F to 250°F (-54°C to 121°C)	-65°F to 300°F (-54°C to 149°C)
Highest rated product	250°F (121°C)	400°F (204°C)	330°F (166°C)	356°F (180°C)	725°F (385°C)	200°F (93°C)	300°F (149°C)	250°F (121°C)	400°F (204°C)
<b>ENVIRONMENTAL RESISTANCE</b>									
Polar Solvents (EX.: H <sub>2</sub> O, ETHYLENE GLYCOL, ISOPROPYL ALCOHOL (IPA), ACETONE)	Poor <sup>1</sup>	Very Good	Good	Good	Good	Good	Good	Good	Good
Nonpolar Solvents (EX. MOTOR OIL, TOLUENE, GASOLINE, ATF)	Good	Excellent	Good	Very Good	Poor to Fair	Poor	Good	Very Good	Very Good
<b>ADHESION TO SUBSTRATES</b>									
Metals	Very Good	Excellent	Good	Good	Good	Very Good	Good	Excellent	Excellent
Plastics <sup>2</sup>	Excellent	Fair	Very Good	Excellent	Fair	Good	Very Good	Excellent	Fair
Glass	Poor	Excellent	Good	Excellent	Very Good	Good	Good	Good	Excellent
Rubber	Very Good	Fair	Fair	Fair	Good	Poor	Good	Poor	Poor
Wood	Good	Very Good	Excellent	Poor	Fair	Very Good	Fair	Good	Good
<b>OVERLAPPING SHEAR STRENGTH</b>	High	High	Low	High	Low	Medium	Medium	High	High
<b>PEEL STRENGTH</b>	Low <sup>3</sup>	Medium	Medium	Medium	Medium	Medium	Medium	High	Medium
<b>TENSILE STRENGTH</b>	High	High	Low	High	Medium	Medium	Medium	High	High
<b>ELONGATION/FLEXIBILITY</b>	Low	Low	High	Medium	High	High	High	Medium	Medium
<b>HARDNESS</b>	Rigid	Rigid	Semisoft	Semirigid	Soft	Soft	Soft	Semirigid	Semirigid
PROCESS CONSIDERATIONS	ADHESIVE CATEGORY								
	CYANOACRYLATES	EPOXIES	HOT MELTS	LIGHT CURE	SILICONES	ELASTOMERS	URETHANES	2-PART ACRYLICS	2-STEP ACRYLICS
<b>NUMBER OF COMPONENTS</b>	1 or 2	2	1	1	1 or 2	1 or 2	1 or 2	2	2
<b>CURE TEMPERATURE</b>	Room Temperature	Room Temperature	Room Temperature <sup>4</sup>	UV/Visible	Room Temperature	Room Temperature	Room Temperature	Room Temperature	Room Temperature
<b>FIXTURE TIME</b>									
Average	30 seconds	20 minutes	70 seconds	30 seconds	25 minutes	25 minutes	25 minutes	20 minutes	5 minutes
Fastest	<5 seconds	3 to 5 minutes	20 seconds	<5 seconds	2 minutes	10 minutes	5 minutes	3 to 5 minutes	30 seconds
<b>FULL CURE TIME</b>	24 hours	12 to 24 hours	1 hour (or when cooled) <sup>5</sup>	30 to 60 seconds	1 to 7 days	1 to 7 days	24 hours	24 hours	24 hours
<b>GAP FILL</b>									
Ideal (in inches)	0.001 to 0.010	0.004 to 0.006	0.002 to 0.005	0.002 to 0.010	0.001 to 0.006	0.001 to 0.006	0.004 to 0.006	0.010 to 0.040	0.002 to 0.004
Maximum (in inches)	0.200	0.125	0.240	0.25	0.25	0.24	0.125	0.5	0.040
<b>DISPENSING/MIXING EQUIPMENT REQUIRED</b>	NO	YES	YES	NO	NO	NO	YES	YES	NO
<b>LIGHT CURE VERSIONS AVAILABLE</b>	YES	YES	NO	YES	YES	NO	NO	NO	YES

<sup>1</sup> Cyanoacrylates have very good moisture resistance on plastics.

<sup>2</sup> Uncured liquid adhesives may cause stress cracking of certain thermoplastics, e.g., polycarbonate, acrylic and polysulfone. Special products and process techniques are available. Consult the LOCTITE Design Guide to Bonding Plastics (LT-2197) or contact 1-800-LOCTITE (562-8483) for more information.

<sup>3</sup> Exception: Toughened cyanoacrylates have HIGH peel strength.

<sup>4</sup> Elevated temperatures are required to dispense liquid Hot Melt Adhesives.

<sup>5</sup> Urethane Hot Melts require 24 hours for full cure.

**PLEASE NOTE:** This chart should not be used to specify products without specific testing. It is recommended that you conduct on-part testing to ensure product performance before specifying any adhesive.

## FREE BONDING GUIDES

LOCTITE Design Guides help you select the proper LOCTITE® adhesive for bonding Metals, Plastics, Rubbers and Thermoplastic Elastomers. Visit [www.henkelna.com/loctite](http://www.henkelna.com/loctite) and click on Literature, then select **Bonding** to view the guides or request copies.



**ADDITIONAL RESOURCES**

# Cyanoacrylate Adhesives

- One-component, no-mix products that cure rapidly at room temperature without heat or light – exceptionally easy to use
- Excellent bond strengths to the widest range of plastics, rubbers and metals
- Widest selection of products, including specialty grades suitable for applications where impact resistance, flexibility, gap filling, low odor or extremely fast curing is required



## Your Application

### WHAT TYPE OF MATERIAL ARE YOU BONDING?

Low Surface Energy Plastics (PP, PE, Acetal, PTFE, etc.)

All Other Materials (Except Glass)

Highly Flexible CA (for flexing bond lines)

Premium/Surface Insensitive CAs (Bond very well to most materials)

Low Odor/Low Bloom CAs (For cosmetic & odor sensitive applications)

Use Primer with Premium CAs

Low Viscosity

Low Viscosity

Non-Sag Gel

Medium Viscosity

Non-Sag Gel

## Solution

770™

**NEW** 4902™

401™

454™

403™

455™

Color	Clear	Clear	Clear	Clear	Clear/Light Straw	Clear/Light Straw
Gap Fill (in.)	N/A	0.005	0.005	0.01	0.008	0.01
Viscosity (cP)	1.25	200	90	Gel	1,200	Gel
Shear Strength* (psi)	N/A	1,745	2,900	3,030	2,940	1,405
Temperature Range	N/A	-65°F (-54°C) to 180°F (82°C)	-65°F (-54°C) to 250°F (121°C)	-65°F (-54°C) to 250°F (121°C)	-65°F (-54°C) to 212°F (100°C)	-65°F (-54°C) to 212°F (100°C)
Fix Time (sec.)	N/A	20	5	15	20	60

## Product Description

### LOCTITE® 770™ Primer

A heptane-based adhesion promoter formulated for use with polyolefins and other low surface energy plastics. Use with LOCTITE® Premium Surface Insensitive CAs. Fast dry time and good on part life.

P/N	Package Size
18396	1.75 fl. oz. bottle
18397	16 fl. oz. can

### LOCTITE® 4902™ Instant Adhesive

Highly flexible CA with elongations over 100%, designed for highly flexing bond lines.

P/N	Package Size
1875841	20 g bottle
1875842	1 lb. bottle

### LOCTITE® 401™ Instant Adhesive

Low viscosity surface insensitive CA provides excellent bond strengths to most materials including plastics, elastomers, metals and platings. Excellent for dry or acidic conditions.

P/N	Package Size
40104	3 g tube
40140	20 g bottle
40161	1 lb. bottle

### LOCTITE® 454™ Instant Adhesive

Surface insensitive CA providing excellent bond strengths to many materials including plastics, elastomers, metals and platings. Excellent for dry or acidic conditions. Non sag gel prevents drips.

P/N	Package Size
45404	3 g tube
21925	10 g syringe
45440	20 g tube
1337712	30 g syringe
45474	200 g tube
45478	300 g cartridge

### LOCTITE® 403™ Instant Adhesive

Low odor, low blooming CA well suited for cosmetic applications or where vapor ventilation is difficult. Surface insensitive, providing excellent bond strengths to most materials.

P/N	Package Size
40340	20 g bottle
40361	1 lb. bottle

### LOCTITE® 455™ Instant Adhesive

Low odor, low blooming CA well suited for cosmetic applications or where vapor ventilation is difficult. Surface insensitive, providing excellent bond strengths to most materials. Non sag gel prevents drips.

P/N	Package Size
22309	10 g syringe
17421	200 g tube

#### ADDITIONAL PRODUCT AVAILABLE

7951™	Non-Flammable Primer
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#### ADDITIONAL PRODUCT AVAILABLE

4903™	Increased Modulus
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#### ADDITIONAL PRODUCT AVAILABLE

431™	Medium Viscosity
406™	Wicking Viscosity

#### ADDITIONAL PRODUCTS AVAILABLE

408™	Wicking Viscosity
460™	Low Viscosity

\* Grit-blasted steel.

\*\* Polycarbonate to polycarbonate.

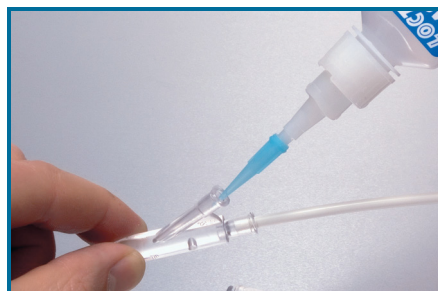
† Full cure = 24 hours

‡ without UV exposure.

§ At 0.002 in. gap.

¶ At 0.200 in. gap.





Light Cure CAs – Rapid Cure (Provide extremely fast cure speeds)		Toughened/Impact Resistant CAs (For applications with vibration & shock)		2-Part CA (For high gap applications)	Rubber Bonding CA	CA Accelerators (Speeds cure of exposed CAs)
Low Viscosity	Medium Viscosity	1-Part	2-Part	Non-Sag Gel	Low Viscosity	Use Accelerator with Premium CAs
4310™	4311™	435™	<b>NEW</b> 4090™	3092™	404® Quick Set™	7452™
Clear/Pale Green	Clear/Pale Green	Clear	Clear/Light Yellow	Clear	Clear	Clear/Amber
0.004	0.008	0.006	0.2	0.2	0.005	N/A
175	1,050	175	Gel	Gel	80	0.4
3,190**	3,760**	2,700	2,400	3,200	3,500	N/A
-65°F (-54°C) to 200°F (93°C)	-65°F (-54°C) to 200°F (93°C)	-65°F (-54°C) to 225°F (107°C)	-40°F (-40°C) to 300°F (150°C)	-4°F (-20°C) to 176°F (80°C)	-65°F (-54°C) to 180°F (82°C)	N/A
<5†	<5†	30	90	15 sec.‡ 3.5 min.¥	30	N/A

#### LOCTITE® 4310™ Flashcure® Light Cure Adhesive

Light cure CA cures where light reaches and also in shadowed areas via surface moisture. Toughened, fluorescent adhesive that cures tack-free in 2-5 seconds. Lower viscosity for tighter bond lines.

P/N	Package Size
1401792	1 oz. bottle
1401790	1 lb. bottle

#### LOCTITE® 4311™ Flashcure® Light Cure Adhesive

Light cure CA cures where light reaches and also in shadowed areas via surface moisture. Toughened, fluorescent adhesive that cures tack-free in 2-5 seconds. Higher viscosity to minimize dripping.

P/N	Package Size
1401791	1 oz. bottle
1401789	1 lb. bottle

#### LOCTITE® 435™ Instant Adhesive

Low viscosity toughened CA with increased flexibility, peel strength and resistance to shock. Surface insensitive, providing excellent bond strengths to most materials.  
**CFIA Listed.**

P/N	Package Size
40994	20 g bottle
40995	1 lb. bottle

#### LOCTITE® 4090™ Instant Adhesive

This innovative hybrid adhesive combines the bond strength and speed needed to solve your design and assembly challenges. With the speed of an instant adhesive and the strength of a structural adhesive, LOCTITE® 4090™ delivers both performance and versatility.

P/N	Package Size
1915601	50 ml syringe

#### LOCTITE® 3092™ Instant Adhesive

Fast two-part CA bonds gaps up to 0.2 in. (2 mm). Particularly suited for bonding plastics, rubbers, wood, paper and metals. High precision dispensing tips.

P/N	Package Size
1807961	10 g syringe with 3 mix nozzles

#### LOCTITE® 404® Quick Set™ Instant Adhesive

Excellent for bonding rubbers where very fast fixturing is required. For general maintenance and repair.

P/N	Package Size
46551	1/3 oz. bottle
46548	4 oz. bottle
46561	1 lb. bottle

#### LOCTITE® 7452™ Tak Pak® Accelerator

Used where increased cure speed of LOCTITE® CAs is required. Can either be pre- or post-applied.

P/N	Package Size
18490	1.75 fl. oz. brush-top bottle
18580	1.75 fl. oz. spray-cap bottle
18637	0.7 fl. oz. metered mist
18575	1 quart can
18576	1 gallon can

#### ADDITIONAL PRODUCTS AVAILABLE

4306™	Wicking Viscosity
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#### LOCTITE® 4090™ opens the door to new applications and new solutions. These are just some of the benefits of LOCTITE® 4090™.

- Strong – strength of a structural adhesive
- Fast – speed of an instant adhesive
- High impact and vibration resistance – 3x more than instant adhesives
- Temperature resistance to 300°F
- Fills gaps up to 0.2"
- Bonds multiple substrates – metals, plastics, rubbers, etc.

#### ADDITIONAL PRODUCTS AVAILABLE

7113™	Longer On Part Life
382™	Tak Pak® Kit with CA

# Cyanoacrylate Adhesives

## LOCTITE® Cyanoacrylate Adhesive Properties Chart

LOCTITE® PRODUCT		ITEM NUMBER	PACKAGE TYPE/SIZE	TYPICAL USE	COLOR	GAP FILL (INCHES)	CATEGORY	VISCOSITY (cP)	SHEAR STRENGTH* (psi)	TEMPERATURE RANGE	CURE SPEED**	SPECIFIC GRAVITY	AGENCY APPROVALS
GENERAL-PURPOSE SURFACE INSENSITIVE	401™	40104 40140 40161	3 g tube 20 g bottle 1 lb. bottle	General-purpose	Clear	0.005	Ethyl	90	2,900	-65°F (-54°C) to 250°F (121°C)	Fixture – 5 sec. Full – 24 hrs.	1.05	CFIA Listed
	406™	40604 40640 40661	3 g tube 20 g bottle 1 lb. bottle	Wicking grade	Clear	0.004	Ethyl	20	2,250	-65°F (-54°C) to 250°F (121°C)	Fixture – 10 sec. Full – 24 hrs.	1.05	Commercial item std. A-A-3097
	431™	41254 41255 41256	3 g tube 20 g bottle 1 lb. bottle	Gap filling	Clear	0.008	Ethyl	900	2,300	-65°F (-54°C) to 180°F (82°C)	Fixture – 15 sec. Full – 24 hrs.	1.10	ISO 10993
	454™	45404 21925 45440 1337712 45474 45478	3 g tube 10 g syringe 20 g tube 30 g syringe 200 g tube 300 g cartridge	Porous surfaces	Clear	0.010	Ethyl	Gel	3,030	-65°F (-54°C) to 250°F (121°C)	Fixture – 15 sec. Full – 24 hrs.	1.05	CFIA, ABS, Commercial item std. A-A-3097
LOW ODOR / LOW BLOOM SURFACE INSENSITIVE	455™	22309 17421	10 g syringe 200 g tube	Porous surfaces	Clear/Light Straw	0.010	Alkoxy	Gel	1,405	-65°F (-54°C) to 212°F (100°C)	Fixture – 60 sec. Full – 24 hrs.	1.10	N/A
	403™	40340 40361	20 g bottle 1 lb. bottle	Gap filling	Clear/Light Straw	0.008	Alkoxy	1,200	2,940	-65°F (-54°C) to 212°F (100°C)	Fixture – 20 sec. Full – 24 hrs.	1.10	N/A
	408™	40840 40861	20 g bottle 1 lb. bottle	Wicking grade	Clear/Light Straw	0.002	Alkoxy	5	3,020	-65°F (-54°C) to 212°F (100°C)	Fixture – 20 sec. Full – 24 hrs.	1.05	N/A
	460™	46040 46061	20 g bottle 1 lb. bottle	Close-fitting parts	Clear/Light Straw	0.004	Alkoxy	45	3,060	-65°F (-54°C) to 212°F (100°C)	Fixture – 15 sec. Full – 24 hrs.	1.10	N/A
LIGHT CURE TOUGHENED	4306™ FLASHCURE®	37439 37442*	1 oz. bottle 1 lb. bottle	Close-fitting parts	Clear/Pale Green	0.004	Ethyl	20	2,000†	-65°F (-54°C) to 180°F (82°C)	Fixture <5 sec.‡	1.10	ISO 10993
	4310™ FLASHCURE®	1401792 1401790	1 oz. bottle 1 lb. bottle	Close-fitting parts	Clear/Pale Green	0.005	Ethyl	175	3,190‡	-65°F (-54°C) to 240°F (116°C)	Fixture <5 sec.‡	1.05	ISO 10993
	4311™ FLASHCURE®	1401791 1401789	1 oz. bottle 1 lb. bottle	Gap filling	Clear/Pale Green	0.008	Ethyl	1,050	3,260‡	-65°F (-54°C) to 200°F (93°C)	Fixture <5 sec.‡	1.15	ISO 10993
FLEXIBLE	4902™	1875841 1875842	20 g bottle 1 lb. bottle	Flexing bond lines	Clear	0.004	Ethyl	200	1,745	-65°F (-54°C) to 180°F (82°C)	Fixture – 15 sec. Full – 24 hrs.	1	ISO 10993
	4903™	1875847 1875840	20 g bottle 1 lb. bottle	Flexing bond lines, increased modulus	Clear	0.004	Ethyl	200	1,670	-65°F (-54°C) to 180°F (82°C)	Fixture – 15 sec. Full – 24 hrs.	1	ISO 10993
TOUGHENED	4090™	1915601	50 ml syringe	General-purpose	Clear/Light Yellow	0.2	Ethyl	Gel	2,400	-40°F (-40°C) to 300°F (148°C)	Fixture – No Gap 60 to 90 sec. Fixture – Gap 3 to 5 min. Full – 7 days	Part A – 1.01 Part B – 1.06	N/A
	380™ BLACK MAX®	38004 38050 38061	3 g tube 1 oz. bottle 1 lb. bottle	Close-fitting parts	Black	0.006	Ethyl	300	3,750	-65°F (-54°C) to 225°F (107°C)	Fixture – 90 sec. Full – 24 hrs.	1.10	CFIA Listed
	410™	41004 41045 41061	3 g tube 20 g bottle 1 lb. bottle	Gap filling	Black	0.008	Ethyl	3,500	3,200	-65°F (-54°C) to 225°F (107°C)	Fixture – 90 sec. Full – 24 hrs.	1.07	CFIA Listed
	426™	21921 18398 17529	10 g syringe 20 g tube 300 g cartridge	Porous surfaces	Black	0.010	Ethyl	Gel	3,000	-65°F (-54°C) to 210°F (99°C)	Fixture – 20 sec. Full – 24 hrs.	1.10	N/A
	480™	48040 48061	20 g bottle 1 lb. bottle	Close-fitting parts	Black	0.006	Ethyl	200	3,800	-65°F (-54°C) to 180°F (82°C)	Fixture – 90 sec. Full – 24 hrs.	1.10	NSF/ANSI 61
	411™	41104 41145 41161	3 g tube 20 g bottle 1 lb. bottle	Gap filling	Clear	0.008	Ethyl	5,000	3,200	-65°F (-54°C) to 210°F (99°C)	Fixture – 30 sec. Full – 24 hrs.	1.07	N/A
	435™	40994 40995	20 g bottle 1 lb. bottle	General-purpose	Clear	0.006	Ethyl	175	2,700	-65°F (-54°C) to 225°F (107°C)	Fixture – 30 sec. Full – 24 hrs.	1.10	ISO 10993 CFIA Listed
	438™	40997	20 g bottle	General-purpose	Black	0.006	Ethyl	200	2,800	-65°F (-54°C) to 225°F (107°C)	Fixture – 30 sec. Full – 24 hrs.	1.10	N/A
2-PART GAP FILL	3092™	1807961	10 g syringe with 3 mix nozzles	High gap filling plastic bonder	Clear	0.2	Ethyl	Gel	3,200	-4°F (-20°C) to 176°F (80°C)	Fixture 0.002" gap – 15 sec. 0.200" gap – 3.5 min. Full – 24 hrs.	1.05	N/A

ITEMS IN RED = Source's PICK or NEW

⊗ = Indicates Worldwide Availability

\* Grit-blasted steel.

\*\* Varies with substrates.

‡ Data generated using polycarbonate.

¥ Full Cure = 24 hours without UV exposure. (With UV exposure, see Technical Data Sheets.)

† Contains LOCTITE® 382™ Tak Pak® Instant Adhesive (20 g bottle), LOCTITE® 7452™ Tak Pak® Accelerator (0.7 oz. net wt. aerosol can).





‡ Contains LOCTITE® 444™ Tak Pak® Instant Adhesive (20 g bottle), LOCTITE® 7452™ Tak Pak® Accelerator (1.75 fl. oz. liquid brush-top bottle).



## LOCTITE® Cyanoacrylate Adhesive Properties Chart

	LOCTITE® PRODUCT	ITEM NUMBER	PACKAGE TYPE/SIZE	TYPICAL USE	COLOR	GAP FILL (INCHES)	CATEGORY	VISCOSITY (cP)	SHEAR STRENGTH* (psi)	TEMPERATURE RANGE	CURE SPEED**	SPECIFIC GRAVITY	AGENCY APPROVALS
TOUGHENED THERMALLY RESISTANT	4203™	1376970 28027	20 g bottle 1 lb. bottle	Close-fitting parts	Clear	0.005	Ethyl	375	2,200	-65°F (-54°C) to 250°F (121°C)	Fixture – 40 sec. Full – 24 hrs.	1.10	N/A
	4204™ 	1376969 26325	20 g bottle 1 lb. bottle	Gap filling	Clear	0.008	Ethyl	4,000	2,400	-65°F (-54°C) to 250°F (121°C)	Fixture – 75 sec. Full – 24 hrs.	1.10	N/A
	4205™	28028 28029	20 g tube 200 g tube	Porous surfaces	Clear	0.010	Ethyl	Gel	2,300	-65°F (-54°C) to 250°F (121°C)	Fixture – 90 sec. Full – 24 hrs.	1.10	N/A
GENERAL-PURPOSE	382™ TAK PAK®	20420 38240 38261	20 g kit/ 20 g bottle 1 lb. bottle	Gap filling and ultra- performance wire tracking	Clear	0.008	Ethyl	5,000	3,200	-65°F (-54°C) to 210°F (99°C)	Fixture – 30 sec. Full – 24 hrs.	1.05	N/A
	404® QUICK SET™	46551 46548 46561	1/3 oz. bottle 4 oz. bottle 1 lb. bottle	Rubber O-ring bonder	Clear	0.005	Ethyl	80	3,500	-65°F (-54°C) to 180°F (82°C)	Fixture – 30 sec. Full – 24 hrs.	1.09	ABS, CFIA Listed, Commercial item std. A-A-3097
	409™	40904 40945 40974 18030	3 g tube 20 g tube 200 g tube 300 g cartridge	General-purpose gel	Clear	0.010	Ethyl	Gel	3,200	-65°F (-54°C) to 180°F (82°C)	Fixture – 75 sec. Full – 24 hrs.	1.10	N/A
	414™	41404 41450 41461	3 g tube 1 oz. bottle 1 lb. bottle	Plastic bonder	Clear	0.006	Ethyl	110	3,200	-65°F (-54°C) to 180°F (82°C)	Fixture – 20 sec. Full – 24 hrs.	1.05	CFIA Listed, Commercial item std. A-A-3097
	415™	41550 41561	1 oz. bottle 1 lb. bottle	Gap filling metal bonder	Clear	0.008	Methyl	1,500	3,600	-65°F (-54°C) to 180°F (82°C)	Fixture – 30 sec. Full – 24 hrs.	1.09	Commercial item std. A-A-3097
	416™	41650 41661	1 oz. bottle 1 lb. bottle	Gap filling plastic bonder	Clear	0.008	Ethyl	1,500	3,200	-65°F (-54°C) to 180°F (82°C)	Fixture – 30 sec. Full – 24 hrs.	1.05	CFIA Listed, Commercial item std. A-A-3097
	420™	42050 42061	1 oz. bottle 1 lb. bottle	Wicking type plastic bonder	Clear	0.002	Ethyl	2	2,900	-65°F (-54°C) to 180°F (82°C)	Fixture – 20 sec. Full – 24 hrs.	1.05	Commercial item std. A-A-3097
	422™	42250 42261	1 oz. bottle 1 lb. bottle	Gap filling plastic bonder	Clear	0.008	Ethyl	2,500	3,200	-65°F (-54°C) to 180°F (82°C)	Fixture – 30 sec. Full – 24 hrs.	1.09	CFIA Listed, Commercial item std. A-A-3097
	430™	43004 43050 43061	3 g tube 1 oz. bottle 1 lb. bottle	Metal bonder for close- fitting parts	Clear	0.005	Methyl	80	3,600	-65°F (-54°C) to 180°F (82°C)	Fixture – 30 sec. Full – 24 hrs.	1.09	Commercial item std. A-A-3097
	444™ TAK PAK®	12292 20419 12294	20 g bottle 20 g kit# 1 lb. bottle	Tak Pak® wire tacking	Clear	0.007	Ethyl	700	3,200	-65°F (-54°C) to 180°F (82°C)	Fixture – 30 sec. Full – 24 hrs.	1.05	Commercial item std. A-A-3097
	495™	49504 49550 49561	3 g tube 1 oz. bottle 1 lb. bottle	General-purpose	Clear	0.004	Ethyl	45	2,060	-65°F (-54°C) to 250°F (121°C)	Fixture – 5 sec. Full – 24 hrs.	1.05	Commercial item std. A-A-3097
	496™	49650 49661	1 oz. bottle 1 lb. bottle	General-purpose rubber bonder	Clear	0.005	Methyl	125	3,600	-65°F (-54°C) to 180°F (82°C)	Fixture – 30 sec. Full – 24 hrs.	1.09	Commercial item std. A-A-3097
	498™	49850 49861	1 oz. bottle 1 lb. bottle	Thermal cycling	Clear	0.007	Ethyl	500	3,000	-65°F (-54°C) to 180°F (82°C)	Fixture – 50 sec. Full – 24 hrs.	1.10	N/A
	QUICKTITE®	39202	0.14 oz. bottle	General gel	Clear	0.010	Ethyl	Gel	3,200	-65°F (-54°C) to 250°F (121°C)	Fixture – 15 sec. Full – 24 hrs.	1.05	N/A

## LOCTITE® Primer & Accelerator Properties Chart

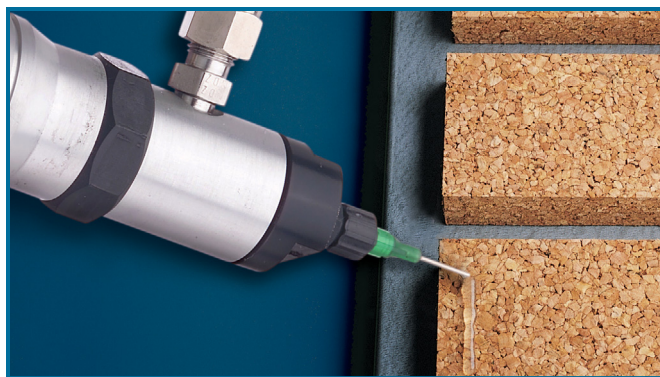
	LOCTITE® PRODUCT	ITEM	PACKAGE TYPE & SIZE	COLOR	VISCOSITY (cP)	BASE	ON-PART LIFE	DRY TIME	APPLICATION	AGENCY APPROVALS
SURFACE PREPARATION	ACCELERATORS	712™ TAK PAK® 	20352 18636 18390	1.75 fl. oz. bottle 0.7 fl. oz. metered mist 1 gallon can	Clear/Amber	1	Isopropanol	1 minute	<30 seconds	All cyanoacrylates MIL-46050C for existing designs, CFIA Listed
		7109™ TAK PAK® II	22440 23034	1.75 fl. oz. bottle 1 quart can	Clear/Amber	3	Perfluorocarbon	1 minute	<5 seconds	All cyanoacrylates N/A
		7113™ 	19605 19606	1.75 fl. oz. bottle 1 gallon can	Clear	0.4	Heptane	24 hours	<1 minute	All cyanoacrylates N/A
		7452™ TAK PAK® 	18490 18580 18637 18575 18576	1.75 fl. oz. brush-top bottle 1.75 fl. oz. spray-cap bottle 0.7 fl. oz. metered mist 1 quart can 1 gallon can	Clear/Amber	0.4	Acetone	1 minute	<30 seconds	All cyanoacrylates MIL-46050C for existing designs
	PRIMERS	770™ 	18396 18397	1.75 fl. oz. bottle 16 fl. oz. can	Colorless, Slightly Hazy	1.25	Heptane	8 hours	30 seconds	All cyanoacrylates CFIA Listed
		7951™	27858	1.75 fl. oz. bottle	Colorless, Slightly Hazy	0.7	Perfluorocarbon and Chlorobenzotrifluoride	8 hours	30 seconds	All cyanoacrylates N/A





PLEASE NOTE: A complete line of surface primers, accelerators and cleaners is available to further enhance the performance of LOCTITE® Instant Adhesives. Refer to the Surface Cleaning section on page 131.



# Cyanoacrylate Adhesive Equipment





## YOUR EQUIPMENT Source




For more details, see the **LOCTITE® Equipment Sourcebook, LT-3669**, or visit us on the web for additional information, diagrams, products and our full line of equipment at [www.equipment.loctite.com](http://www.equipment.loctite.com).










LOCTITE® PRODUCT		ITEM NUMBER	USED TO DISPENSE	PACKAGE TYPES & SIZES	VISCOSITY RANGE	CONSUMABLES – DISPENSE ACCESSORIES	
HANDHELD APPLICATORS	BOTTLE DISPENSING						
		CA VOLUMETRIC HAND PUMP	1506477	Cyanoacrylates	20 g or 1 fl. oz. bottle	0.009 – 0.002 grams	Dispense Tips and Accessories – Pages 176-177
		SOFT SQUEEZE BOTTLES	98345	All Fluids	2 fl. oz. packages	Low to Medium	Dispense Tips and Accessories – Pages 176-177
			98346	All Fluids	4 fl. oz. packages		
			98347	All Fluids	8 fl. oz. packages		
	SYRINGE DISPENSING						
		10 ML GEL CA SYRINGE DISPENSER	1233800	Any fluid in a 10 ml syringe	10 ml syringe	Low to High	Dispense Tips and Accessories – Pages 176-177
	30 ML MANUAL SYRINGE APPLICATOR	1544934	Any fluid in a 30 ml syringe, including 25 ml syringes	30 ml syringe	Low to High	Dispense Tips and Accessories – Pages 176-177	

LOCTITE® PRODUCT		ITEM NUMBER	TYPE	VISCOSITY RANGE	DISPENSE PATTERNS	USED TO DISPENSE	STROKE ADJUSTMENT	ACTION	CONSUMABLES – DISPENSE ACCESSORIES	
HANDHELD VALVES	LOW VISCOSITY CYANOACRYLATE APPLICATOR									
		LV HAND-HELD APPLICATOR	97130	Pneumatic	Low	Drop, Dot, Bead	Instant Adhesives, Retaining Compounds, Threadlockers	Yes	Foot	Dispense Tips and Accessories – Pages 176-177
	PINCH TUBE APPLICATORS									
		VARI-DROP™ APPLICATORS	97131 97132	Pinch Tube	Low to Medium	Drop, Dot, Bead	Instant Adhesives, Retaining Compounds, Threadlockers	Yes	Finger	Dispense Tips and Accessories – Pages 176-177





LOCTITE® PRODUCT		ITEM NUMBER	TYPE	VISCOSITY RANGE	DISPENSE PATTERNS	USED TO DISPENSE	STROKE ADJUSTMENT	SUCK-BACK	CONSUMABLES – DISPENSE ACCESSORIES	
VALVES	HIGH PRECISION VALVES									
		STATIONARY APPLICATOR VALVE	97113	High Precision	Low to Medium	Drop, Dot, Bead	Gel Instant Adhesives, Instant Adhesives, Retaining Compounds, Threadlockers	Yes	Yes	Dispense Tips and Accessories – Pages 176-177
		97114								
	HIGH PERFORMANCE DIAPHRAGM VALVES									
		VA10 MICRO DIAPHRAGM VALVE	1611449	High Performance Diaphragm	Low to Medium	Drop, Dot, Bead, Microdot	Instant Adhesives	Yes	No	Dispense Tips and Accessories – Pages 176-177
		VA15 DIAPHRAGM VALVE	1730181	High Performance Diaphragm	Low to Medium	Drop, Dot, Bead	Silicone and Other Moisture Sensitive Adhesives	Yes	No	
		CYANOACRYLATE DISPENSE VALVE	98013	High Performance Diaphragm	Low to Medium	Drop, Dot, Bead	Instant Adhesives, Retaining Compounds, Threadlockers	Yes	No	
LIGHT CURE DISPENSE VALVE		98009	Light Cure							




LOCTITE® PRODUCT		ITEM NUMBER	PRESSURE REGULATION	USED TO DISPENSE	PACKAGE TYPES & SIZES	VISCOSITY RANGE	LOW LEVEL SENSING	CONSUMABLES – DISPENSE ACCESSORIES	
CARTRIDGE DISPENSING	PNEUMATIC CARTRIDGE DISPENSING								
		300 ML PNEUMATIC CARTRIDGE DISPENSING RETAINER	98319A	0 to 60 psi	Gel Cyanoacrylates, Anaerobic Gasketing, Light Cure/Acrylics, Silicones	300 ml cartridges	Low to Medium	No	Cartridge Accessories – Page 177
		HD10 300 ML PNEUMATIC CARTRIDGE DISPENSER	1714379	0 to 60 psi	Gel Cyanoacrylates, Anaerobic Gasketing, Light Cure/Acrylics, Silicones	300 ml cartridges 250 ml tubes	Medium to High	No	
		300 ML CARTRIDGE PUSHER	98022	0 to 50 psi	Gel Cyanoacrylates, Anaerobic Gasketing, Light Cure/Acrylics, Low Viscosity Silicones	300 ml cartridges 250 ml tubes	Medium	Yes	

DISPENSE SYSTEMS

LOCTITE® PRODUCT		ITEM NUMBER	DISPENSE PATTERNS	USED TO DISPENSE	PACKAGE TYPES & SIZES	VISCOSITY RANGE	VACUUM SUCK-BACK	CONSUMABLES – DISPENSE ACCESSORIES
VOLUMETRIC BOTTLE DISPENSING								
	BENCHTOP PERISTALTIC DISPENSER	98548	Dot, Drop, Bead	Instant Adhesives, Light Cure/Acrylics, Retaining Compounds, Threadlockers	Any Bottle	0 to 5,000 cP	Programmable	Dispense Tips and Accessories – Pages 176-177
COMPLETE PRESSURE-TIME BOTTLE DISPENSE SYSTEM								
	BOND-A-MATIC® 3000 DISPENSER 0-15 psi	982719	Dot, Drop, Bead	Gel Adhesives, Instant Adhesives, Light Cure/Acrylics, Retaining Compounds, Threadlockers	200 ml bottle 1 lb. bottle 1 liter bottle 2 kg bottle 200 g squeeze tube	Low	N/A	Dispense Tips and Accessories – Pages 176-177
	BOND-A-MATIC® 3000 DISPENSER 0-100 psi	982722			Medium to High			
SYRINGE DISPENSING SYSTEMS								
	POSI-LINK™ DISPENSE SYSTEM	See Page 169	Dot, Drop, Bead	Gel Adhesives, Instant Adhesives, Light Cure/Acrylics, Epoxies	Prepackaged 5 ml syringe 10 ml syringe 25 ml syringe	Low to Paste	Yes	Dispense Tips and Accessories – Pages 176-177
	PRECISION SYRINGE DISPENSING SYSTEM	97006*	Dot, Drop, Bead	Gel Adhesives, Instant Adhesives, Light Cure/Acrylics	3 ml syringe 5 ml syringe 10 ml syringe 30 ml syringe 55 ml syringe	Low to Paste	Yes	Syringes – Pages 181-182
	DIGITAL SYRINGE DISPENSING SYSTEM	883976						
	SD10 DIGITAL SYRINGE DISPENSER	1514629						
	FOOT PEDAL DISPENSER	98050*						

\* Syringe Airline Adapter sold separately. Visit [www.equipment.loctite.com](http://www.equipment.loctite.com) for all available accessories.

LOCTITE® PRODUCT		ITEM NUMBER	CONTROLLED OUTPUTS	NUMBER OF DISPENSE VALVES	ADVANCING SLIDE	ROTOSPRAY™	ACCESSORIES
MULTIFUNCTION CONTROLLERS	 DUAL CHANNEL AUTOMATIC CONTROLLER	97152	2	2 (Independent)	97119 – 100 mm	97115	Visit <a href="http://www.equipment.loctite.com">www.equipment.loctite.com</a> for more information on additional accessories.
	 SPRAY VALVE DIGITAL CONTROLLER	1406023	1	1	N/A	N/A	
	 DIGITAL MULTIFUNCTIONAL CONTROLLER	1022006	3	3 (Independent)	N/A	In conjunction with Positive Displacement Pump – 983330	
SINGLE FUNCTION CONTROLLERS	 DIGITAL DISPENSE CONTROLLER	97101	1	1	N/A	N/A	

LOCTITE® PRODUCT		ITEM NUMBER	PRESSURE REGULATION	USED TO DISPENSE	PACKAGE TYPES & SIZES	VISCOSITY RANGE	LOW LEVEL SENSING	CONSUMABLES – DISPENSE ACCESSORIES	
CONTROLLERS & RESERVOIRS	INTEGRATED RESERVOIR CONTROLLERS								
		INTEGRATED SEMI-AUTOMATIC DISPENSER	1390322	0 to 15 psi	Gel Adhesives, Instant Adhesives, Light Cure/Acrylics, Retaining Compounds, Threadlockers	250 ml bottle 1 lb. bottle 1 liter bottle 2 kg bottle 200 g squeeze tube	Low to Medium	Yes	Dispense Tips and Accessories – Pages 176-177
			1390321	0 to 100 psi		Medium to High			
	RESERVOIRS								
		BOND-A-MATIC® 3000 RESERVOIR	982720	0 to 15 psi	Gel Adhesives, Instant Adhesives, Light Cure/Acrylics, Retaining Compounds, Threadlockers	250 ml bottle 1 lb. bottle 1 liter bottle 2 kg bottle 200 g squeeze tube	Low to Medium	Yes	Dispense Tips and Accessories – Pages 176-177
			982726					No	
			982723	0 to 100 psi			Medium to High	Yes	
			982727					No	
		SHOT MISER™ RESERVOIR	98090	0 to 100 psi	Instant Adhesives, Light Cure/Acrylics, Retaining Compounds, Threadlockers	250 ml bottle 1 lb. bottle 200 g squeeze tube	Low to High	No	

Your Source for Motion Control Robot Dispense Systems. See page 171.



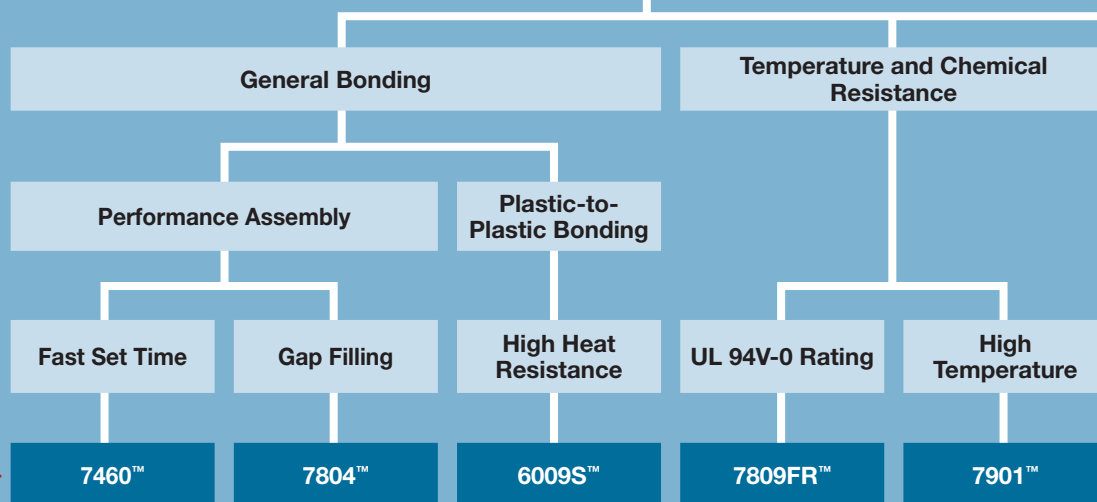
# Hot Melt Adhesives

- Bond a variety of substrates, including difficult-to-bond plastics
- Can handle today's toughest applications in a broad range of industries
- Ideal for applications that require high speed manufacturing, bonding versatility, very large gap filling, fast green strength and minimal shrinkage
- Solvent-free and contain environmentally responsible materials with no harmful VOCs



## Your Application

### WHAT TYPE OF HOT MELT ADHESIVE DO YOU NEED?



## Solution

Color	Amber	Amber	Natural	Amber	Amber
Viscosity (cP) at Dispense Temp.	6,700	7,500	8,100	7,000	750
Open Time (Sec.)	30	35	25	35	35
Heat Resistance	210°F (99°C)	220°F (104°C)	>310°F (>152°C)	240°F (115°C)	300°F (149°C)
Shore Hardness	N/A	A 74	N/A	A 85	A 84

## Product Description

### LOCTITE® 7460™ Hysol® SprayPac™ Polyshot Hot Melt Adhesive

#### Sprayable

Formulated for spray applications. High heat resistance and fast set time. Suitable for bonding foams, fabric and wood.

**P/N Package Size**  
83308 Polyshot 25 lb. pail

### LOCTITE® 7804™ Hysol® Hot Melt Adhesive

#### Impact Resistant

Tough, elastomeric, high performance adhesive with excellent impact resistance at low temperatures.

**P/N Package Size**  
1863185 32 lb. carton pellets  
83328 Superstick (10 in.) 32 lb. carton  
83330 Polyshot 25 lb. pail

### LOCTITE® 6009S™ Hysol® Hot Melt Adhesive

#### Heat Resistant

Low viscosity, high heat-resistant adhesive recommended for bonding polypropylene to itself and to various porous substrates.

**P/N Package Size**  
83372 40 lb. carton pellets

### LOCTITE® 7809FR™ Hysol® Hot Melt Adhesive

#### Fire Retardant

Modified with fire retardant materials. It has a UL 94V-0 flammability rating.

**P/N Package Size**  
83675 Superstick 32 lb. carton  
83676 Polyshot 25 lb. pail

### LOCTITE® 7901™ Hysol® Hot Melt Adhesive

#### Potting

Low viscosity polyamide used extensively for potting and encapsulating.

**P/N Package Size**  
83342 40 lb. carton pellets



Porous Substrates						Structural Bonding
Foam Bonding		General Assembly		Packaging Applications		
Medium Open Time	Extended Open Time	General-Purpose	Medium Open Time	Fast Setting	High Strength	
0430™	0450™	1942™	232™	1X™	740™	3631™
Cream	Natural	Tan	Clear	Yellow	Yellow	Off White
6,000	4,500	5,000	11,000	2,000	9,000	12,000
3.5 min. Sprayed	5 to 8 min.	30	15	15	10	60
170°F (77°C)	170°F (77°C)	142°F (61°C)	153°F (67°C)	150°F (65°C)	168°F (75°C)	250°F (121°C)
A 75	A 75	N/A	N/A	N/A	N/A	N/A

**LOCTITE® 0430™**  
Hysol® SprayPac™  
Polyshot Hot Melt  
Adhesive

**Medium Open Time**

Suitable for bonding expanded polystyrene, polyethylene and urethane foams. Can be used in applications where solvent-based aerosols are used.

P/N	Package Size
83349	Polyshot 35 lb. carton

**LOCTITE® 0450™**  
Hysol® SprayPac™  
Polyshot Hot Melt  
Adhesive

**Extended Open Time**

Formulated for spray applications, this adhesive is well-suited for use on expanded polystyrene or urethane foams.

P/N	Package Size
83354	Polyshot 35 lb. carton
83356	Polyshot 35 lb. carton (RED)

**LOCTITE® 1942™**  
Hysol® Hot Melt  
Adhesive

**General-Purpose**

Medium setting, general-purpose hot melt adhesive. Excellent adhesion to wood and many plastics.

P/N	Package Size
83267	40 lb. carton pellets
83269	Maxistick 35 lb. carton
83274	Superstick 10 in. 25 lb. carton
83277	Polyshot 35 lb. carton

**LOCTITE® 232™**  
Hysol® Hot Melt  
Adhesive

**Medium Open Time**

A medium setting adhesive with an open time of 15 seconds.

P/N	Package Size
83239	40 lb. carton pellets
83245	Superstick 10 in. 25 lb. carton
83247	Polyshot 35 lb. carton

**LOCTITE® 1X™ Hysol®**  
Hot Melt Adhesive  
**Fast Setting**

Medium to fast setting; recommended for bonding paper, wood, fabric and foam.

P/N	Package Size
83358	40 lb. carton pellets
83360	Maxistick 35 lb. carton
83365	Superstick 10 in. 25 lb. carton
83368	Polyshot 35 lb. carton

**LOCTITE® 740™**  
Hysol® Hot Melt  
Adhesive

**High Strength**

Fast setting adhesive recommended for packaging applications.

P/N	Package Size
83264	Polyshot 35 lb. carton

**LOCTITE® 3631™**  
Hysol® Hot Melt  
Adhesive

**High Strength**

A toughened, high strength adhesive for use on plastics. Flexible bond with an open time of 60 seconds.

P/N	Package Size
31291	300 ml cartridge
31279	40 lb. pail

# Hot Melt Adhesives



## LOCTITE® Hysol® Hot Melt Adhesive Properties Chart

	LOCTITE® PRODUCT	ITEM NUMBER	PACKAGE TYPE/SIZE	COLOR	ATTRIBUTES	VISCOSITY (cP) AT DISPENSE TEMPERATURE	TENSILE STRENGTH (psi)	OPEN TIME	TEMPERATURE RESISTANCE	% ELONGATION	SHORE HARDNESS	AGENCY APPROVALS
POLYOLEFIN-BASED	0430™ HYSOL® SPRAYPAC™	83349	Polyshot 35 lb. carton	Cream	Medium open time	5,000	280	3.5 minutes sprayed	170°F (77°C)	N/A	A 75	N/A
	0450™ HYSOL® SPRAYPAC™	83354 83356	Polyshot 35 lb. carton Polyshot 35 lb. carton (RED)	Natural	Extended open time	4,500	N/A	5 to 8 minutes	156°F (69°C)	N/A	N/A	N/A
	6009S™ HYSOL®	83372	40 lb. carton pellets	Natural	Fast set	8,100	210	25 seconds	300°F (149°C)	50	N/A	N/A
URETHANE- BASED	3631™ HYSOL®	31291 31279	300 ml cartridge 40 lb. pail	Off- White	High strength	12,000	1,800	60 seconds	250°F (121°C)	940	A 91	N/A
POLYAMIDE-BASED	7460™ HYSOL® SPRAYPAC™	83308	Polyshot 25 lb. pail	Pale Amber	Sprayable	6,700	N/A	30 seconds	210°F (99°C)	N/A	N/A	N/A
	7802™ HYSOL®	83316 83319 83321	40 lb. carton pellets Superstick (10 in.) 32 lb. carton Polyshot 25 lb. pail	Amber	PVC bonder	14,000	600	20 seconds	240°F (115°C)	450	N/A	N/A
	7804™ HYSOL®	1863185 83328 83330	32 lb. carton pellets Superstick (10 in.) 32 lb. carton Polyshot 25 lb. pail	Amber	High viscosity	7,500	340	35 seconds	220°F (104°C)	900	A 74	N/A
	7805™ HYSOL®	1863184	32 lb. carton pellets	Amber	Flexible	7,500	340	35 seconds	220°F (104°C)	800	A 70	N/A
	7809FR™ HYSOL®	83675 83676	Superstick 10 in. 32 lb. carton Polyshot 25 lb. pail	Amber	Fire retardant	7,000	363	35 seconds	240°F (115°C)	373	A 85	UL 94V-0
	7901™ HYSOL®	83342	40 lb. carton pellets	Amber	Potting	750	260	35 seconds	300°F (149°C)	80	A 84	N/A

ITEMS IN RED = Source's PICK or NEW



## LOCTITE® Hysol® Hot Melt Adhesive Properties Chart





















	LOCTITE® PRODUCT	ITEM NUMBER	PACKAGE TYPE/SIZE	COLOR	ATTRIBUTES	VISCOSITY (cP) AT DISPENSE TEMPERATURE	TENSILE STRENGTH (psi)	OPEN TIME (SECONDS)	TEMPERATURE RESISTANCE	% ELONGATION	SHORE HARDNESS	AGENCY APPROVALS
EVA-BASED	1X™ HYSOL®	83358 83360 83365 83368	40 lb. carton pellets Maxistick 35 lb. carton Superstick 10 in. 25 lb. carton Polysht 35 lb. carton	Light Yellow	Fast setting	2,000	370	15	150°F (65°C)	90	N/A	N/A
	232™ HYSOL®	83239 83245 83247	40 lb. carton pellets Superstick 10 in. 25 lb. carton Polysht 35 lb. carton	Clear	Medium open time	11,000	N/A	15	153°F (67°C)	N/A	N/A	N/A
	236™ HYSOL®	83248	Superstick 10 in. 25 lb. carton	Clear	Medium viscosity	8,500	213	25	140°F (60°C)	450	N/A	N/A
	740™ HYSOL®	83264	Polysht 35 lb. carton	Light Yellow	High strength	9,000	750	10	168°F (75°C)	75	N/A	N/A
	740LV™ HYSOL®	83374	35 lb. polysht	Light Yellow	High temperature	3,500	700	10	155°F (68°C)	80	N/A	N/A
	1942™ HYSOL®	83267 83269 83274 83277	40 lb. carton pellets Maxistick 35 lb. carton Superstick 10 in. 25 lb. carton Polysht 35 lb. carton	Tan	General- purpose	5,000	250	30	142°F (61°C)	500	N/A	N/A
	4046™ HYSOL®	83279	Polysht 35 lb. carton	Tan	Extended open time	19,000	120	60	120°F (48°C)	1,400	A 22	N/A
	COOLMELT™ HYSOL®	83394	CoolMelt™ Maxistick 35 lb. carton	Off- White	Low temperature application	7,200	195	15	140°F (60°C)	800	N/A	N/A
	QUIKPAC™ HYSOL®	83398 83400	Maxistick 35 lb. carton Polysht 35 lb. carton	Light Yellow	Low viscosity	4,645	N/A	15	174°F (79°C)	N/A	N/A	N/A

ITEMS IN RED = Source's PICK or NEW

## LOCTITE® Hysol® Hot Melt Stick Chart

DESCRIPTION	DIAMETER	LENGTH	LOCTITE® APPLICATORS BY ITEM NUMBER
SUPERSTICK	0.50 in.	4 in./10 in.	916282, 1597635
MAXISTICK	0.75 in.	2.4 in.	98033, 98034
POLYSHOT	1.75 in.	1.5 in.	98035, 98036, 98040, 98037, 98041



LOCTITE® PRODUCT	ITEM NUMBER	DESCRIPTION	USED WITH
HOT MELT NOZZLES & ACCESSORIES		1611450 Replacement Nozzle/Check Valve	1597635
		419115 (SINGLE PACK) 916050 (5 PACK)	98035, 98036, 98040 916282
		ANZ023N01 Standard Nozzle Adapter with Check Valve and Jam Nut	98033, 98034
		985225 (5 PACK) 1-Hole Nozzle 0.08" diameter cone tip (5 pack)	98033, 98034, 98035, 98036, 98040
		985110 2-Hole Nozzle 0.06" diameter x 0.39" spacing	98033, 98034, 98035, 98036, 98040, 98544, 98545
		985111 3-Hole Nozzle 0.06" diameter x 0.20" spacing	98033, 98034, 98035, 98036, 98040, 98544, 98545
		985112 Diagonal Extension Nozzle Tip = 0.14" diameter x 1.23" long	98033, 98034, 98035, 98036, 98040, 98544, 98545
		985113 Needle Extension Nozzle Tip = 0.05" diameter x 1.32" long	98033, 98034, 98035, 98036, 98040, 98544, 98545
		985114 Spreader Extension Nozzle Tip = (0.09" x 0.25") x 1.32" long	98033, 98034, 98035, 98036, 98040, 98544, 98545
		985115 L-Nozzle 0.06" diameter x 0.85" offset	98033, 98034, 98035, 98036, 98040, 98544, 98545
		985122 Standard Medium Spray Nozzle 1.25" to 5" diameter pattern	98037, 98041
		985211 Narrow Spray Nozzle 0.05" to 1.25" diameter pattern	98037, 98041
		985216 Ultra-Wide Spray Nozzle 1.5" to 6.0" diameter pattern	98037, 98041
		984261 Standard Adapter for 300 ml Cartridges	98011
		984262 Standard 1-Hole Nozzle 0.098" diameter cone tip, with integral check valve (includes protective cap)	98011
		984263 Adapter/Check Valve for Specialty Nozzles	98011
		984264 Needle Jet Nozzle Tip = 0.051" diameter x 1.26" long (requires 984263 adapter)	98011
		984268 3-Hole Nozzle 0.06" diameter x 0.20" spacing (requires 984263 adapter)	98011
		984272 Injection Needle Nozzle with Integral Check Valve Tip = 0.059" diameter x 0.197" long	98011
		985397 Air Line Filter, Regulator, 5 Micron Filter Gauge 0 to 150 psi	All Pneumatic Applicators



# Light Cure Adhesives

- One-component, no-mix products that cure extremely fast for immediate QC in high volume assembly operations
- Excellent bond strengths to plastics and glass
- Bond-on-demand capability for unlimited repositioning
- Dual cure formulations for curing where light cannot reach



## Your Application

### CAN LIGHT REACH THE ENTIRE BOND-LINE THROUGH A TRANSPARENT SUBSTRATE?

Yes

#### What type of substrates are you using?

#### Highly Flexible Substrates

#### Transparent Glass Substrates

#### Bonding to Plasticized PVC

#### Bonding to Plastic

#### Bonding to Silicone

#### Bonded to Glass

#### Bonded to Metal

#### Low Viscosity

#### Medium Viscosity

#### Flowable

#### Paste

#### Medium Viscosity

#### High Viscosity

## Solution

3107™

3974™

5056™

5050™

3494™

3525™

Chemistry	Acrylic	Acrylic	Silicone	Silicone	Acrylic	Acrylic
Viscosity (cP)	500	2,400	2,200	325 g/min.	5,500	15,000
Color	Clear/Straw/Translucent	Translucent/Colorless	Translucent	Translucent	Clear/Pale Straw	Clear/Pale Straw/Translucent
Cure Type	UV, Visible	UV, Visible	UV, Visible	UV	UV, Visible	UV, Visible
Fluorescent	Yes	Yes	No	No	No	Yes
Shear Strength (psi)	900 <sup>1</sup>	1,910 <sup>2</sup>	440 <sup>1</sup>	N/A	2,440 <sup>3</sup>	1,480 <sup>3</sup>
Elongation at Break (%)	220	100	170	125	190	260

## Product Description

#### LOCTITE® 3107™ Light Cure Adhesive

A low viscosity UV/visible light cure adhesive designed primarily for bonding heavily plasticized PVC. Flexible and fluorescent.

**P/N Package Size**  
28466 1 liter bottle

#### LOCTITE® 3974™ Light Cure Adhesive

A medium viscosity highly flexible UV/visible light cure adhesive. Very soft when cured to accommodate varying material CTE's. Excellent resistance to thermal cycling and environmental exposure.

**P/N Package Size**  
1135733 25 ml syringe  
1135732 1 liter bottle

#### LOCTITE® 5056™ Silicone Adhesive Sealant

A self-leveling UV/visible light cure adhesive/sealant designed for bonding and sealing applications with highly flexible bond lines. Provides high adhesion to silicone substrates.

**P/N Package Size**  
1214249 25 ml syringe  
1214250 1 liter bottle  
1214248\* 15 liter pail

#### LOCTITE® 5050™ Fastgasket® Silicone Adhesive Sealant

A highly viscous cure-in-place UV light cure adhesive/sealant designed for gasketing, sealing and bonding applications with highly flexible bond lines. Provides high adhesion to silicone substrates.

**P/N Package Size**  
1212166 300 ml cartridge  
1212165 40 lb. pail

#### LOCTITE® 3494™ Light Cure Adhesive

A medium viscosity UV/visible light cure adhesive designed for bonding glass and other materials where resistance to humidity and water immersion is required.

**P/N Package Size**  
30765 25 ml syringe  
29487 1 liter bottle

#### LOCTITE® 3525™ Light Cure Adhesive

A high viscosity UV/visible light cure adhesive designed for bonding glass, metals and plastics with excellent flexibility, toughness and durability to moisture exposure.

**P/N Package Size**  
30220 25 ml syringe  
30221 1 liter bottle

\* Made-to-order item.

1 Polycarbonate to PVC.

2 Polycarbonate to polycarbonate.

3 Glass to steel.

4 PVC to glass.



Transparent Plastic Substrates			Both substrates are opaque		One Substrate is Lightly Colored or Translucent	
Bonded to Plastic			What is your primary application requirement?			
			High Bond Strength Required		Flexible Bond-Line	
Non-Sag Gel	Medium Viscosity	Low Viscosity	Low Viscosity	Medium Viscosity	Flowable	Medium Viscosity
3979™	3926™	3922™	4310™	4311™	5240™	3556™
Acrylic	Acrylic	Acrylic	Cyanoacrylate	Cyanoacrylate	Silicone	Acrylic
56,500	5,500	300	150	900	25,000	5,000
Translucent/ Straw	Transparent to Hazy Fluorescent	Transparent to Hazy Fluorescent	Clear/Pale Green	Clear/Pale Green	Translucent/ White	Clear/Light Yellow
UV, Visible	UV, Visible	UV, Visible	UV, Visible, Moisture	UV, Visible, Moisture	UV, Visible, Moisture	Visible
Yes	Yes	Yes	Yes	Yes	No	Yes
4,320 <sup>2</sup>	2,910 <sup>2</sup>	3,400 <sup>2</sup>	3,190 <sup>2</sup>	3,260 <sup>2</sup>	140 <sup>4</sup>	5,070 <sup>2</sup>
227	331	135	7	5	270	33

#### LOCTITE® 3979™ Light Cure Adhesive

##### Gel, Fluoresces Red

A UV/visible light cure adhesive designed for bonding plastics and other materials that fluoresces red to distinguish it from blue fluorescing substrates. Non-sag gel eliminates dripping.

**P/N Package Size**  
1402562 25 ml syringe  
1402563 300 g cartridge

#### LOCTITE® 3926™ Light Cure Adhesive

A medium viscosity UV/visible light cure adhesive designed for bonding plastics, metals and glass with superior sterilization resistance and flexibility.

**P/N Package Size**  
36492 25 ml syringe  
36493 1 liter bottle

#### LOCTITE® 3922™ Light Cure Adhesive

A low viscosity UV/visible light cure adhesive designed for bonding plastics, metals and glass with superior sterilization resistance. Excellent adhesion to polycarbonate.

**P/N Package Size**  
32083 25 ml syringe  
32047\* 1 liter bottle

#### LOCTITE® 4310™ Flashcure® Light Cure Adhesives

##### Dual Cure Instant Adhesive

A low viscosity UV/visible light and moisture cure adhesive designed for rapid curing of exposed adhesive as well as curing in shadowed areas where light does not reach.

**P/N Package Size**  
1401792 1 oz. bottle  
1401790 1 lb. bottle

#### LOCTITE® 4311™ Flashcure® Light Cure Adhesives

##### Dual Cure Instant Adhesive

A medium viscosity UV/visible light and moisture cure adhesive designed for rapid curing of exposed adhesive as well as curing in shadowed areas where light does not reach.

**P/N Package Size**  
1401791 1 oz. bottle  
1401789 1 lb. bottle

#### LOCTITE® 5240™ Nuva-Sil® Medical Device Sealant

##### Self-Leveling/Noncorrosive

A flowable UV/visible light and moisture curing adhesive designed for bonding and sealing applications with highly flexible bond lines. Forms a medium strength, flexible rubber sealant.

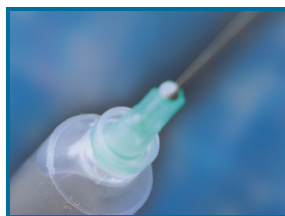
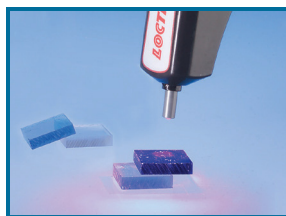
**P/N Package Size**  
1010341 30 ml syringe  
1010320 300 ml cartridge  
1010343 40 lb. pail

#### LOCTITE® 3556™ Indigo® Visible Light Cure Adhesive

A medium viscosity UV/visible light cure adhesive designed for bonding lightly colored or translucent substrates with a large depth of cure. Suitable for bonding polycarbonate and other materials.

**P/N Package Size**  
1072223 25 ml syringe  
1072222 1 liter bottle

# Light Cure Adhesives



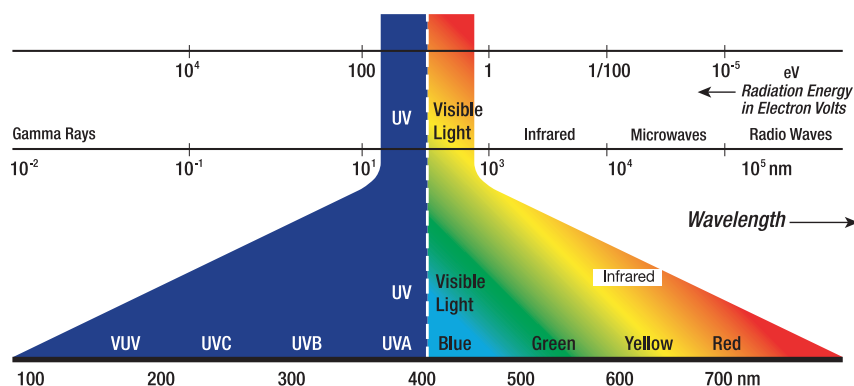
## LOCTITE® Light Cure Adhesive Properties Chart

LOCTITE® PRODUCT		ITEM NUMBER	PACKAGE TYPE/SIZE	APPEARANCE, CLARITY & COLOR	CURE TYPE	KEY SUBSTRATES	VISCOSITY (cP), BROOKFIELD, 25°C	ELONGATION AT BREAK (%)	SHORE HARDNESS	TEMPERATURE RANGE	AGENCY APPROVALS
EPOXY ADHESIVES	3336™	31064 31065	42 ml dual syringe 400 ml dual syringe	Clear/ Light Amber	Ultraviolet, room temperature, heat	Metal, thermoplastic	14,500	6	D 79	-65°F (-54°C) to 350°F (176°C)	N/A
	3355™	40792	25 ml syringe	Hazy White	Ultraviolet, delay cure	Metal, plastic, glass, ceramic	5,000	11.5	D 77	-65°F (-54°C) to 350°F (176°C)	N/A
CYANOACRYLATES ADHESIVES	4306™ FLASHCURE®	37439 37442*	1 oz. bottle 1 lb. bottle	Clear/ Pale Green	Ultraviolet, visible, moisture	Elastomer, metal, polycarbonate, thermoplastic	20	9	D 72	-65°F (-54°C) to 180°F (82°C)	ISO 10993 Compliant
	4310™ FLASHCURE®	1401792 1401790	1 oz. bottle 1 lb. bottle	Clear/ Pale Green	Ultraviolet, visible, moisture	Elastomer, metal, polycarbonate, thermoplastic	150	7	D 84	-65°F (-54°C) to 200°F (93°C)	ISO 10993 Compliant
	4311™ FLASHCURE®	1401791 1401789	1 oz. bottle 1 lb. bottle	Clear/ Pale Green	Ultraviolet, visible, moisture	Elastomer, metal, polycarbonate, thermoplastic	900	5	D 84	-65°F (-54°C) to 200°F (93°C)	ISO 10993 Compliant
SILICONE ADHESIVES	5031™ NUVA-SIL®	40086 40087	300 ml cartridge 40 lb. pail	Translucent	Visible, ultraviolet, moisture, acetoxy	Glass, metal, ceramic	5,500	100	A 34	-65°F (-54°C) to 350°F (177°C)	N/A
	5033™ NUVA-SIL®	40088 40089	300 ml cartridge 40 lb. pail	Translucent/ Colorless/ Fluorescent	Visible, ultraviolet, moisture, acetoxy	Glass, metal, ceramic	145 g/min.*	170	A 55	-65°F (-54°C) to 350°F (177°C)	N/A
	5039™ NUVA-SIL®	40438 40439	300 ml cartridge 40 lb. pail	Translucent/ Colorless/ Fluorescent	Visible, ultraviolet, moisture, acetoxy	Glass, metal, ceramic	220 g/min.*	210	A 37	-65°F (-54°C) to 350°F (177°C)	N/A
	5050™ FASTGASKET®	1212166 1212165	300 ml cartridge 40 lb. pail	Translucent	Ultraviolet	Glass, metal, ceramic	325 g/min.*	125	A 45	-65°F (-54°C) to 350°F (177°C)	N/A
	5056™	1214249 1214250 1214248	25 ml syringe 1 liter bottle 15 liter pail	Translucent	Visible, ultraviolet	Glass, metal, ceramic, polycarbonate	2,200	170	A 43	-65°F (-54°C) to 200°F (93°C)	ISO 10993 Compliant
	5083™ NUVA-SIL®	17528 17635	300 ml cartridge 40 lb. pail	Translucent/ Colorless	Ultraviolet, moisture, acetoxy	Glass, metal, ceramic	145 g/min.*	170	A 55	-65°F (-54°C) to 350°F (177°C)	N/A
	5091™ NUVA-SIL®	17412 18074	300 ml cartridge 40 lb. pail	Translucent/ Colorless	Ultraviolet, moisture, acetoxy	Glass, metal, ceramic	5,500	100	A 34	-65°F (-54°C) to 350°F (177°C)	UL Classified for U.S.
	5240™ NUVA-SIL®	1010341 1010320 1010343	30 ml syringe 300 ml cartridge 40 lb. pail	Translucent/ White	Visible, ultraviolet, moisture	Glass, metal, ceramic	18,000	270	A 45	-65°F (-54°C) to 350°F (177°C)	ISO 10993 Compliant

ITEMS IN RED = Source's PICK or NEW

⊗ = Indicates Worldwide Availability

## The Electromagnetic Spectrum



Light curing adhesives must be exposed to light of the proper wavelength and intensity to cure. The UV and visible light wavelengths used to cure adhesives comprises a small portion of the complete electromagnetic spectrum shown. For the most effective cure, the spectral output of the light source used must match the adhesive pattern of light absorption. For more details, see Henkel's *Light Cure Technology Guide* (LT-2730/LT-2013).



# LOCTITE® Light Cure Adhesive Properties Chart

LOCTITE® PRODUCT		ITEM NUMBER	PACKAGE TYPE/SIZE	APPEARANCE, CLARITY & COLOR	CURE TYPE	KEY SUBSTRATES	VISCOSITY (cP), BROOKFIELD, 25°C	ELONGATION AT BREAK (%)	SHORE HARDNESS	TEMPERATURE RANGE	SHEAR STRENGTH (psi)
VISIBLE	3554™ INDIGO®	1072199 1072198	25 ml syringe 1 liter bottle	Clear/ Light Yellow	Visible	Polycarbonate, thermoplastic, polyvinyl chloride	300	7	D 77	-65°F (-54°C) to 300°F (149°C)	3,350³
	3555™ INDIGO®	1072221 1072220	25 ml syringe 1 liter bottle	Clear/ Light Yellow	Visible	Polycarbonate, thermoplastic, polyvinyl chloride	1,000	10	D 76	-65°F (-54°C) to 300°F (149°C)	2,350³
	3556™ INDIGO®	1072223 1072222	25 ml syringe 1 liter bottle	Clear/ Light Yellow	Visible	Polycarbonate, thermoplastic, polyvinyl chloride	5,000	29	D 70	-65°F (-54°C) to 300°F (149°C)	2,900³
ULTRAVIOLET/VISIBLE	3100™	19862	25 ml syringe	Slightly Hazy/ Straw	Ultraviolet, visible	Glass, metal, thermoset plastic	6,000	210	D 66	-65°F (-54°C) to 300°F (149°C)	1,670²
	3103™	23691 23692	25 ml syringe 1 liter bottle	Clear/ Pale Straw	Ultraviolet, visible	Polycarbonate, thermoplastic	10,000 Thixotropic	260	D 51	-65°F (-54°C) to 300°F (149°C)	2,849³
	3104™	23694	25 ml syringe	Clear/ Pale Straw	Ultraviolet, visible	Polycarbonate, thermoplastic, polyvinyl chloride	160	50	D 69	-65°F (-54°C) to 300°F (149°C)	3,155³
	3105™	23695 23696	25 ml syringe 1 liter bottle	Clear/ Pale Straw	Ultraviolet, visible	Polycarbonate, thermoplastic, polyvinyl chloride	300	265	D 64	-65°F (-54°C) to 300°F (149°C)	3,640³
	3106™	23697 23698	25 ml syringe 1 liter bottle	Clear/ Pale Straw	Ultraviolet, visible	Polycarbonate, thermoplastic, polyvinyl chloride	5,000	250	D 53	-65°F (-54°C) to 300°F (149°C)	3,392³
	3107™	28466	1 liter bottle	Clear/Straw/ Fluorescent	Ultraviolet, visible	Plasticized PVC, thermoplastic	500	220	D 27	-65°F (-54°C) to 300°F (149°C)	783⁴
	3494™	30765 29487	25 ml syringe 1 liter bottle	Clear/ Pale Straw	Ultraviolet, visible	Glass, metal	5,500	190	D 65	-65°F (-54°C) to 300°F (149°C)	2,440¹
	3525™	30220 30221	25 ml syringe 1 liter bottle	Clear/ Pale Straw/ Fluorescent	Ultraviolet, visible	Glass, metal, thermoset plastic	15,000	260	D 60	-65°F (-54°C) to 300°F (149°C)	1,480¹
	3526™	30756 30764	25 ml syringe 1 liter bottle	Clear/ Pale Straw/ Fluorescent	Ultraviolet, visible, heat	Glass, metal, thermoset plastic	17,500	185	D 62	-65°F (-54°C) to 300°F (149°C)	1,530¹
	3922™	32083 32047	25 ml syringe 1 liter bottle	Transparent to Hazy/ Fluorescent	Ultraviolet, visible	Glass, metal, thermoplastic, polycarbonate, polyvinyl chloride	300	135	D 66	-65°F (-54°C) to 300°F (149°C)	3,400³
	3926™	36492 36493	25 ml syringe 1 liter bottle	Transparent to Hazy/ Fluorescent	Ultraviolet, visible	Glass, metal, thermoplastic, polycarbonate	5,500	331	D 57	-65°F (-54°C) to 300°F (149°C)	2,910³
	3974™	1135733 1135732	25 ml syringe 1 liter bottle	Translucent/ Colorless	UV/Visible	Thermoplastic, thermoset plastic	2,400	100	A 77	-65°F (-54°C) to 300°F (149°C)	1,800³
	3979™	1402562 1402563	25 ml syringe 300 g cartridge	Translucent/ Straw	UV/Visible	Polycarbonate, polyvinyl chloride	56,500	227	D 56	-65°F (-54°C) to 300°F (149°C)	3,500³
ULTRAVIOLET	349™ IMPRUV®	34931 34990	50 ml bottle 1 liter bottle	Clear/Straw	Ultraviolet	Glass, metal	9,500	300	D 70	-65°F (-54°C) to 266°F (130°C)	1,600¹
	363™ IMPRUV®	36331 36390	50 ml bottle 1 liter bottle	Clear/ Pale Straw	Ultraviolet	Metal, thermoset plastic	250	88	D 50	-65°F (-54°C) to 356°F (180°C)	1,740¹
	3108™	28400 28465	25 ml syringe 1 liter bottle	Translucent/ Colorless	Ultraviolet	Thermoplastic, thermoset plastic	5,100	330	A 72	-65°F (-54°C) to 300°F (149°C)	2,090³
	3491™	28366 17944	25 ml syringe 1 liter bottle	Clear/ Pale Straw	Ultraviolet	Glass, metal	1,100	27	D 75	-65°F (-54°C) to 300°F (149°C)	1,450¹
	3751™ LITETAK®	21362 21363	25 ml syringe 1 liter bottle	Clear/ Colorless	Ultraviolet	Various	10,000	50	D 73	-65°F (-54°C) to 275°F (135°C)	700³
	352™	35241 35286	50 ml bottle 1 liter bottle	Clear/ Light Amber	Ultraviolet, heat, activator	Glass, metal	19,500	290	D 60	-65°F (-54°C) to 275°F (135°C)	2,400¹
	366™	36631 12224	50 ml bottle 1 liter bottle	Clear/ Light Amber	Ultraviolet, activator	Glass, metal	7,500	240	D 45	-65°F (-54°C) to 230°F (110°C)	1,450¹

ITEMS IN RED = Source's PICK or NEW

⊗ = Indicates Worldwide Availability

\* Grit-blasted steel.

<sup>1</sup> Grit-blasted steel to glass.

<sup>3</sup> Polycarbonate to polycarbonate.

<sup>1</sup> Extrusion rate, gram/minute, 1/8 in. orifice at 90 psi.

<sup>2</sup> Etched aluminum.


<sup>4</sup> Polycarbonate to PVC.




# Light Cure Adhesive Equipment





## YOUR EQUIPMENT Source

For more details, see the **LOCTITE® Equipment Sourcebook, LT-3669**, or visit us on the web for additional information, diagrams, products and our full line of equipment at [www.equipment.loctite.com](http://www.equipment.loctite.com).



LOCTITE® PRODUCT		ITEM NUMBER	USED TO DISPENSE	PACKAGE TYPE AND SIZES	MIX RATIOS	VISCOSITY RANGE	TYPE	CONSUMABLES – DISPENSE ACCESSORIES
HANDHELD APPLICATORS	SYRINGE DISPENSING							
		30 ML MANUAL SYRINGE APPLICATOR	1544934	Any fluid in 30 ml syringe including 25 ml syringes	30 ml syringe	N/A	Low to High	Manual








LOCTITE® PRODUCT		ITEM NUMBER	TYPE	VISCOSITY RANGE	DISPENSE PATTERNS	USED TO DISPENSE	STROKE ADJUSTMENT	ACTION	CONSUMABLES – DISPENSE ACCESSORIES	
HANDHELD VALVES	GENERAL-PURPOSE APPLICATORS									
		MANUAL HAND-HELD APPLICATOR	97111	Manual	Low to Medium	Drop, Dot, Bead	Light Cure/Acrylics, Retaining Compounds, Threadlockers	Yes	Finger	Dispense Tips and Accessories – Pages 176-177
		PNEUMATIC HAND-HELD APPLICATOR	97112	Pneumatic	Low to Medium	Drop, Dot, Bead	Light Cure/Acrylics, Retaining Compounds, Threadlockers	Yes	Foot	
		PNEUMATIC HAND-HELD APPLICATOR	97116	Pneumatic	Low to Medium	Drop, Dot, Bead	Light Cure/Acrylics, Retaining Compounds, Threadlockers	Yes	Finger	

LOCTITE® PRODUCT		ITEM NUMBER	TYPE	VISCOSITY RANGE	DISPENSE PATTERNS	USED TO DISPENSE	STROKE ADJUSTMENT	SUCK-BACK	CONSUMABLES – DISPENSE ACCESSORIES	
VALVES	HIGH PRECISION VALVES									
		MICRO NEEDLE VALVE	98084	High Precision	Low to Medium	Drop, Dot, Bead, Microdot	Light Cure/Acrylics	Yes	No	Dispense Tips and Accessories – Pages 176-177
		EQ VA30 JET VALVE	1850212	Non-Contact High Precision Jetting Valve	Low to High	Drop, Dot, Bead, Microdot	Light Cure Adhesives	No	No	1872279 – 75µm Nozzle Plate 1871880 – 125µm Nozzle Plate or 1871874 – 200µm Nozzle Plate
	HIGH PERFORMANCE DIAPHRAGM VALVES									
		VA10 MICRO DIAPHRAGM VALVE	1611449	High Performance Diaphragm	Low to Medium	Drop, Dot, Bead, Microdot	Instant Adhesives	Yes	No	Dispense Tips and Accessories – Pages 176-177
		LIGHT CURE DISPENSE VALVE	98009	High Performance Diaphragm	Low to Medium	Drop, Dot, Bead	Light Cure	Yes	No	




**EQUIPMENT** – Henkel is a full-service supplier of LOCTITE® branded equipment and offers a wide variety of equipment services to its customers. **For more LOCTITE® branded equipment, go to page 165.**





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**STRAIGHT FROM The Source**

LOCTITE® PRODUCT		ITEM NUMBER	DISPENSE PATTERNS	USED TO DISPENSE	PACKAGE TYPES & SIZES	VISCOSITY RANGE	VACUUM SUCK-BACK	CONSUMABLES – DISPENSE ACCESSORIES	
DISPENSE SYSTEMS	VOLUMETRIC BOTTLE DISPENSING								
		BENCHTOP PERISTALTIC DISPENSER	98548	Dot, Drop, Bead	Instant Adhesives, Light Cure/Acrylics, Retaining Compounds, Threadlockers	Any Bottle	0 to 5,000 cP	Programmable	Dispense Tips and Accessories – Pages 176-177
	COMPLETE PRESSURE-TIME BOTTLE DISPENSE SYSTEM								
		BOND-A-MATIC® 3000 DISPENSER 0-15 psi	982719	Dot, Drop, Bead	Gel Adhesives, Instant Adhesives, Light Cure/Acrylics, Retaining Compounds, Threadlockers	200 ml bottle 1 lb. bottle 1 liter bottle 2 kg bottle 200 g squeeze tube	Low	N/A	Dispense Tips and Accessories – Pages 176-177
		BOND-A-MATIC® 3000 DISPENSER 0-100 psi	982722				Medium to High		
	SYRINGE DISPENSING SYSTEMS								
		POSI-LINK™ DISPENSE SYSTEM	See Page 169	Dot, Drop, Bead	Gel Adhesives, Instant Adhesives, Light Cure/Acrylics, Epoxies	Prepackaged 5 ml syringe 10 ml syringe 25 ml syringe	Low to Paste	Yes	Dispense Tips and Accessories – Pages 176-177
		PRECISION SYRINGE DISPENSING SYSTEM	97006*	Dot, Drop, Bead	Gel Adhesives, Instant Adhesives, Light Cure/Acrylics	3 ml syringe 5 ml syringe 10 ml syringe 30 ml syringe 55 ml syringe	Low to Paste	Yes	Syringes – Pages 181-182
		DIGITAL SYRINGE DISPENSING SYSTEM	883976						
		SD10 DIGITAL SYRINGE DISPENSER	1514629						
		FOOT PEDAL DISPENSER	98050*						

\* Syringe Airline Adapter sold separately. Visit [www.equipment.loctite.com](http://www.equipment.loctite.com) for all available accessories.

LOCTITE® PRODUCT		ITEM NUMBER	PRESSURE REGULATION	USED TO DISPENSE	PACKAGE TYPE & SIZES	VISCOSITY RANGE	LOW LEVEL SENSING	CONSUMABLES – DISPENSE ACCESSORIES
DISPENSE SYSTEMS	PNEUMATIC CARTRIDGE DISPENSING							
	 300 ML PNEUMATIC CARTRIDGE DISPENSING RETAINER	98319A	0 to 60 psi	Gel Cyanoacrylates, Anaerobic Gasketing, Light Cure/Acrylics, Silicones	300 ml cartridges	Low to Medium	No	Cartridge Accessories – Page 177
	 HD10 300 ML PNEUMATIC CARTRIDGE DISPENSER	1714379	0 to 60 psi	Gel Cyanoacrylates, Anaerobic Gasketing, Light Cure Acrylics, Silicones	300 ml cartridges 250 ml tubes	Medium to High	No	
	 300 ML CARTRIDGE PUSHER	98022	0 to 50 psi	Gel Cyanoacrylates, Anaerobic Gasketing, Light Cure/Acrylics, Low Viscosity Silicones	300 ml cartridges 250 ml tubes	Medium	Yes	

LOCTITE® PRODUCT		ITEM NUMBER	PRESSURE REGULATION	USED TO DISPENSE	PACKAGE TYPES & SIZES	VISCOSITY RANGE	LOW LEVEL SENSING	CONSUMABLES – DISPENSE ACCESSORIES	
CONTROLLERS & RESERVOIRS	INTEGRATED RESERVOIR CONTROLLERS								
		INTEGRATED SEMI-AUTOMATIC DISPENSER	1390322	0 to 15 psi	Gel Adhesives, Instant Adhesives, Light Cure/Acrylics, Retaining Compounds, Threadlockers	250 ml bottle 1 lb. bottle 1 liter bottle 2 kg bottle 200 g squeeze tube	Low to Medium	No	Dispense Tips and Accessories – Pages 176-177
		1390321	0 to 100 psi	Medium to High			No		
	RESERVOIRS								
		BOND-A-MATIC® 3000 RESERVOIR	982720	0 to 15 psi	Gel Adhesives, Instant Adhesives, Light Cure/Acrylics, Retaining Compounds, Threadlockers	250 ml bottle 1 lb. bottle 1 liter bottle 2 kg bottle 200 g squeeze tube	Low to Medium	Yes	Dispense Tips and Accessories – Pages 176-177
			982726					No	
			982723	0 to 100 psi			Medium to High	Yes	
			982727					No	
		SHOT MISER™ RESERVOIR	98090	0 to 100 psi	Instant Adhesives, Light Cure/Acrylics, Retaining Compounds, Threadlockers	250 ml bottle 1 lb. bottle 200 g squeeze tube	Low to High	No	Use with LOCTITE® VA 30 Jet Valve – 1850212
		EQ VA30 JET CONTROLLER	1850211	0 to 100 psi	Light Cure Adhesives	10, 30, 55 ml Syringes	Low to High	No	

ITEMS IN RED = Source's PICK or NEW

Your Source for Motion Control Robot Dispense Systems. See page 171.









# Light Cure Adhesive Equipment





## YOUR EQUIPMENT Source




For more details, see the **LOCTITE® Equipment Sourcebook, LT-3669**, or visit us on the web for additional information, diagrams, products and our full line of equipment at [www.equipment.loctite.com](http://www.equipment.loctite.com).



LOCTITE® PRODUCT		ITEM NUMBER	CONTROLLED OUTPUTS	NUMBER OF DISPENSE VALVES	ADVANCING SLIDE	ROTOSPRAY™	ACCESSORIES
MULTIFUNCTION CONTROLLERS		DUAL CHANNEL AUTOMATIC CONTROLLER	97152	2	2 (Independent)	97119 – 100 mm	97115
		DIGITAL MULTIFUNCTIONAL CONTROLLER	1022006	3	3 (Independent)	N/A	In conjunction with Positive Displacement Pump – 983330
SINGLE FUNCTION CONTROLLERS		DIGITAL DISPENSE CONTROLLER	97101	1	1	N/A	N/A

LOCTITE® PRODUCT		ITEM NUMBER	LAMP TYPE	
LIGHT CURE UV BULB SYSTEMS	ENCLOSED CHAMBER AND FLOOD SYSTEMS			
		ZETA® 7401 UV CHAMBER	98039	400-watt Metal Halide
		ZETA® 7411-S UV FLOOD SYSTEM	98413	400-watt Metal Halide
		FOCUSED UV FLOOD CURING SYSTEM	1113131	400-watt Metal Halide

LOCTITE® PRODUCT		ITEM NUMBER	LAMP TYPE	
LIGHT CURE SYSTEMS	CURE CONVEYORS			
		ZETA® 7415 UV BENCHTOP CONVEYOR	98003	300 W/in Electrodeless (sold separately)
		UV CURING CONVEYOR	1241543	1800-watt Medium Pressure Mercury Arc Lamp
	LIGHT SOURCES			
		ELECTRODELESS LAMP ASSEMBLY AND POWER SUPPLY	98004 (208 VAC) 98005 (240 VAC)	300 W/in Electrodeless
		HIGH INTENSITY ULTRAVIOLET SOURCES	980160	1500-watt Medium Pressure Mercury Arc Lamp

LOCTITE® PRODUCT		ITEM NUMBER	WAVELENGTH	OPTIONS/ACCESSORIES	
LIGHT METERS	LIGHT METERS				
		RADIOMETER DOSIMETER FOR VISIBLE LED AND UVV LIGHT	1265282	350 nm to 500 nm	Calibration services are available
		RADIOMETER DOSIMETER FOR UV LED AND UV A/B LIGHT	1390323	320 nm to 400 nm	Calibration services are available
		7020 UV SPOT RADIOMETER	1406024	280 nm to 400 nm	Calibration services are available

**EQUIPMENT** – Henkel is a full-service supplier of LOCTITE® branded equipment and offers a wide variety of equipment services to its customers. **For more LOCTITE® branded equipment, go to page 165.**

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**STRAIGHT FROM The Source**

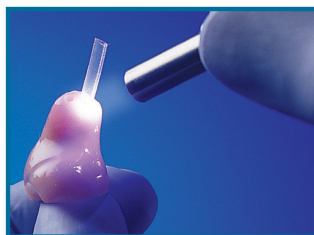
**WEAR EYE PROTECTION**

For proper eye protection, use LOCTITE® brand ultraviolet safety glasses.



Item No. 98452

**ADDITIONAL  
RESOURCES**



LOCTITE® PRODUCT		ITEM NUMBER	WAVELENGTH	OPTIONS/ACCESSORIES	
SPOT/WAND SYSTEMS	LED CURING DEVICES				
		CUREJET™ 375 LED	1369539	LED – 375 nm	Used with 1364033 or 1180632
		CUREJET™ 405 LED	1369538	LED - 405 nm	Used with 1364033 or 1180632
		CUREJET™ INDIGO® LED	1369537	LED - Proprietary Indigo Wavelength	Used with 1364033 or 1180632
		LED CONTROLLER	1364033	N/A	Used with all CUREJET™ LEDs
		CUREJET™ QUAD CONTROLLER	1180632	N/A	Used with all CUREJET™ LEDs
		7700 LED LIGHT SOURCE	1427231	LED - 405 nm	OPTIONAL: Foot Switch – 98440; Holder – 98522; Radiometer Dosimeter for Visible LED and UVW Light – 1265282; Dosimeter Adapter – 1403405
		7700-HD LED LIGHT SOURCE	1427232		
		7703 LED LIGHT SOURCE	806038	LED - Proprietary Indigo Wavelength	ONE OF THE FOLLOWING IS REQUIRED: Timer – 960356; PLC Cable – 8900550; Foot Switch – 97201; Pistol Grip Timer – 1003327
		7703-HD LED LIGHT SOURCE	883979		
		EQ CL10 SINGLE LED CONTROLLER	1514636	N/A	ONE OF THE FOLLOWING IS REQUIRED – sold separately: 6 mm Spot Dia. 365 nm. 2.7 meter cable – 1538499 6 mm Spot Dia. 405 nm. 2.7 meter cable – 1746633
		EQ CL10 QUAD LED CONTROLLER	1514634	N/A	
		EQ CL15 UV WAND SYSTEM	1661548	N/A	REQUIRES Light Guide 983677, 983684 or 951681 – sold separately
FLOOD/LINE SYSTEMS		LED FLOOD CONTROLLER	1359255	N/A	Used with 1167582, 1167589 or 1167593
		LED FLOOD CURE, 375	1167582	LED – 375 nm	Used with 1359255 in conjunction with cable 13333333
		LED FLOOD CURE, INDIGO®	1167589	LED – Indigo Wavelength	Used with 1359255 in conjunction with cable 13333333
		LED FLOOD CURE, 405	1167593	LED – 405 nm	Used with 1359255 in conjunction with cable 13333333
		LED SINGLE LINE ARRAY CONTROLLER	1447728	N/A	Requires Line Array cable (1483245) and one of the following – sold separately LED Line Array 405 nm Light Source – 1449336 LED Line Array 365 nm Light Source – 1449337

ITEMS IN RED = Source's PICK or NEW

Your Source for Motion Control Robot Dispense Systems. See page 171.

# Solvent-Based & Specialty Adhesives



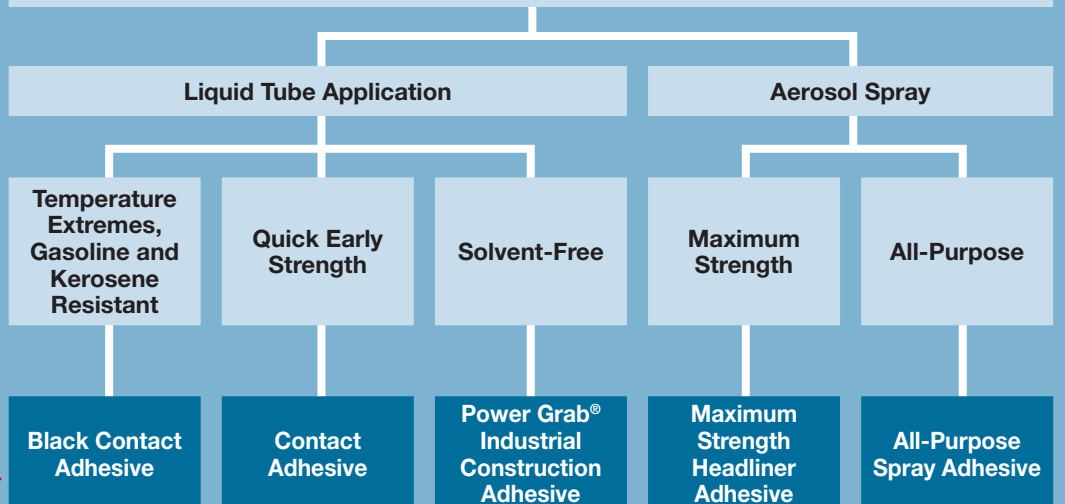
## Your Application

To meet tough on-the-job requirements, LOCTITE® solvent-based aerosol and liquid adhesives provide a combination of:

- Cure speed
- Impact resistance
- Strength
- Temperature range
- Solvent and moisture resistance

## Solution

### WHAT TYPE OF APPLICATION PROCESS WOULD YOU PREFER?



Color	Black	Yellow	Clear	Clear	Clear
Temperature Range	Up to 180°F (82°C)	Up to 180°F (82°C)	Up to 120°F (49°C)	Up to 170°F (77°C)	Up to 120°F (49°C)
Fixture Time (min.)	2 to 3	2 to 3	20	15 to 20	15 to 20
Agency Approvals	CFIA Listed	CFIA Listed	N/A	N/A	N/A

## Product Description

### LOCTITE® Black Contact Adhesive

A professional, solvent-based adhesive with neoprene that blends in with black-colored fabrics, rubbers, weather stripping and other porous materials. Withstands temperature extremes and is resistant to gasoline, kerosene and other solvents. Fast drying and waterproof. Allows repositioning of the parts after initial contact.

**P/N Package Size**  
30540 5 fl. oz. tube - Black

### LOCTITE® Contact Adhesive

A fast drying, solvent-based adhesive with neoprene that bonds rubber, insulation, weather stripping and other porous materials. Sets to a tack-free surface in 3-4 minutes, and the early strength is enough to hold most parts together. Allows repositioning of the parts after initial contact.

**P/N Package Size**  
30537 5 fl. oz. tube - Yellow

### LOCTITE® Power Grab® Industrial Construction Adhesive

Single-component, off-white, heavy duty, high strength, construction grade adhesive for interior and exterior repairs or building projects.

**P/N Package Size**  
1804373 300 ml cartridge

### LOCTITE® Maximum Strength Headliner Adhesive

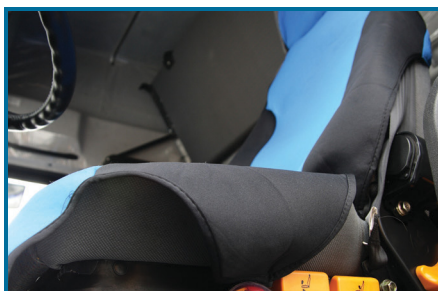
A high strength, aerosol product designed for bonding foam, carpet, fabrics, plastics, rubber, etc. LOCTITE® Maximum Strength Headliner Adhesive is resistant to extreme seasonal temperatures, is water resistant and sprays on clear.

**P/N Package Size**  
37312 16.75 oz. net wt. aerosol

### LOCTITE® All-Purpose Spray Adhesive

Bonds lightweight, porous and nonporous surfaces. Allows for repositionable and permanent bonds. Fast drying; won't shrink or bleed. Resists water and humidity. Contains no ozone-depleting compounds.

**P/N Package Size**  
30544 10.5 oz. net wt. aerosol



## LOCTITE® Solvent-Based Adhesive Properties Chart

	LOCTITE® PRODUCT	ITEM NUMBER	PACKAGE TYPE/SIZE	COLOR/APPEARANCE	TEMPERATURE RANGE	FIXTURE/BOND TIME	FULL CURE	COMMON SURFACES ADHESIVE WILL BOND	AGENCY APPROVALS
SOLVENT-BASED	BLACK CONTACT ADHESIVE	30540	5 fl. oz. tube	Black Gel	Up to 180°F (82°C)	Let breathe 2-3 minutes; sets up in 5-15 minutes.	24 hours at ambient temperature	Weather stripping, vinyl, rubber, wood and metal	CFIA Listed
	CONTACT ADHESIVE	30537	5 fl. oz. tube	Yellow Gel	Up to 180°F (82°C)				CFIA Listed
SPRAY ADHESIVES	MAXIMUM STRENGTH HEADLINER ADHESIVE	37312	16.75 oz. net wt. aerosol	Clear Drying, Semitranslucent Foam	Up to 170°F (77°C)	Let dry 15-20 minutes before assembly. Spray both sides to be bonded for maximum strength.	24 hours at ambient temperature	Foam, carpet, fabrics, plastics and rubber	N/A
	ALL-PURPOSE SPRAY ADHESIVE	30544	10.5 oz. net wt. aerosol	Clear Drying, Semitranslucent Foam	Up to 120°F (49°C)				N/A

## LOCTITE® Specialty Adhesive Properties Chart

	LOCTITE® PRODUCT	ITEM NUMBER	PACKAGE TYPE/SIZE	FEATURES	COLOR	VISCOSITY	SHEAR STRENGTH (psi)	WORKING TIME (min.)	FIXTURE TIME (min.)	FULL CURE (hrs.)	MAXIMUM TEMPERATURE
SPECIALTY PRODUCTS	POWER GRAB® INDUSTRIAL	1804373	300 ml cartridge	General-purpose construction adhesive	Clear	Paste	800*	15	20	24	120°F (49°C)

\* Pine (wet).

Visit the web for an all-access pass to locate your nearest LOCTITE® distributor, obtain MSDSs and Technical Data Sheets, literature, and product application assistance. Or call us:  
In U.S., please call 1-800-LOCTITE (562-8483);  
In Canada, please call 1-800-263-5043.

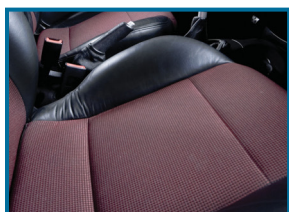
[www.henkelna.com/loctite](http://www.henkelna.com/loctite)

**STRAIGHT FROM** *The Source*

### THE BOND WILL BE INSTANT

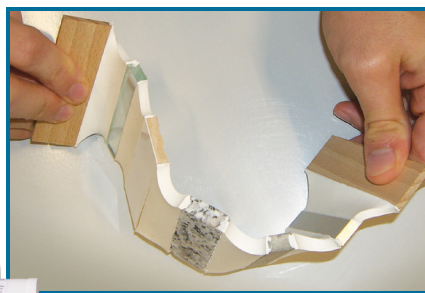
For faster fixturing of these solvent-based contact adhesives, apply the adhesive to one side of both parts, and allow to breathe for one to two minutes. When the surface starts to appear dry, apply a small additional amount of adhesive to one side and assemble the sides together.

**HELPFUL HINTS**





# Elastomeric Adhesives for Bonding & Sealing



## Your Application

## ARE YOU BONDING OR SEALING?

### Bonding

### One-Part

#### General-Purpose

#### Primerless Adhesion

#### Fast Skinning

## Solution

**TEROSON® MS 930™**

**LOCTITE® 5570™**

**LOCTITE® 5572™**

**TEROSON 9380™**

**LOCTITE® 5512™**

Color	White, Grey, Black	White	Black	White	Black
Temperature Range	-58°F (-50°C) to 176°F (80°C)	-40°F (-40°C) to 200°F (93°C)	-40°F (-40°C) to 200°F (93°C)	-40°F (-40°C) to 212°F (100°C)	-40°F (-40°C) to 200°F (93°C)
Cure Method	Moisture	Moisture	Moisture	Moisture	Moisture
Tensile Strength (psi)	1.0	250 to 380	475	580 (b)	450

## Product Description

### TEROSON® MS 930™

Designed for elastic seam and joint sealing, and bonding and coating of most metals and plastics. It is primerless, offers good UV and weather resistance, is paintable after applied and is solvent and isocyanate-free.

P/N	Package Size*
261896	310 ml cartridge, black
264872	310 ml cartridge, white
100139	310 ml cartridge, grey
877629	20 kg pail, black
237971	250 kg drum, black
1469604	250 kg drum, white
1806598	570 ml sausage, black
1806594	570 ml sausage, white
1806587	570 ml sausage, grey

### LOCTITE® 5570™ Adhesive

A strong bonding adhesive based on Flextec® Technology with elastic properties for bonding dissimilar substrates. High initial tack and fast setting make it ideal for high productivity applications.

P/N	Package Size*
1565679	300 ml cartridge, white

### LOCTITE® 5572™ Adhesive

This product exhibits the highest shear strength on a majority of substrates versus the other products in this line.

P/N	Package Size
877568	300 ml cartridge, black
877630	5 gallon pail, black

### TEROSON 9380™

Designed for elastic bonding and sealing. High strength, elastomeric adhesive with fast skin time and excellent UV resistance.

P/N	Package Size
1845176	290 ml cartridge, white
1340740	25 kg pail, white

### LOCTITE® 5512™ Sealant

A heavy bodied modified silane, non-isocyanate sealant that exhibits high elongation and tensile strength. With primerless adhesion to most substrates, this product has universal application.

P/N	Package Size
877569	300 ml cartridge, black
877641	50 lb. pail, black

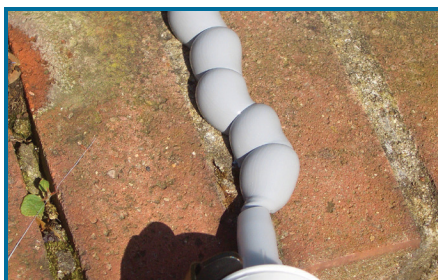
- Exhibit high resiliency while maintaining high tensile strength and good adhesion to many substrates – all without the use of a primer
- Ideal for bonding and sealing a multitude of substrates
- Silicones exhibit the highest temperature resistance compared to other products in this section
- Use Elastomeric Adhesives when joint flexibility – coefficient of thermal expansion (CTE) – is required

### ADDITIONAL PRODUCTS AVAILABLE

Terostat® MS 9371™ B	B-component (hardener) for 2-component curing. Tersostat MS 9371™ B is an accelerator paste for Terostat MS adhesives and sealants.
Terostat® 450™	Alcohol solution designed for cleaning and to improve adhesion (thin fluid, colorless).

\* Pail and drums available made-to-order.

\*\* Uncarded tubes, sold as full cases of 100 pieces.



Sealing						
Two-Part			One-Part			
Unlimited Depth of Cure	Noncorrosive	Primerless Adhesion	RTV	Mildew Resistant	Super Fast	
TEROSON® MS 939™	LOCTITE® 5590™	LOCTITE® 5600™	LOCTITE® 5510™	LOCTITE® Superflex®	LOCTITE® SpeedSeal™	TEROSON® 9320™ SuperFast
White, Grey, Black	White, Black	Black, Grey, Almond	White, Grey, Black, Clear	White, Black, Clear	Clear, White	Grey
-40°F (-40°C) to 200°F (93°C)	-40°F (-40°C) to 200°F (93°C)	-40°F (-40°C) to 450°F (232°C)	-40°F (-40°C) to 200°F (93°C)	-65°F (-54°C) to 450°F (232°C)	-40°F (-40°C) to 250°F (121°C)	-22°F (-30°C) to 194°F (90°C)
Moisture	2-Component Mix	2-Component Mix	Moisture	Moisture	Moisture	Moisture
450	435	250	250	115	115	260 (b)

#### TEROSON® MS 939™

Designed for elastic seam and joint sealing, and bonding and coating of most metals and plastics. It is primerless, offers good UV and weather resistance, is paintable after applied and is solvent and isocyanate-free.

P/N	Package Size
1874234	290 ml cartridge, black
1874221	290 ml cartridge, white
1872620	290 ml cartridge, grey
388927	25 kg pail, black
504842	250 kg drum, black
1802819	570 ml sausage, black
212653	570 ml sausage, white
1806588	570 ml sausage, grey

#### LOCTITE® 5590™ Adhesive

A two-component adhesive for elastic bonding where the curing rate of one-component adhesives is too slow. The mixed adhesive is non-sag, has high tack and fast set time. The cured product provides durable bonding to a wide variety of substrates.

P/N	Package Size
1091896	400 ml dual cartridge, black
1684604	400 ml dual cartridge, white
1306969	29 kg pail, part A, black
1306968	29 kg pail, part B, black

#### LOCTITE® 5600™ Silicone Sealant

##### Two-Part, Noncorrosive

Fast, 5-minute fixture, high adhesion, flexible adhesive/sealant. Available in Black, Grey and Almond.

P/N	Package Size
41327	440 lb. drum, A, black
41732	575 lb. drum, B, white
922122	4.5 gallon pail, A, black
922089	3.5 gallon pail, B, white
922546	400 ml dual cartridge, black
922129	440 lb. drum, A, grey
41732	575 lb. drum, B, white
922128	4.5 gallon pail, A, grey
922089	3.5 gallon pail, B, white
922544	400 ml dual cartridge, grey
924107	4.5 gallon pail, A, almond
922089	3.5 gallon pail, B, white

#### LOCTITE® 5510™ Adhesive/Sealant

A multipurpose product based on Flextec® Technology suitable for many adhesive and sealant applications. It offers a fast skin time and cures to a tack-free surface. Its outstanding adhesion and toughness make it ideal for bonding and sealing between dissimilar substrates that are subjected to joint movement or impact.

P/N	Package Size*
1562042	300 ml cartridge, white
1562040	300 ml cartridge, clear
1560557	300 ml cartridge, black
1562044	300 ml cartridge, grey
1567698	40 lb. pail, clear
1567697	50 lb. pail, white
1567506	50 lb. pail, grey
1567663	50 lb. pail, black
1578971	190 kg drum, clear
1579070	250 kg drum, grey
1579002	250 kg drum, black
1578972	250 kg drum, white

#### LOCTITE® Superflex® RTV Silicone Adhesive Sealant

This silicone product has excellent adhesion to most substrates. Key features are resistance to extreme thermal and UV cycling without hardening, shrinking or cracking.

P/N	Package Size
193996	80 ml tube, black
193997	300 ml cartridge, black
743519	190 ml can, black
1266142	0.5 oz. tube**, clear
160809	80 ml tube, clear
193999	300 ml cartridge, clear
743915	190 ml can, clear
135506	80 ml tube, white
193998	300 ml cartridge, white
743541	190 ml can, white

#### LOCTITE® SpeedSeal™ Silicone Sealant

##### Mold- and Mildew-Resistant, Fast Waterproof Seal

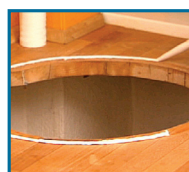
Creates a tough, watertight, mildew-resistant seal on a wide range of substrates. Withstands water contact just two hours after application.

P/N	Package Size
1311327	300 ml cartridge, clear
1312042	300 ml cartridge, white

#### TEROSON® 9320™ SuperFast

Sealing system with super fast curing and excellent overpaintability. No cracks, no rust penetration. Unique application system (patent applied).

P/N	Package Size
1899447	300 ml cartridge, grey



## LOCTITE® Elastomeric Adhesive & Sealant Properties Charts

LOCTITE® PRODUCT		ITEM NUMBER	PACKAGE TYPE/SIZE	COLOR/ MIX RATIO	TYPICAL USE	GAP FILL	EXTRUSION RATE (g/min.)	TEMP. RANGE	CURE METHOD	CURE SPEED**	SPECIFIC GRAVITY	SHORE HARDNESS	% ELONGATION	TENSILE STRENGTH² (psi)	STATIC MIXER	AGENCY APPROVALS
NONCORROSIVE, 2-PART SILICONE	5600™	Part A - 41327 Part B - 41732	440 lb. drum 575 lb. drum	Black/ 2:1 A:B by volume	High adhesion, fast fixture	Unlimited	N/A	-40°F to 450°F (-40°C to 232°C)	Two- part	Tack- Free – 10 min.	1.40	A 40	200	250	874905	UL Listed for U.S.
		Part A - 922122 Part B - 922089	4.5 gallon pail 3.5 gallon pail													
		922546	400 ml dual cartridge													
		Part A - 922129 Part B - 41732	440 lb. drum 575 lb. drum	Grey/ 2:1 A:B by volume	High adhesion, fast fixture	Unlimited	N/A	-40°F to 450°F (-40°C to 232°C)	Two- part	Tack- Free – 10 min.	1.40	A 40	200	250	874905	UL Listed for U.S.
		Part A - 922128 Part B - 922089	4.5 gallon pail 3.5 gallon pail													
		922544	400 ml dual cartridge													
		Part A - 924107 Part B - 922089	4.5 gallon pail 3.5 gallon pail	Almond/ 2:1 A:B by volume	High adhesion, fast fixture	Unlimited	N/A	-40°F to 450°F (-40°C to 232°C)	Two- part	Tack- Free – 10 min.	1.40	A 40	200	250	874905	UL Listed for U.S.
	5604™	Part A - 41327 Part B - 1112888	440 lb. drum 575 lb. drum	Black/ 4:1 A:B by volume	High adhesion, fast fixture	Unlimited	N/A	-40°F to 450°F (-40°C to 232°C)	Two- part	Tack- Free – 10 min.	1.40	A 40	200	250	874905	UL Listed for U.S.
		1138258	400 ml dual cartridge													
		Part A - 922129 Part B - 1112888	440 lb. drum 575 lb. drum	Grey/ 4:1 A:B by volume	High adhesion, fast fixture	Unlimited	N/A	-40°F to 450°F (-40°C to 232°C)	Two- part	Tack- Free – 10 min.	1.40	A 40	200	250	874905	N/A
		Part A - 924107 Part B - 1112888	4.5 gal. pail 575 lb. drum	Almond/ 4:1 A:B by volume	High adhesion, fast fixture	Unlimited	N/A	-40°F to 450°F (-40°C to 232°C)	Two- part	Tack- Free – 10 min.	1.40	A 40	200	250	874905	N/A
		5605™	1250155	400 ml dual cartridge	Grey/ 4:1 A:B by volume	General- purpose, high adhesion, fast fixture, noncorrosive, easy gunning	Unlimited	N/A	-40°F to 450°F (-40°C to 232°C)	Two- part	Tack- Free – 10 min.	1.375	A 40	240	270	874905
	Part A - 1253201 <sup>1</sup> Part B - 1251677		4.5 gallon pail 3.5 gallon pail													
	Part A - 1253202 <sup>2</sup> Part B - 1250758		440 lb. drum 575 lb. drum													
	5606™	1250154	400 ml dual cartridge	Grey/ 4:1 A:B by volume	General- purpose, high adhesion, fast fixture, noncorrosive, easy gunning	Unlimited	N/A	-40°F to 450°F (-40°C to 232°C)	Two- part	Tack- Free – 15 min.	1.375	A 38	170	260	874905	UL 94 HB
		Part A - 1253201 <sup>1</sup> Part B - 1250755	4.5 gallon pail 3.5 gallon pail													
		Part A - 1253202 <sup>2</sup> Part B - 1250156	440 lb. drum 575 lb. drum													
	5607™	1252929	400 ml dual cartridge	Grey/ 2:1 A:B by volume	General- purpose, high adhesion, fast fixture, noncorrosive, easy gunning	Unlimited	N/A	-40°F to 450°F (-40°C to 232°C)	Two- part	Tack- Free – 45 min.	1.425	A 43	150	225	874905	N/A
		Part A - 1253201 <sup>1</sup> Part B - 1250756	4.5 gallon pail 3.5 gallon pail													
		Part A - 1253202 <sup>2</sup> Part B - 1250757	440 lb. drum 575 lb. drum													

LOCTITE® PRODUCT		ITEM NUMBER	PACKAGE TYPE/SIZE	COLOR	CONSISTENCY	OIL RESISTANCE	TEMPERATURE RANGE (INTERMITTENT)	SEALING TIME	AGENCY APPROVALS	
SEALING / DRESSINGS FOR EXISTING GASKETS	NONCORROSIVE	<b>SPEEDSEAL™ SILICONE SEALANT</b>	1311327 1312042	300 ml cartridge 300 ml cartridge	Clear White	Paste	N/A	-40°F to 250°F (-40°C to 121°C)	Watertight – 2 hrs.	ISO 846
		<b>5510™</b>	1562042 1567697* 1578972*	300 ml cartridge 50 lb. pail 250 kg drum	White	Paste	Not recommended for oils of fuels	-40°F to 200°F (-40°C to 93°C)	1 to 7 days	N/A
			1562040 1567698* 1578971*	300 ml cartridge 40 lb. pail 190 kg drum	Clear					
			1560557 1567663* 1579002*	300 ml cartridge 50 lb. pail 250 kg drum	Black					
			1562044 1567506* 1579070*	300 ml cartridge 50 lb. pail 250 kg drum	Grey					
		<b>5512™</b>	877569 877641	300 ml cartridge 50 lb. pail	Black	Paste	Not recommended for oils of fuels	-40°F (-40°C) to 200°F (93°C)	1 to 7 days	N/A

LOCTITE® PRODUCT		ITEM NUMBER	PACKAGE TYPE/SIZE	COLOR	CONSISTENCY	OIL RESISTANCE	TEMPERATURE RANGE (INTERMITTENT)	SEALING TIME	AGENCY APPROVALS
SUPERFLEX® RTV SILICONES	SUPERFLEX® RTV SILICONE ADHESIVE SEALANT	193996 193997 743519	80 ml tube 300 ml cartridge 190 ml can	Black	Paste	N/A	-65°F to 450°F (-54°C to 232°C)	Tack-Free – 30 min. Full Strength – 24 hrs.	CFIA Listed
		1266142 160809 193999 743915	0.5 oz. tube** 80 ml tube 300 ml cartridge 190 ml can	Clear					UL Listed for U.S., NSF/ANSI 51, CFIA
		135506 193998 743541	80 ml tube 300 ml cartridge 190 ml can	White					CFIA Listed

ITEMS IN RED = Source's PICK or NEW

\* Made-to-order item. \*\* Varies with substrates. <sup>1</sup> Extrusion rate at 73°F, 3.5 mm diameter, 3 bar, for 15 seconds. <sup>2</sup> Grit-blasted steel.

<sup>†</sup> 5600™ Series – Part A (1253201) can be used with 5605™, 5606™, 5607™ – Part B (3.5 gallon pail).

<sup>††</sup> 5600™ Series – Part A (1253202) can be used with 5605™, 5606™, 5607™ – Part B (575 lb. drum).

## LOCTITE® Elastomeric Adhesive & Sealant Properties Chart

LOCTITE® PRODUCT		ITEM NUMBER	PACKAGE TYPE/SIZE	COLOR	EXTRUSION RATE¹ (g min.)	CURE METHOD	SKIN TIME (min.)	TEMPERATURE RANGE	SHORE HARDNESS	TENSILE STRENGTH² (psi)	ELONGATION AT BREAK (%)	SHEAR STRENGTH ON STEEL (psi)
ELASTOMERIC ADHESIVES	5570™	1565679 1567505* 1578969*	300 ml cartridge 50 lb. pail 250 kg drum	White	150	Moisture	30	-40°F (-40°C) to 200°F (93°C)	A 55	380	230	400
	5572™	877568 877630	300 ml cartridge 5 gallon pail	Black	90	Moisture	12	-40°F (-40°C) to 200°F (93°C)	A 55	475	225	425
	5590™	1091896 1684604	400 ml dual cartridge 400 ml dual cartridge	Black White	N/A	Two-Component Static Mix	25	-40°F (-40°C) to 200°F (93°C)	A 60	435	130	290
	5590™ PART A	1306969	29 kg pail	Black								
	5590™ PART B	1306968	29 kg pail	Black								
	TEROSON® 9320™ SUPERFAST	1899447	300 ml cartridge	Grey	NA	Moisture	10 to 20	-22°F (-30°C) to 194°F (90°C)	30	260 (b)	300	200
	TEROSON® 9380™	1845176 1340740	290 ml cartridge 25 kg pail	White	NA	Moisture	5 to 10	-40°F (-40°C) to 212°F (100°C)	65	580 (b)	120% (b)	360
	TEROSON® MS 930™†	261896 264872 100139 877629 237971 1469604 1806598 1806594 1806587	310 ml cartridge 310 ml cartridge 310 ml cartridge 20 kg pail 250 kg drum 250 kg drum 570 ml sausage 570 ml sausage 570 ml sausage	Black White Grey Black Black White Black White Grey	NA	Moisture	25 to 40	-58°F (-50°C) to 176°F (80°C)	30	1	250	120
	TEROSON® MS 939™†	1874234 1874221 1872620 388927 504842 1802819 212653 1806588	290 ml cartridge 290 ml cartridge 290 ml cartridge 25 kg pail 250 kg drum 570 ml sausage 570 ml sausage 570 ml sausage	Black White Grey Black Black Black White White Grey	90	Moisture	5	-40°F (-40°C) to 200°F (93°C)	A 55	390	500	270

ITEMS IN RED = Source's PICK or NEW







\* Made-to-order item. \*\* Uncured tubes, sold as full cases of 100 pieces.



† Approval: UL Classified/Listed for the U.S.

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Elastomeric Adhesives  
for Bonding & Sealing

## Elastomeric Equipment

LOCTITE® PRODUCT	ITEM NUMBER	PRESSURE REGULATION	USED TO DISPENSE	PACKAGE TYPE & SIZES	VISCOSITY RANGE	LOW LEVEL SENSING	CONSUMABLES – DISPENSE ACCESSORIES
MANUAL CARTRIDGE DISPENSING							
 <b>MANUAL CARTRIDGE APPLICATOR 300 ML</b>	1093940	N/A	Henkel Construction Adhesives, Caulking products in 10 oz. caulking tubes	300 ml cartridges	Medium to High	N/A	Cartridge Accessories – Page 177
PNEUMATIC CARTRIDGE DISPENSING							
 <b>HD10 300 ML PNEUMATIC CARTRIDGE DISPENSER</b>	1714379	0 to 60 psi	Gel Cyanoacrylates, Anaerobic Gasketing, Light Cure/Acrylics, Silicones	300 ml cartridges 250 ml tubes	Medium to High	No	Cartridge Accessories – Page 177
 <b>HIGH PRESSURE 300 ML BENCHTOP CARTRIDGE DISPENSER</b>	1046901	0 to 725 psi	Silicone, Polyurethane, MS Polymer Adhesives	290 ml cartridges 300 ml cartridges 310 ml cartridges	10,000 to 1,000,000 cP	Yes	Use with High Pressure Dispense Valve (sold separately) – see below
 <b>SOFT PRESS HAND HELD PNEUMATIC APPLICATOR</b>	250052	0 to 125 psi	Adhesive Packaged in Soft Packs	Soft Pack	Low to High	N/A	582416 – Soft Press Pneumatic Applicator Nozzle (1)
 <b>TEROSON® MULTIPRESS TELESCOPIC DISPENSER</b>	142241	0 to 145 psi	Sprayable SMP Adhesives	300 ml Cartridge	Low to High	N/A	547882 –Pneumatic Spray Applicator Nozzle Kit (12)
 <b>TEROSON® POWERLINE II 300 ML DISPENSER</b>	960304	0 to 100 psi	MS Polymer Polyurethane	300/310 ml Cartridge	Medium to Very High	N/A	Cartridge Accessories – Page 177

LOCTITE® PRODUCT	ITEM NUMBER	TYPE	VISCOSITY RANGE	DISPENSE PATTERNS	USED TO DISPENSE	STROKE ADJUSTMENT	SUCK-BACK	CONSUMABLES – DISPENSE ACCESSORIES
HIGH VISCOSITY FLUID & PASTE VALVES								
 <b>VA 25 DISPENSE VALVE – 50 BAR</b>	1838885	High Viscosity Fluid and Paste Valves	10,000 to 1,000,000 cP	Drop, Bead	Silicones, MS Polymers, Urethanes	Yes	Yes	Dispense Tips and Accessories – Pages 176-177
 <b>HIGH PRESSURE DISPENSE VALVE – 150 BAR</b>	1153502	High Viscosity Fluid and Paste Valves	500,000 to 2,000,000 cP	Drop, Bead	Silicones, MS Polymers, Urethanes	Yes	No	Dispense Tips and Accessories – Pages 176-177

The Adhesive Sourcebook 2015: Your Source for LOCTITE® products for design, assembly, manufacturing and maintenance

Elastomeric Equipment



# Two-Step Acrylic Adhesives



## Your Application

- Combine the benefits of fast process speeds with tough, durable and environmentally resistant bond strengths
- Ideal for bonding ferrite, alnico and neodymium permanent magnets used in electric motors, small engines, speakers, transformers and other devices

## ARE YOU BONDING MAGNETS?

Yes

Ultra-Fast  
Fixture

Gap Filling

High Toughness

High Temperature  
Resistance

331™

A-671™

392™

334™

## Solution

Color	Cream	Green	Amber	Yellow
Viscosity (cP)	20,000	30,000	6,500	80,000
Gap Fill (in.)	0.04	0.10	0.025	0.02
Fixture Time	20 sec.	30 to 60 sec.	60 sec.	90 sec.
Cure Time (hours)	24	24	24	24
Shear Strength <sup>1</sup> (psi)	3,100	2,500	2,500	2,800
Temperature Resistance	350°F (177°C)	311°F (155°C)	250°F (121°C)	350°F (177°C)
Recommended Activator	7387™	Two-Part External Mix	7387™	7387™

## Product Description

### LOCTITE® 331™ Structural Adhesive Ultra-Fast Fixture

Toughened, activator-cure acrylic. Acid-free, noncorrosive to sensitive parts. Fixtures in 20 seconds and develops full strength in 30 minutes. Excellent high temperature resistance. Ideal for bonding close-fitting metals and magnets.

**P/N Package Size**  
1057673 25 ml syringe  
1057674\* 1 liter bottle  
1062124\* 10 liter pail

### LOCTITE® A-671™ Structural Adhesive Gap Filling

Two-component external mix acrylic requires no static mixing or activators. Excellent humidity resistance and gap filling capability. Fast fixturing.

**P/N Package Size**  
1256488 4,000 ml kit  
(adhesive/activator)  
1256501 19 liter pail, adhesive  
1255709 19 liter pail, activator

### LOCTITE® 392™ Structural Adhesive Fast Fixture/Toughened

One- or two-component, dual-cure acrylic. Provides fast fixture speed and tough, reliable bonds.

**P/N Package Size**  
39250 50 ml tube  
39275 300 ml cartridge  
39280 1 liter bottle

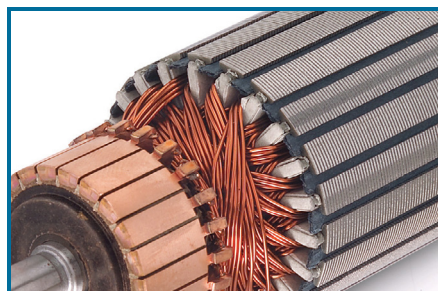
### LOCTITE® 334™ Structural Adhesive High Temperature

Two-component, dual-cure acrylic. Forms tough, flexible bonds on gaps up to 0.02 in. Resists temperatures up to 350°F.

**P/N Package Size**  
33403 25 ml syringe  
33470 300 ml cartridge

\* Made-to-order item.

<sup>1</sup> Steel.



No

Fast Fixture

Ultra-Fast  
Fixture

High Temperature  
Resistance

General-Purpose

326™

331™

332™

330™

Light Amber

Cream

Amber

Pale Yellow

17,000

20,000

100,000

67,500

0.02

0.04

0.02

0.03

1 min.

20 sec.

3 min.

5 min.

24

24

24

24

3,500

3,100

3,000

3,300

250°F (121°C)

350°F (177°C)

400°F (204°C)

250°F (121°C)

7649™

7387™

7387™

7387™

#### LOCTITE® 326™ Structural Adhesive

##### Fast Fixture

An all-purpose bonder. Offers the strength of an epoxy and the speed of an instant adhesive. Solvent resistant. Cures in minutes. Ideal for applications requiring fast fixturing. Use with LOCTITE® 7649™.

P/N	Package Size
32629	50 ml bottle
32685	1 liter bottle

#### LOCTITE® 331™ Structural Adhesive

##### Ultra-Fast Fixture

Toughened, activator-cure acrylic. Acid-free, noncorrosive to sensitive parts. Fixtures in 20 seconds and develops full strength in 30 minutes. Excellent high temperature resistance. Ideal for bonding close-fitting metals and magnets.

P/N	Package Size
1057673	25 ml syringe
1057674	1 liter bottle
1062124	10 liter pail

#### LOCTITE® 332™ Structural Adhesive

##### High Temperature

An activator-cured, no-mix adhesive that provides high temperature capability with thermal durability up to 400°F (204°C).

P/N	Package Size
33201	25 ml syringe
33275	300 ml cartridge
33290	1 liter bottle

#### LOCTITE® 330™ Depend® Adhesive

##### General Purpose

A general-purpose, high viscosity adhesive for a wide range of materials, including metal, wood, ferrite, ceramic and plastic.

P/N	Package Size
1691394	3 ml kit
1690727	25 ml kit
1691005	250 ml kit
1689700	250 ml tube
1689437	300 ml cartridge
1689439	1 liter bottle

## ACCELERATORS, ACTIVATORS & PRIMERS

Henkel has a complete line of LOCTITE® surface preparation accelerators, activators and primers, as well as a complete line of general-purpose LOCTITE® branded cleaners and degreasers, and specialized products to ensure the maximum performance of LOCTITE® adhesives and sealants.

LOCTITE® activators – including 7387™, 7075™, and 7649™ – are specially engineered curing agents for structural adhesives.



# Two-Step Acrylic Adhesives



## LOCTITE® Two-Step Acrylic Adhesive Properties Chart

	LOCTITE® PRODUCT	ITEM NUMBER	PACKAGE TYPE/SIZE	FEATURES	COLOR	VISCOSITY (cP)	GAP FILL (in.)	FIXTURE TIME	CURE TIME (hrs.)	SHEAR STRENGTH¹ (psi)	TEMPERATURE RESISTANCE²	RECOMMENDED ACTIVATOR
GENERAL PURPOSE	312™	03333 00144	10 ml kit³ 50 ml kit⁴	General-Purpose, Ultra-fast Fixture	Clear to Amber	1,000	0.003	60 seconds	24	>2,490	250°F (121°C)	736™
	325™	32530 32586	50 ml bottle 1 liter bottle	Severe Environment, Chemical Resistant	Clear Brown	20,000	0.040	5 minutes	24	1,600	300°F (149°C)	7075™ or 7387™
	324™	32430 32490	50 ml bottle 1 liter bottle	No Mix/ Small Gap	Amber	17,000	N/A	5 minutes	24	2,700	350°F (177°C)	7387™ or 7075™
	326™	32629 32685	50 ml bottle 1 ml bottle	Fast Fixture	Light Amber	17,000	N/A	1 minutes	24	2,200	250°F (121°C)	7649™
	330™	1691394 1690727 1691005 1689700 1689437 1689439	3 ml kit⁵ 25 ml kit⁶ 250 ml kit⁷ 250 ml tube 300 ml cartridge 1 liter bottle	General-Purpose	Pale Yellow	67,500	N/A	5 minutes	24	3,300	250°F (121°C)	7387™
	331™	1057673 1057674* 1062124*	25 ml syringe with manual plunger 1 liter bottle 10 liter pail	Ultra-fast Fixture, Acid-free	Cream	20,000	0.040	20 seconds	24	3,100	350°F (177°C)	7387™
	332™	33201 33275 33290	25 ml syringe with manual plunger 300 ml cartridge 1 liter bottle	No Mix/ Small Gap	Amber	100,000	N/A	3 minutes	24	3,000	400°F (204°C)	7387™
MAGNET BONDING	A-671™	1256488 1256501 1255709	4000 ml kit, adhesive/ activator 19 liter pail, adhesive 19 liter pail, activator	Gap Filling, Humidity Resistant, Fast Fixture External Mix	Dark Grey	30,000	0.100	30 to 60 seconds	24	2,500 to 3,000	401°F (205°C)	Two-Part External Mix
	A-6750™	1256503 1255702	2 liter bottle, adhesive 2 liter bottle, activator	Extended Working Time, Large Gaps External Mix	Green	30,000	0.200	10 to 13 minutes	3	2,500 to 3,000	311°F (155°C)	Two-Part External Mix
	334™	33403 33470	25 ml syringe with manual plunger 300 ml cartridge	Severe Environment, High Temperature	Yellow	80,000	0.020	60 seconds	24	2,800	350°F (177°C)	7387™ or 7380™
	392™	39250 39275 39280	50 ml tube 300 ml cartridge 1 liter bottle	High Toughness, Heat or Activator Cure	Amber	6,500	0.025	60 seconds	24	2,500	250°F (121°C)	7387™
	3060™	1087986 1087987	1 liter bottle, adhesive 1 liter bottle, activator	Room Temperature, Gap Filling, Acid-free External Mix	Green	15,000	>0.050	75 seconds	24	4,270	300°F (149°C)	Two-Part External Mix

ITEMS IN RED = Source's PICK or NEW

\* Made-to-order item.

¹ Steel.

² Product is heat aged at temperature and tested at 72°F (22°C). Product maintained ≥ 75% of its initial strength.

³ 10 ml bottle of LOCTITE® 312™ and 40 g aerosol can of LOCTITE® 736™ Primer NF™

⁴ 50 ml bottle of LOCTITE® 312™ and 6 oz. aerosol can of LOCTITE® 736™ Primer NF™

⁵ Contains 2.5 ml tube of LOCTITE® 330™ Depend® Adhesive and 0.6 ml ampule of LOCTITE® 7387™ Depend® Activator.

⁶ Contains 25 ml syringe of LOCTITE® 330™ Depend® Adhesive and 25 g aerosol can of LOCTITE® 7387™ Depend® Activator.

⁷ Contains 250 ml tube of LOCTITE® 330™ Depend® Adhesive and 128 g of LOCTITE® 7387™ Depend® Activator.

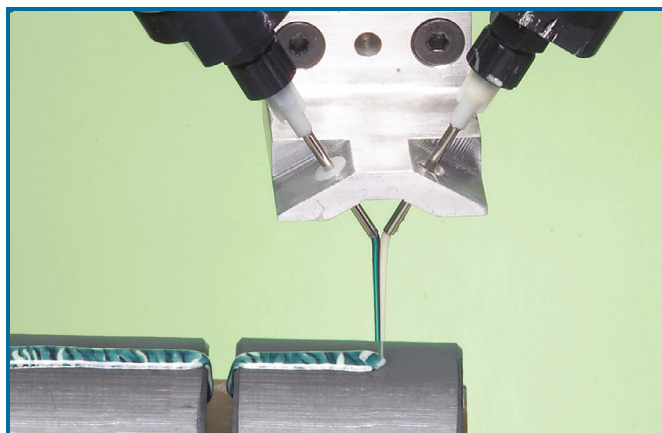
## LOCTITE® Activator & Primer Properties Chart

	LOCTITE® PRODUCT	ITEM	PACKAGE TYPE & SIZE	COLOR	VISCOSITY (cP)	BASE	ON-PART LIFE	DRY TIME	APPLICATION	AGENCY APPROVALS
ACTIVATORS	7075™	21349 22671	1 quart can 4.5 oz. net wt. aerosol can	Amber	2	Acetone	2 hours	3 minutes	324™ or 325™	N/A
	7380™ DEPEND®	19822 19824 19907	1 liter can 1.75 fl. oz. bottle 1 gallon	Light Brown	43	No solvent	2 hours	None	Structurals	N/A
	7387™ DEPEND®	18861 18862 21088	1.75 fl. oz. bottle 1 quart can 4.5 oz. net wt. aerosol can	Light Brown	1.5	Heptane/ Isopropanol	2 hours	None	Structurals	N/A
PRIMER	7649™ PRIMER N™	19269 21347 21348 19266	1.75 fl. oz. glass bottle 25 g net wt. aerosol can 4.5 oz. net wt. aerosol can 1 gallon can	Clear/Green	2	Acetone	30 days	30 to 70 seconds	Anaerobics	MIL-S-22473E for existing designs, ASTM D-5363 for new designs, NSF/ANSI 61, NSF P1, CFIA Listed

# Two-Step Acrylic Adhesive Equipment








## YOUR EQUIPMENT Source





For more details, see the **LOCTITE® Equipment Sourcebook, LT-3669**, or visit us on the web for additional information, diagrams, products and our full line of equipment at [www.equipment.loctite.com](http://www.equipment.loctite.com).



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Two-Step Acrylic Adhesive Equipment

LOCTITE® PRODUCT		ITEM NUMBERS	USED TO DISPENSE	PACKAGE TYPES & SIZES	VISCOSITY RANGE	PRESSURE REGULATION	LOW LEVEL SENSING
SYRINGE DISPENSING – SIMPLE MANUAL DISPENSERS FOR LOW VOLUME SYRINGE APPLICATIONS							
	30 ML MANUAL SYRINGE APPLICATOR	1544934	Any fluid in a 30 ml syringe, including 25 ml syringes	30 ml syringe	Low to High	N/A	N/A
	10 / 30 ML SYRINGE MANUAL PLUNGERS	98192	Any fluid in a 10 ml syringe	10 ml syringe (3 pack)	Low to High	N/A	N/A
		98193	Any fluid in a 30 ml syringe	30 ml syringe (3 pack)			
TUBE DISPENSING – EASY BUT EFFECTIVE TUBE DISPENSING							
	50 ML-F TUBE SQUEEZE DISPENSER	1083845	Any 50 ml tube	50 ml tubes	Low to High	N/A	N/A
PRESSURE-TIME BOTTLE DISPENSE SYSTEMS – VERSATILE SYSTEMS FOR DISPENSING A WIDE RANGE OF PRODUCTS IN A VARIETY OF ADHESIVE BOTTLE SIZES							
	BOND-A-MATIC® 3000 DISPENSER	982719	Gel Adhesives, Instant Adhesives, Light Cure Acrylics, Retaining Compounds, Threadlockers	250 ml bottle 1 lb. bottle 1 liter bottle 2 kg bottle 200 g squeeze tube	Low	0 to 15 psi	No
	BOND-A-MATIC® 3000 DISPENSER	982722			Medium to High	0 to 100 psi	No
	INTEGRATED SEMIAUTOMATIC DISPENSER	1390322	Gel Adhesives, Instant Adhesives, Light Cure Acrylics, Retaining Compounds, Threadlockers	250 ml bottle 1 lb. bottle 1 liter bottle 2 kg bottle 200 g squeeze tube	Low to Medium	0 to 15 psi	Yes
		1390321			Medium to High	0 to 100 psi	Yes
PNEUMATIC CARTRIDGE DISPENSING							
	HIGH PRESSURE 300 ML BENCHTOP CARTRIDGE DISPENSER	1046901	Silicone, Polyurethane, MS Polymer Adhesives	290 ml cartridges 300 ml cartridges 310 ml cartridges	10,000 to 1,000,000	0 to 725 psi	Yes
	300 ML CARTRIDGE PUSHER	98022	Gel Adhesives, Anaerobic Gasketing, Light Cure Acrylics, Low Viscosity Silicones	300 ml cartridges 250 ml tubes	Medium	0 to 50 psi	Yes

LOCTITE® PRODUCT		ITEM NUMBERS	TYPE	VISCOSITY RANGE	DISPENSE PATTERNS	USED TO DISPENSE	STROKE ADJUSTMENT	SUCK-BACK	CONSUMABLES – DISPENSE ACCESSORIES
HIGH PRECISION VALVES									
	STATIONARY APPLICATOR VALVE	97113	High Precision	Low to Medium	Drop, Dot, Bead	Gel Instant Adhesives, Instant Adhesives, Retaining Compounds, Threadlockers	Yes	Yes	Dispense Tips and Accessories – Pages 176-177
		97114							
HIGH VISCOSITY FLUID AND PASTE VALVES									
	VA 25 DISPENSE VALVE – 50 BAR	1838885	High Viscosity Fluid and Paste Valves	10,000 to 1,000,000 cP	Drop, Bead	Silicones, MS Polymers, Urethanes	Yes	Yes	Dispense Tips and Accessories – Pages 176-177
	HIGH PRESSURE DISPENSE VALVE – 150 BAR	1153502		500,000 to 2,000,000 cP				No	
ADDITIONAL ACCESSORIES SOLD SEPARATELY					<div><p><i>Your Source for Motion Control Robot Dispense Systems. See page 171.</i></p></div>				
	1095801 – External Mix Assembly, designed for positioning two (2) separate dispense valves (sold separately) in proper alignment for high-speed dispensing of a 2-part, externally mixed adhesive without the use of a static mix nozzle.								

**Your Source for Motion Control Robot Dispense Systems. See page 171.**



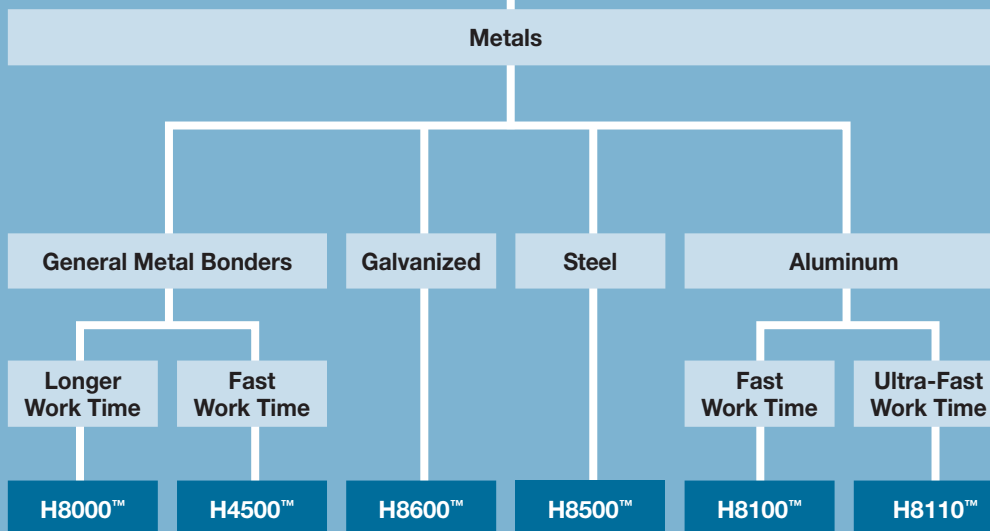
# Two-Part Acrylic Adhesives



## Your Application

- Specially formulated to provide tough, long-lasting bonds to most surfaces, including steel, galvanized steel, aluminum, sheet metal, stainless steel, plastics and composites
- Capable of reducing or replacing the need for threaded fasteners, welds or rivets, resulting in a lower cost assembly

## ARE YOU BONDING METALS OR PLASTICS/COMPOSITES?



## Solution

Color	Green	Grey	Blue	Grey	Green	Green
Viscosity (cP)	190,000	45,000	86,000	60,000	185,000	200,000
Mix Ratio	10:1	10:1	2:1	10:1	10:1	10:1
Work Time† (min.)	30	15	25	25	15	7
Shear Strength¹ (psi)	3,140³	3,100	3,355	3,380	3,090³	2,475³
Impact Strength⁵ (J)	23	12	10	14	2³	10³
Peel Strength¹ (pli)	45	58	35⁴	92	45	48³

## Product Description

### LOCTITE® H8000™ Structural Adhesive

#### Tough Metal Bonder

Exhibits excellent peel strength on multiple substrates, especially aluminum.

P/N	Package Size
996453	50 ml dual cartridge
36160	490 ml dual cartridge
35939*	35 lb. pail, adhesive
35940*	45 lb. pail, activator

### LOCTITE® H4500™ Structural Adhesive

#### Fast Work Time

High strength structural adhesive for metals. Fixtures in 15 minutes. With color mix indication.

P/N	Package Size
996512	50 ml dual cartridge
83041	490 ml dual cartridge

### LOCTITE® H8600™ Structural Adhesive

#### Galvanized Steel Bonder

Excellent shear strength on steel and aluminum. Especially designed for severe environments.

P/N	Package Size
38762	400 ml dual cartridge
38760*	5 gallon pail, adhesive
38761*	5 gallon pail, activator

### LOCTITE® H8500™ Structural Adhesive

#### Ultra-Tough Steel Bonder

Excellent peel strength on steel and aluminum. Contains 30 mil spacer beads to prevent excessive squeeze-out of adhesive due to over-clamping.

P/N	Package Size
827608	490 ml dual cartridge
40888*	5 gallon pail, activator
40889*	5 gallon pail, adhesive

### LOCTITE® H8100™ Structural Adhesive

#### Aluminum Bonder

Exhibits excellent strength on aluminum.

P/N	Package Size
1056942	50 ml dual cartridge
1056943	490 ml dual cartridge

### LOCTITE® H8110™ Structural Adhesive

#### Ultra-Fast Aluminum Bonder

Aluminum bonder fixtures in 5 minutes.

P/N	Package Size
1371355	50 ml dual cartridge
1371361	490 ml dual cartridge

\* Made-to-order item.

† Working time = maximum time before assembly of parts to ensure proper wetting.

¹ Steel.

² High density polyethylene.

³ Aluminum.

⁴ Galvanized steel.

⁵ Grit-blasted mild steel.

⁶ Polyethylene.



Plastics/Composites						
Are you bonding polyolefins?						
No					Yes	
Clear Bondline	Fast Work Time	Longer Work Time	High Toughness	High Strength	Fast Work Time	Longer Work Time
H5004™	H3300™	H3101™	H4800™	H3000™	3035™	3034™
Transparent	Yellow	Cream	Light Yellow	Cream	Off-White	Translucent
18,000	110,000	75,000	50,000	45,000	14,000	63,000
1:1	1:1	1:1	10:1	1:1	1:1	10:1
1.5	5 <sup>6</sup>	41 <sup>6</sup>	30 <sup>6</sup>	5 <sup>6</sup>	4 <sup>2</sup>	13 <sup>6</sup>
3,100	3,350	2,510	3,000 <sup>3</sup>	4,150 <sup>1</sup>	1,658 <sup>2</sup>	1,160 <sup>2</sup>
N/A	14	15	27	21	N/A	14 <sup>2</sup>
23 <sup>3</sup>	40 <sup>4</sup>	45 <sup>4</sup>	83	45	N/A	30 <sup>3</sup>

**LOCTITE® H5004™**  
Structural Adhesive  
*Clear Bondline*

A fast setting, toughened adhesive for metals and plastics that creates a virtually transparent bondline.

P/N	Package Size
1384596	50 ml dual cartridge

**LOCTITE® H3300™**  
Structural Adhesive  
*Fast Fixture*

A non-sag, fast fixturing structural adhesive for bonding a variety of substrates.

P/N	Package Size
83020	50 ml dual cartridge
83019	400 ml dual cartridge
83024*	40 lb. pail, adhesive
83022*	40 lb. pail, activator

**LOCTITE® H3101™**  
Structural Adhesive  
*Extended Work Life*

A medium viscosity structural adhesive ideal for bonding a variety of substrates. **NSF/ANSI 61 Certified.**

P/N	Package Size
83007	50 ml dual cartridge
83006	400 ml dual cartridge

**LOCTITE® H4800™**  
Structural Adhesive  
*Toughened*

Excellent peel and impact resistance. Provides high bond strengths on composites.

P/N	Package Size
996515	50 ml dual cartridge
83045	490 ml dual cartridge

**LOCTITE® H3000™**  
Structural Adhesive  
*High Strength*

A low viscosity adhesive which exhibits high bond strength on a variety of substrates.

P/N	Package Size
83001	50 ml dual cartridge
83000	400 ml dual cartridge

**LOCTITE® 3035™**  
Structural Adhesive  
*Fast Fixture*

A fast fixturing acrylic adhesive designed to bond low energy plastic substrates without any surface preparation.

P/N	Package Size
1677288	50 ml dual cartridge

**LOCTITE® 3034™**  
Structural Adhesive  
*Toughened*

Extended open time allows for adjustment of parts. Excellent peel and shear strength on polyethylene plastics.

P/N	Package Size
960973	490 ml dual cartridge

# Two-Part Acrylic Adhesives



## LOCTITE® Two-Part Acrylic Adhesive Properties Chart

LOCTITE® PRODUCT	ITEM NUMBER	PACKAGE TYPE/SIZE	FEATURES	COLOR	VISCOSITY (cP)	MIX RATIO	WORK TIME <sup>2</sup> (min.)	SHEAR STRENGTH <sup>3</sup> (psi)	IMPACT STRENGTH <sup>6</sup> (joules)	PEEL STRENGTH <sup>1</sup> (pli)
METAL BONDER	H3151™	83015 83014	50 ml "A" dual cartridge 400 ml "C" dual cartridge	Extended Work Life	Light Yellow	70,000	1:1	N/A	3,800	N/A
	H4500™	996512 83041	50 ml "S" dual cartridge 490 ml "F" dual cartridge	Fast Work Time	Grey	45,000	10:1	15	3,100	12
	H8000™	996453 36160 35939* 35940*	50 ml "S" dual cartridge 490 ml "F" dual cartridge 35 lb. pail, adhesive 45 lb. pail, activator	Longer Work Time	Green	190,000	10:1	30	2,800 4,180 <sup>3</sup>	45
	H8010™	40594	490 ml "F" dual cartridge	Gap Control	Grey	200,000	10:1	35	2,175	29
	H8100™	1056942 1056943	50 ml "S" dual cartridge 490 ml "F" dual cartridge	Fast Work Time	Green	190,000	10:1	15	2,880 3,090 <sup>3</sup>	11
	H8110™	1371355 1371361	50 ml "S" dual cartridge 490 ml "F" dual cartridge	Ultra-Fast Work Time	Yellow	200,000	10:1	7	1,500	10 <sup>3</sup>
	H8500™	827608 40888* 40889*	490 ml "F" dual cartridge 5 gallon pail, activator 5 gallon pail, adhesive	Fast Work Time	Grey	60,000	10:1	25	2,175 2,180 <sup>3</sup>	14
	H8510™	1107651	490 ml "F" dual cartridge	Extended Work Time	Grey	45,000	10:1	30	2,175 1,900 <sup>3</sup>	>14
	H8600™	38762 38760* 38761*	400 ml "F" dual cartridge 5 gallon pail, adhesive 5 gallon pail, activator	Medium Work Time	Blue	86,000	2:1	25	≥1,800 <sup>4</sup>	10
	H8610™	1055839	400 ml "F" dual cartridge	Fast Work Time	Off-White	105,000	2:1	11	1,800 4,180 <sup>4</sup>	>14
	H8700™	1064166 1064321	50 ml "B" dual cartridge 400 ml "F" dual cartridge	Paint-Bake Compatible	Blue	40,000	2:1	40	2,175 2,870 <sup>3</sup>	14
PLASTIC & COMPOSITE BONDER	3034™	960973	490 ml "F" dual cartridge	Toughened	Translucent	Thixotropic	10:1	13 <sup>7</sup>	≥1,160 <sup>2</sup>	14 <sup>2</sup>
	3035™	1677288	50 ml "B" dual cartridge	Fast Fixture Time	Off-White	30,000	1:1	4 <sup>2</sup>	1,658 <sup>2</sup>	N/A
	H3000™	83001 83000	50 ml "A" dual cartridge 400 ml "C" dual cartridge	High Strength	Cream	45,000	1:1	5 <sup>7</sup>	4,150	21
	H3101™	83007 83006	50 ml "A" dual cartridge 400 ml "C" dual cartridge	Medium Work Time	Cream	75,000	1:1	41 <sup>7</sup>	2,510	15
	H3300™	83020 83019 83024* 83022*	50 ml "A" dual cartridge 400 ml "C" dual cartridge 40 lb. pail, adhesive 40 lb. pail, activator	Fast Work Time	Yellow	110,000	1:1	5 <sup>7</sup>	3,350	14
	H4000™	83025	490 ml "F" dual cartridge	Non-Sag	Pale Yellow	130,000	10:1	30	2,200 <sup>3</sup>	10
	H4100™	83032	490 ml "F" dual cartridge	Ultra-Fast Work Time	Pale Yellow	100,000	10:1	N/A	3,140	N/A
	H4200™	83038	490 ml "F" dual cartridge	Fast Work Time	Pale Yellow	90,000	10:1	9	4,020	>29
	H4800™	996515 83045	50 ml "S" dual cartridge 490 ml "F" dual cartridge	Impact Resistant	Light Yellow	50,000	10:1	30	3,930	27
	H5004™	1384596	50 ml "A" dual cartridge	Clear, Fast Work Time	Transparent	18,000	1:1	1.5	3,100	N/A

ITEMS IN RED = Source's PICK or NEW

\* Made-to-order item.  
<sup>1</sup> Steel.

<sup>2</sup> HDPE.  
<sup>3</sup> Aluminum.  
<sup>4</sup> Galvanized steel.

<sup>5</sup> Working time = maximum time before assembly.  
<sup>6</sup> Grit-blasted steel.  
<sup>7</sup> Polyethylene.

# Two-Part Acrylic Adhesive Equipment

## YOUR EQUIPMENT Source

For more details, see the **LOCTITE® Equipment Sourcebook, LT-3669**, or visit us on the web for additional information, diagrams, products and our full line of equipment at [www.equipment.loctite.com](http://www.equipment.loctite.com).



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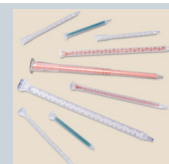
## LOCTITE® PRODUCT

ADHESIVE PACKAGE TYPE/SIZE	HANDHELD APPLICATORS	DISPENSER ITEM NUMBER	EQUIPMENT TYPE	VISCOSITY RANGE	MIX RATIOS	RECOMMENDED MIX NOZZLE ITEM NUMBER	PCS/PK
<b>TWO-PART DISPENSING</b>							
50 ML "A" DUAL CARTRIDGE		98472	Manual	Low to High	1:1, 1:2, 2:1	98455	10
		97042	Pneumatic	Low to High	1:1, 1:2, 2:1	98455	10
50 ML "B" DUAL CARTRIDGE		98472	Manual	Low to High	1:1, 2:1	1573149	10
		97042	Pneumatic	Low to High	1:1, 2:1	1573149	10
50 ML "S" DUAL CARTRIDGE		1034026	Manual	Low to High	10:1	1034575	10
		1493310	Pneumatic	Low to High	10:1	1034575	10
400 ML "C" DUAL CARTRIDGE		983438	Manual	High to Paste	1:1, 2:1	720174	10
		983439	Pneumatic	High to Paste	1:1, 2:1	720174	10
400 ML "F" DUAL CARTRIDGE		983438	Manual	High to Paste	1:1, 2:1	1573138	10
		984211	Conversion Kit (Manual)	High to Paste	4:1	720177	10
400 ML "F" DUAL CARTRIDGE		983439	Pneumatic	High to Paste	1:1, 2:1	1573138	10
		984210	Conversion Kit (Pneumatic)	High to Paste	4:1	720177	10
490 ML "F" DUAL CARTRIDGE		985246	Manual	High to Paste	10:1	1084092	10
		985249	Pneumatic	High to Paste	10:1	1084092	10

## MIX NOZZLES

Plastic, disposable nozzles that attach directly to LOCTITE® dual cartridges. They are designed to mix adhesive automatically as it travels through the static-mix nozzle.

See pages 178-180 for more Loctite® Mix Nozzles or visit [www.equipment.loctite.com](http://www.equipment.loctite.com).



ADDITIONAL RESOURCES

**EQUIPMENT** – Henkel is a full-service supplier of LOCTITE® branded equipment and offers a wide variety of equipment services to its customers. **For more LOCTITE® branded equipment, go to page 165.**

Can't find what you're looking for? Visit [www.equipment.loctite.com](http://www.equipment.loctite.com) or call 1-800-LOCTITE (562-8483).

**STRAIGHT FROM** *The Source*



# Epoxy Adhesives



## Your Application

- Bond a wide variety of materials, such as metal, ceramic and plastic
- Available in a variety of formulations and performance capabilities, including fast cure, superior moisture resistance, ease of dispense, high toughness, and a resistance to a wide range of chemicals

## DO YOU NEED A ONE-PART OR TWO-PART EPOXY?

### Two-Part

### Do you need the product to fixture in less than 15 minutes at room temperature?

#### Yes

#### No

### Potting (for more potting options, see page 97)

#### Moisture Resistant

#### Flexible

#### Non-Sag

#### Clear

#### Explosion Proof

#### Non-Corrosive

## Solution

**E-05MR™**

**E-05CL™**

**E-00NS™**

**E-30CL™**

**E-40EXP™**

**E-60NC™**

Color	Clear	Clear	Translucent	Clear	Grey	Black
Viscosity (cP)	25,000	2,500	100,000	10,000	24,000	8,000
Mix Ratio	1:1	1:1	1:1	2:1	2:1	1:1
Work Life (minutes)	5	5	3	30	40	60
Fixture Time (minutes)	15	15	10	>180	N/A	180
Room Temperature Cure Time (hours)	24	24	24	24	24	24
Shear Strength <sup>1</sup> (psi)	3,360	1,430	1,600	3,100	3,000 <sup>2</sup>	2,630
Temperature Resistance	250°F (121°C)	180°F (80°C)	180°F (82°C)	250°F (121°C)	250°F (121°C)	250°F (121°C)

## Product Description

**LOCTITE® E-05MR™**  
Hysol® Epoxy Adhesive

*Moisture Resistant*

Clear, fast fixturing epoxy that provides excellent moisture resistance and exceptional toughness.

P/N	Package Size
1086598	50 ml dual cartridge
1086599*	400 ml dual cartridge
1087602*	5 gallon pail, resin
1087603*	5 gallon pail, hardener

**LOCTITE® E-05CL™**  
Hysol® Epoxy Adhesive

*Flexible*

A clear, flexible, high peel, low odor epoxy with a 3-minute work life.

P/N	Package Size
29299	50 ml dual cartridge
29301	400 ml dual cartridge
29302*	5 gallon pail, resin
29303*	5 gallon pail, hardener

**LOCTITE® E-00NS™**  
Epoxy Adhesive

*Non-Sag*

A fast fixturing, thixotropic, non-sag epoxy which cures at room temperature to form a translucent, rigid and machinable bondline. Well suited for use on vertical surfaces.

P/N	Package Size
29294	50 ml dual cartridge
29295	200 ml dual cartridge
29296	400 ml dual cartridge

**LOCTITE® E-30CL™**  
Hysol® Epoxy Adhesive

*Clear*

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

P/N	Package Size
29329	50 ml dual cartridge
29330	200 ml dual cartridge
29331	400 ml dual cartridge

**LOCTITE® E-40EXP™**  
Hysol® Epoxy Potting Compound

*Explosion Proof/ Chemical Resistant*

An epoxy designed for potting electrical motors used in hazardous locations. Compliant with UL-674 for explosion-proof electric motors. Excellent chemical resistance.

P/N	Package Size
1511653	200 ml dual cartridge
1511896	5 gallon pail - part A
1511897	5 gallon pail - part B

**LOCTITE® E-60NC™**  
Hysol® Epoxy Adhesive

*Noncorrosive/ Potting*

An electronics-grade potting compound with a 60-minute work life. Black, opaque, low viscosity with excellent cure-through depth.

P/N	Package Size
29324	50 ml dual cartridge
29325	200 ml dual cartridge
29326	400 ml dual cartridge
29327*	5 gallon pail, resin
29328*	5 gallon pail, hardener

\* Made-to-order item.

<sup>1</sup> Grit blasted steel.

<sup>2</sup> Aluminum.



High Toughness					One-Part	
Short Work Life	Medium Work Life	Long Work Life	Flexible	Ultra-Toughened	High Toughness	General-Purpose
E-20HP™	E-60HP™	E-120HP™	E-90FL™	E-30UT™	5089™	E-214HP™
Off-White	Off-White	Amber	Opaque Grey	Purple	Purple	Yellow
30,000	45,000	30,000	40,000	65,000	Paste	Paste
2:1	2:1	2:1	1:1	2:1	N/A	N/A
20	60	120	90	30	N/A	N/A
120	240	180	>180	180	N/A	N/A
24	24	24	24	24	20 min. @ 350°F (177°C)	2 @ 302°F (150°C)
3,270	4,320	4,300	810	4,200	2,900	4,820
250°F (121°C)	250°F (121°C)	250°F (121°C)	250°F (121°C)	250°F (121°C)	350°F (177°C)	300°F (149°C)

**LOCTITE® E-20HP™**  
Hysol® Epoxy Adhesive

**High Performance**

A high strength epoxy with a 20-minute work life. Off-white, toughened, high peel, high shear.

P/N	Package Size
29314	50 ml dual cartridge
29315	200 ml dual cartridge
29316	400 ml dual cartridge
29317	5 gallon pail, resin
29318	5 gallon pail, hardener

**LOCTITE® E-60HP™**  
Hysol® Epoxy Adhesive

A high strength epoxy with a 60-minute work life. Off-white, high peel, high shear.

P/N	Package Size
29319	50 ml dual cartridge
29321	400 ml dual cartridge

**LOCTITE® E-120HP™**  
Hysol® Epoxy Adhesive

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

P/N	Package Size
29353	50 ml dual cartridge
29354	200 ml dual cartridge
29355	400 ml dual cartridge
29356*	5 gallon pail, resin
29357*	5 gallon pail, hardener

**LOCTITE® E-90FL™**  
Hysol® Epoxy Adhesive

**Flexible**

A grey, impact-resistant, toughened epoxy with a 90-minute work life.

P/N	Package Size
29309	50 ml dual cartridge
29311	400 ml dual cartridge

**LOCTITE® E-30UT™**  
Hysol® Epoxy Adhesive

**Ultra-Tough**

An epoxy that provides exceptional fracture toughness characteristics for the most demanding structural bonding requirements.

P/N	Package Size
1078234	50 ml dual cartridge
1078235	400 ml dual cartridge

**Terokal® 5089™**  
Structural Adhesive

**High Performance**

A toughened heat curable epoxy offering high shear strength and extremely good peel and impact resistance. Can be spot-welded through and is compatible with most paint bake processes.

P/N	Package Size
1182757	300 ml cartridge
1182761	5 gal. pail
1182927	55 gal. drum

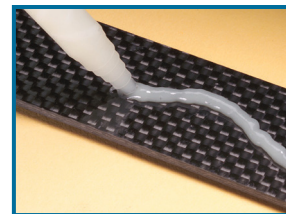
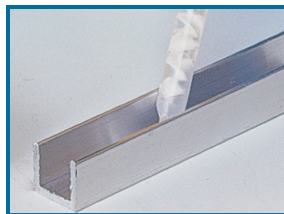
**LOCTITE® E-214HP™**  
Hysol® Epoxy Adhesive

**General-Purpose/Heat Cure**

A one-component, acid-free, heat cure epoxy. Light grey, temperature resistant, high strength, non-sag. Noncorrosive to sensitive parts.

P/N	Package Size
29339	30 ml cartridge
29340	300 ml cartridge

# Epoxy Adhesives



## LOCTITE® Epoxy Adhesive Properties Chart

LOCTITE® PRODUCT	ITEM NUMBER	PACKAGE TYPE/SIZE	FEATURES	COLOR	VISCOSITY (cP)	MIX RATIO	WORK LIFE <sup>3</sup> (minutes)	FIXTURE TIME (minutes)	CURE TIME (hours)	SHEAR STRENGTH <sup>1</sup> (psi)	TEMPERATURE RESISTANCE
<b>1C™ HYSOL®</b>	1373425 1377344 1377777 1377391	EPK 4 oz. kit 17 lb. kit 60 lb. pail, resin 43 lb. pail, hardener	Gap Filling	Off-White	350,000	2.5:1	20	210	24	1,500 <sup>2</sup>	250°F (121°C)
<b>0151™ HYSOL®</b>	83176 83069 83179	EPK 3.3 oz. kit 50 ml "A" dual cartridge 2.6 lb. kit	Extended Work Life	Clear	60,000	2.7:1	60	>180	24	2,675	160°F (71°C)
<b>9340™ HYSOL®</b>	83104 83105	EPK 2.7 oz. kit 5 lb. kit	Non-Sag	Grey	Paste	1:1	90	>180	24	2,300 <sup>2</sup>	>180°F (82°C)
<b>9430™ HYSOL®</b>	83114 83113	2 lb. kit 10 lb. kit	Impact Resistant	Off-White	12,000	3.78:1	50	>180	24	4,230	180°F (82°C)
<b>9460™ HYSOL®</b>	83129 83128 83127 83131 83130 83133 83134	50 ml "A" dual cartridge 200 ml "C" dual cartridge 400 ml "C" dual cartridge 5 lb. kit 20 lb. kit 50 lb. pail, hardener 50 lb. pail, resin	Non-Sag	Grey	200,000	1:1	50	>180	24	3,500 <sup>4</sup>	250°F (121°C)
<b>9462™ HYSOL®</b>	83142	50 ml "A" dual cartridge	High Strength	Beige	70,000	1:1	55	>180	24	4,180	250°F (121°C)
<b>E-20HP™ HYSOL®</b>	29314 29315 29316 29317 29318	50 ml "A" dual cartridge 200 ml "C" dual cartridge 400 ml "C" dual cartridge 5 gallon pail, resin 5 gallon pail, hardener	Easy Mix, Toughened	Off-White	30,000	2:1	20	120	24	3,270	250°F (121°C)
<b>E-20NS™ HYSOL®</b>	29334 29335 29336	50 ml "A" cartridge 200 ml "C" dual cartridge 400 ml "C" dual cartridge	Low Sag	Tan	60,000	2:1	20	150	24	2,790	250°F (121°C)
<b>E-30CL™ HYSOL®</b>	29329 29330 29331	50 ml "A" dual cartridge 200 ml "C" dual cartridge 400 ml "C" dual cartridge	Medium Work Life, Chemical Resistant	Clear	10,000	2:1	30	>180	24	3,100	250°F (121°C)
<b>E-30UT™ HYSOL®</b>	1078234 1078235	50 ml "A" dual cartridge 400 ml "C" dual cartridge	Ultra-Tough	Purple	65,000	2:1	30	180	24	4,200	250°F (121°C)
<b>E-40EXP™ HYSOL®</b>	1511653 1511896 1511897	200 ml "C" dual cartridge 5 gallon pail, part A 5 gallon pail, part B	Extended Work Life	Grey	24,000	2:1	40	N/A	24	3,000	250°F (121°C)
<b>E-40FL™ HYSOL®</b>	29304 29305 29306	50 ml "A" dual cartridge 200 ml "C" dual cartridge 400 ml "C" dual cartridge	Medium Fixture	Opaque Grey	70,000	1:1	40	180	24	640	250°F (121°C)
<b>E-40HT™ HYSOL®</b>	1086065 1086081	50 ml "A" dual cartridge 400 ml "C" dual cartridge	High Strength	Off-White	430,000	2:1	40	180	24	4,030	300°F (149°C)
<b>E-60HP™ HYSOL®</b>	29319 29321 29322* 29323*	50 ml "A" dual cartridge 400 ml "C" dual cartridge 5 gallon pail, resin 5 gallon pail, hardener	High Performance	Off-White	45,000	2:1	60	>180	24	4,320	250°F (121°C)
<b>E-60NC™ HYSOL®</b>	29324 29325 29326 29327* 29328*	50 ml "A" dual cartridge 200 ml dual cartridge 400 ml "C" dual cartridge 5 gallon pail, resin 5 gallon pail, hardener	Extended Work Life, Noncorrosive	Black	8,000	1:1	60	>180	24	2,630	250°F (121°C)
<b>E-90FL™ HYSOL®</b>	29309 29311	50 ml "A" dual cartridge 400 ml "C" dual cartridge	Extended Work Life	Opaque Grey	40,000	1:1	90	>180	24	810	250°F (121°C)
<b>E-120HP™ HYSOL®</b>	29353 29354 29355 29356* 29357*	50 ml "A" dual cartridge 200 ml "C" dual cartridge 400 ml "C" dual cartridge 5 gallon pail, resin 5 gallon pail, hardener	High Temperature/Chemically Resistant	Amber	30,000	2:1	120	>180	24	4,300	N/A

ITEMS IN RED = Source's PICK or NEW

\* Made-to-order item.

<sup>1</sup> Grit-blasted steel.

<sup>2</sup> Etched aluminum.

<sup>3</sup> Work life = time for viscosity to double; Working time = maximum time before assembly (steel).

<sup>4</sup> Block Shear – grit-blasted mild steel.

## LOCTITE® Epoxy Adhesive Properties Chart

LOCTITE® PRODUCT		ITEM NUMBER	PACKAGE TYPE/SIZE	FEATURES	COLOR	VISCOSITY (cP)	MIX RATIO	WORK LIFE <sup>3</sup> (minutes)	FIXTURE TIME (minutes)	CURE TIME (hours)	SHEAR STRENGTH <sup>1</sup> (psi)	TEMPERATURE RESISTANCE
FAST FIXTURE	608™ HYSOL®	83086 83075	4 g foil pack 50 ml "A" dual cartridge	Fast Fixture Non-Sag	Clear	100,000	1:1	5	15	24	2,980	130°F (54°C)
	615™ HYSOL®	83094	EPK 3.2 oz. kit	Fast Fixture	Light Blue	200,000	1:1	10	25	24	3,825	180°F (82°C)
	E-00CL™ HYSOL®	29289 29290 29291	50 ml "A" dual cartridge 200 ml "C" dual cartridge 400 ml "C" dual cartridge	Fast Fixture Flowable	Clear	10,000	1:1	3.5	15	24	2,160	180°F (82°C)
	E-00NS™ HYSOL®	29294 29295 29296	50 ml "A" dual cartridge 200 ml "C" dual cartridge 400 ml "C" dual cartridge	Fast Fixture Low Odor	Translucent	100,000	1:1	3	15	24	1,600	180°F (82°C)
	E-05CL™ HYSOL®	29299 29301 29302* 29303*	50 ml "A" dual cartridge 400 ml "C" dual cartridge 5 gallon pail, resin 5 gallon pail, hardener	Fast Fixture	Clear	2,500	1:1	3	30	24	1,430	180°F (80°C)
	E-05MR™ HYSOL®	1086598 1086599* 1087602* 1087603*	50 ml "A" dual cartridge 400 ml "C" dual cartridge 5 gallon pail, resin 5 gallon pail, hardener	Moisture Resistant	Ultra-Clear	25,000	1:1	5	15	24	3,380	250°F (121°C)
	3982™ HYSOL®	36767	30 ml syringe	Fluorescent Heat Cure	Off-White	8,000	N/A	N/A	N/A	0.5 @ 257°F (125°C)	5,830 <sup>4</sup>	250°F (121°C)
	3985™ HYSOL®	40870 34731*	1 liter bottle 5 gallon pail	Non-Sag Heat Cure	Black	50,000	N/A	N/A	N/A	0.5 @ 272°F (133°C)	N/A	300°F (149°C)
	TEROKAL® 5089™	1182757 1182761 1182927	300 ml cartridge 5 gallon pail 55 gallon drum	High Performance	Purple	100,000	N/A	N/A	N/A	20 min. @ 350°F (177°C)	2,900	350°F (177°C)
	9432NA™ HYSOL®	83217* 83216*	2 lb. can 55 lb. pail	High Temperature	Grey	225,000	N/A	N/A	N/A	1 @ 248°F (120°C)	2,850	300°F (149°C)
	E-214HP™ HYSOL®	29339 29340	30 ml cartridge 300 ml cartridge	High Strength	Grey	Paste	N/A	N/A	N/A	0.66 @ 248°F (120°C)	4,820	300°F (149°C)
	E-910™	1501093	5 gallon pail	Low Cure Temperature	Green	40,000	N/A	N/A	N/A	1 @ 176°F (80°C)	2,000 <sup>2</sup>	300°F (149°C)

ITEMS IN RED = Source's PICK OR NEW

\* Made-to-order item.

<sup>1</sup> Grit-blasted steel.

<sup>2</sup> Aluminum.

<sup>3</sup> Work life = time for viscosity to double; Working time = maximum time before assembly (steel).

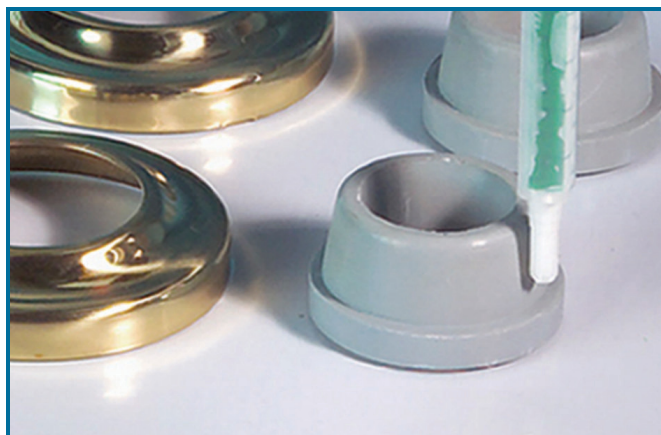
<sup>4</sup> Block Shear – grit-blasted mild steel.



# Epoxy Adhesive Equipment



## YOUR EQUIPMENT Source





For more details, see the **LOCTITE® Equipment Sourcebook, LT-3669**, or visit us on the web for additional information, diagrams, products and our full line of equipment at [www.equipment.loctite.com](http://www.equipment.loctite.com).





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Epoxy Adhesive Equipment

LOCTITE® PRODUCT		ITEM NUMBERS	USED TO DISPENSE	PACKAGE TYPES & SIZES	VISCOSITY RANGE	CONSUMABLES – DISPENSE ACCESSORIES
SYRINGE DISPENSING – SIMPLE MANUAL DISPENSERS FOR LOW VOLUME SYRINGE APPLICATIONS						
	30 ML MANUAL SYRINGE APPLICATOR	1544934	Any fluid in a 30 ml syringe, including 25 ml syringes	30 ml syringe	Low to High	Dispense Tips and Accessories – Pages 176-177 Syringe Accessories – Pages 181-182
	10/30 ML SYRINGE MANUAL PLUNGERS	98192	Any fluid in a 10 ml syringe	10 ml syringe (3 pack)	Low to High	N/A
		98193	Any fluid in a 30 ml syringe	30 ml syringe (3 pack)		

LOCTITE® PRODUCT		ITEM NUMBER	PRESSURE REGULATION	USED TO DISPENSE	PACKAGE TYPE & SIZES	VISCOSITY RANGE	LOW LEVEL SENSING	CONSUMABLES – DISPENSE ACCESSORIES	
DISPENSE SYSTEMS	PNEUMATIC CARTRIDGE DISPENSING								
		300 ML PNEUMATIC CARTRIDGE DISPENSING RETAINER	98319A	0 to 60 psi	Gel Cyanoacrylates, Anaerobic Gasketing, Light Cure/Acrylics, Silicones	300 ml cartridges	Low to Medium	No	Cartridge Accessories – Page 177
		300 ML CARTRIDGE PUSHER	98022	0 to 50 psi	Gel Adhesives, Anaerobic Gasketing, Light Cure Acrylics, Low Viscosity Silicones	300 ml cartridges 250 ml tubes	Medium	Yes	
		HD10 300 ML PNEUMATIC CARTRIDGE DISPENSER	1714379	0 to 60 psi	Gel Cyanoacrylates, Anaerobic Gasketing, Light Cure Acrylics, Silicones	300 ml cartridges 250 ml tubes	Medium to High	No	
		HIGH PRESSURE 300 ML BENCHTOP CARTRIDGE DISPENSER	1046901	0 to 725 psi	Silicone, Polyurethane, MS Polymer Adhesives	290 ml cartridges 300 ml cartridges 310 ml cartridges	10,000 to 1,000,000	Yes	

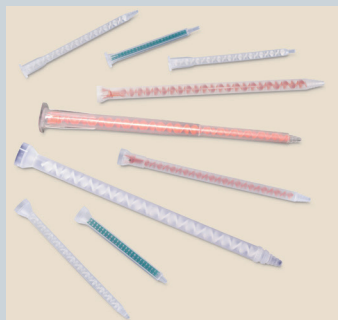
LOCTITE® PRODUCT		ITEM NUMBERS	TYPE	VISCOSITY RANGE	DISPENSE PATTERNS	USED TO DISPENSE	STROKE ADJUSTMENT	SUCK-BACK	CONSUMABLES – DISPENSE ACCESSORIES
HIGH VISCOSITY FLUID AND PASTE VALVES									
	VA 25 DISPENSE VALVE – 50 BAR	1838885	High Viscosity Fluid and Paste Valves	10,000 to 1,000,000 cP	Drop, Bead	Silicones, MS Polymers, Urethanes	Yes	Yes	Dispense Tips and Accessories – Pages 176-177
	HIGH PRESSURE DISPENSE VALVE – 150 BAR	1153502		500,000 to 2,000,000 cP				No	









ITEMS IN RED = Source's PICK or NEW

**MIX NOZZLES**

Plastic, disposable nozzles that attach directly to LOCTITE® dual cartridges. They are designed to mix adhesive automatically as it travels through the static-mix nozzle.

See pages 178-180 for more LOCTITE® Mix Nozzles or visit [www.equipment.loctite.com](http://www.equipment.loctite.com).


**ADDITIONAL RESOURCES**


LOCTITE® PRODUCT		ITEM NUMBER	USED TO DISPENSE	PACKAGE TYPE & SIZES	MIX RATIOS	VISCOSITY RANGE	TYPE	CONSUMABLES – DISPENSE ACCESSORIES	
HANDHELD APPLICATORS	TWO-PART DISPENSING								
		50 ML DUAL CARTRIDGE MANUAL APPLICATORS	98472	Two-Component Epoxies, Urethanes, Methacrylates	50 ml dual cartridge	1:1, 2:1, 4:1	Low to High	Manual	Static Mix Nozzles & Accessories – Pages 178-180
			1034026		S-50 dual cartridge	10:1			
		50 ML DUAL CARTRIDGE PNEUMATIC APPLICATOR	97042	Two-Component Epoxies, Urethanes, Methacrylates	50 ml dual cartridge	1:1, 2:1	Low to High	Pneumatic	
		50 ML S-STYLE DUAL CARTRIDGE PNEUMATIC APPLICATOR	1493310	Two-Component Epoxies, Urethanes, Methacrylates, 10:1 ratio	50 ml dual cartridge	10:1	Low to High	Pneumatic	
		200 ML/400 ML DUAL CARTRIDGE MANUAL APPLICATORS	983436	Two-Component Epoxies, Urethanes, Methacrylates	200 ml dual cartridge	1:1, 2:1	High to Paste	Manual	
			983438		400 ml dual cartridge	1:1, 2:1			
			985246		490 ml dual cartridge	10:1			
		200 ML/400 ML DUAL CARTRIDGE PNEUMATIC APPLICATORS	983437	Two-Component Epoxies, Urethanes, Methacrylates	200 ml dual cartridge	1:1, 2:1	High to Paste	Pneumatic	
			983439		400 ml dual cartridge	1:1, 2:1			
			985249		490 ml dual cartridge	10:1			
		400 ML DUAL CARTRIDGE PNEUMATIC APPLICATOR	1500890	Two-Component Epoxies, Urethanes, Methacrylates	400 ml dual cartridge	1:1, 2:1	High	Pneumatic	
		MANUAL CARTRIDGE APPLICATOR 300 ML	1093940	Henkel Construction Adhesives, Caulking products in 10 oz. caulking tubes	300 ml cartridges	All 300 ml caulking style ratios	Medium to High	Manual	
		FIXMASTER® UNIVERSAL DISPENSER	1372751	Two-Component Epoxies, Urethanes, Methacrylates	200 ml/400 ml dual cartridges	1:1, 2:1, 4:1, 10:1	High to Paste	Manual	

ITEMS IN RED = Source's PICK or NEW

**EQUIPMENT** – Henkel is a full-service supplier of LOCTITE® branded equipment and offers a wide variety of equipment services to its customers. **For more LOCTITE® branded equipment, go to page 165.**

Can't find what you're looking for? Visit [www.equipment.loctite.com](http://www.equipment.loctite.com) or call 1-800-LOCTITE (562-8483).

**STRAIGHT FROM** The Source

# Polyurethane Adhesives



## Your Application

- Bond a wide variety of materials, including most metals, plastics and composites
- Exhibit superior moisture and humidity resistance, as well as good toughness and flexibility

## WHAT ARE YOU BONDING?

Composites

Metal

Plastic

General-Purpose

General-Purpose

## Solution

UK 1351  
B25™UK 1366  
B10™

U-09FL™

U-05FL™

3364™

Color	Green	Green	Clear	Off-White	Black
Viscosity (cP)	29,000	34,000	5,000	100,000	5,000
Mix Ratio	2:1	4:1	1:1	1:2	1:2
Work Life (minutes)	50	30	10	5	5
Fixture Time (minutes)	75	35	120	180	30
Cure Time (hours)	72	72	72	72	72
Shear Strength** (psi)	2,360	1,550	1,460	930†	2,800†

## Product Description

### LOCTITE® UK 1351 B25™ Urethane Adhesive *Composite Bonder*

A highly toughened, GL approved two-part urethane for composites bonding. Non-sag with excellent fatigue and environmental resistance.

**P/N Package Size**  
1667557 400 ml cartridge

### LOCTITE® UK 1366 B10™ Urethane Adhesive *Metal Bonder*

A highly flexible, medium fixture structural bonder that has good adhesion to metals and plastics. Excellent environmental resistance and impact strength.

**P/N Package Size**  
1668032 415 ml cartridge

### LOCTITE® U-09FL™ Hysol® Urethane Adhesive *Plastic Bonder*

A two-part, high performance urethane adhesive for plastic bonding with a 10-minute work life. Clear, impact resistant, high peel.

**P/N Package Size**  
29460 50 ml dual cartridge  
29462\* 400 ml dual cartridge

### LOCTITE® U-05FL™ Hysol® Urethane Adhesive *General-Purpose*

A high performance urethane adhesive for general-purpose metal bonding with a 5-minute work life. Off-white, highly flexible, impact and moisture resistant, high peel, high shear.

**P/N Package Size**  
29348 50 ml dual cartridge  
29349 200 ml dual cartridge  
29350 400 ml dual cartridge

### LOCTITE® 3364™ Urethane Adhesive/ Potting Compound *General-Purpose*

A fast fixturing, flame resistant, general-purpose polyurethane suitable for bonding or potting. It carries a UL® 94 V-0 rating for flame resistance.

**P/N Package Size**  
1166733 50 ml dual cartridge

\* Made-to-order item.

\*\* Steel.

† Grit-blasted steel.

## LOCTITE® Polyurethane Adhesive Properties Chart








LOCTITE® PRODUCT		ITEM NUMBER	PACKAGE TYPE/SIZE	FEATURES	COLOR	VISCOSITY (cP)	MIX RATIO	WORK LIFE (minutes)	FIXTURE TIME (minutes)	CURE TIME (hours)	SHEAR STRENGTH** (psi)
COMPOSITES	UK 1351 B25™	1667557	400 ml cartridge	Toughened Composite Bonder, GL Approved	Green	29,000	2:1	50	75	72	2,360
	UK 1366 B10™	1668032	415 ml cartridge	Metal Bonder, Flexible	Green	34,000	4:1	30	35	72	1,550
METAL	U-09FL™ HYSOL®	29460 29462*	50 ml "A" dual cartridge 400 ml "C" dual cartridge	Plastic Bonder, Flexible	Clear	5,000	1:1	10	120	72	1,460
	U-09LV™ HYSOL®	38588	50 ml "A" dual cartridge	Low Viscosity, Medium Work Life	Clear	1,000	1:1	10	>180	72	1,146†
PLASTIC	U-05FL™ HYSOL®	29348 29349 29350	50 ml "A" dual cartridge 200 ml "C" dual cartridge 400 ml "C" dual cartridge	General-Purpose, Flexible	Off-White	100,000	1:2	5	160	72	930†
	3364™	1166733	50 ml "A" dual cartridge	General-Purpose, Flame Resistant	Black	5,000	1:2	5	30	72	2,800†
GENERAL PURPOSE											

LOCTITE® PRODUCT		ITEM NUMBER	PACKAGE TYPE/SIZE	COLOR	EXTRUSION RATE (G MIN)	CURE METHOD	SKIN TIME (MIN)	TEMP. RANGE	SHORE HARDNESS	TENSILE STRENGTH (PSI)	ELONGATION AT BREAK (%)	SHEAR STRENGTH ON STEEL (PSI)
GENERAL PURPOSE	3370™ POLYURETHANE ADHESIVE/SEALANT	1535077 1538161 1552178 1552179 1535036 1675274 1550218 1550231* 1535076 1538160 1550213 1548600	300 ml cartridge 20 oz. sausage 5 gallon pail 485 lb. drum 300 ml cartridge 20 oz. sausage 5 gallon pail 485 lb. drum 300 ml cartridge 20 oz. sausage 5 gallon pail 485 lb. drum	White White White White Grey Grey Grey Grey Black Black Black Black	N/A	Moisture	30	-40°F (-40°C) to 200°F (93°C)	A 50	330	400	N/A
	URETHANE SEALANT	39916	10.2 oz. cartridge	Grey	NA	24 hours	Moisture	-40°F (-40°C) to 180°F (82.2°C)	33	200	1000	170

ITEMS IN RED = Source's PICK or NEW

\* Made-to-order item. \*\* Steel. † Grit-blasted steel.

## Polyurethane Adhesive Equipment

LOCTITE® PRODUCT		ITEM NUMBER	USED TO DISPENSE	PACKAGE TYPE & SIZES	MIX RATIOS	VISCOSITY RANGE	TYPE	CONSUMABLES – DISPENSE ACCESSORIES	
HANDHELD APPLICATORS	TWO-PART DISPENSING								
		50 ML DUAL CARTRIDGE MANUAL APPLICATORS	98472	Two-Component Epoxies, Urethanes, Methacrylates	50 ml dual cartridge	1:1, 2:1, 4:1	Low to High	Manual	Static Mix Nozzles & Accessories – Pages 178-180
			1034026		S-50 dual cartridge	10:1			
		50 ML DUAL CARTRIDGE PNEUMATIC APPLICATOR	97042	Two-Component Epoxies, Urethanes, Methacrylates	50 ml dual cartridge	1:1, 2:1	Low to High	Pneumatic	
		50 ML S-STYLE DUAL CARTRIDGE PNEUMATIC APPLICATOR	1493310	Two-Component Epoxies, Urethanes, Methacrylates, 10:1 ratio	50 ml dual cartridge	10:1	Low to High	Pneumatic	
		200 ML/400 ML DUAL CARTRIDGE MANUAL APPLICATORS	983436	Two-Component Epoxies, Urethanes, Methacrylates	200 ml dual cartridge	1:1, 2:1	High to Paste	Manual	
			983438		400 ml dual cartridge	1:1, 2:1			
			985246		490 ml dual cartridge	10:1			
		200 ML/400 ML DUAL CARTRIDGE PNEUMATIC APPLICATORS	983437	Two-Component Epoxies, Urethanes, Methacrylates	200 ml dual cartridge	1:1, 2:1	High to Paste	Pneumatic	
			983439		400 ml dual cartridge	1:1, 2:1			
985249			490 ml dual cartridge		10:1				
	400 ML DUAL CARTRIDGE PNEUMATIC APPLICATOR	1500890	Two-Component Epoxies, Urethanes, Methacrylates	400 ml dual cartridge	1:1, 2:1	High	Pneumatic		
	FIXMASTER® UNIVERSAL DISPENSER	1372751	Two-Component Epoxies, Urethanes, Methacrylates	200 ml/400 ml dual cartridges	1:1, 2:1, 4:1, 10:1	High to Paste	Manual		

ITEMS IN RED = Source's PICK or NEW



# Coatings



49	COATINGS
51	Protective Coatings
55	Wear-Resistant Coatings

## WHY USE LOCTITE® PROTECTIVE COATINGS?

Wear and corrosion are common causes for failure in industrial equipment. Often this equipment is very expensive and repairing and protecting these assets offers a significant cost savings. Surface treatments and protective coatings are the most effective solution for surface protection. LOCTITE® Wear-Resistant and Protective Coatings offer superior protection for new and worn equipment in a variety of applications. Extending service life and increasing efficiency through reduced friction are just two examples of the benefits of using protective coatings to safeguard your assets.

## TRADITIONAL METHODS VS. LOCTITE® MODERN SOLUTION

Traditional repair methods such as hard-face welding are time consuming and expensive. Alternatively, LOCTITE® Coatings are easily applied on all surfaces and offer superior compressive strength and protection qualities.

LOCTITE® Coatings can help you restore and rebuild a wide variety of worn parts and put them back in serviceable condition.

### WEAR-RESISTANT COATINGS TECHNICAL CATALOG AND BROCHURE

Let Henkel help you select the proper coating for your application.

Refer to LOCTITE® Nordbak® Wear-Resistant Coatings Technical Catalog and Brochure by visiting [www.henkelna.com/literature](http://www.henkelna.com/literature)

Go to **Select a Category** and choose **Industrial Coatings** from the drop-down menu. You may either view the guide or request copies.



ADDITIONAL RESOURCES

## KEY BENEFITS OF LOCTITE® PROTECTIVE COATINGS:

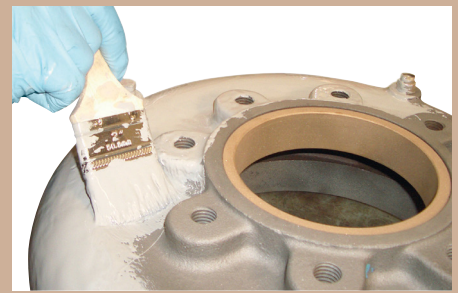
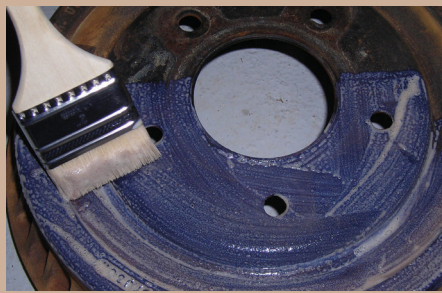
- Fast repair and easy application
- Restore worn surfaces and extend part life
- Make durable repairs right on product line
- Nonshrinking and non-sag formulations for large vertical applications
- May be drilled, tapped or machined after cure
- Excellent chemical resistance for effective protection of assemblies
- Protect against corrosion
- Can also be used to add gripping power or to color code tools

## WHAT IS THE PROPER SURFACE PREPARATION FOR WEAR-RESISTANT COATINGS?

A properly prepared surface is one that has been cleaned, dried and abraded. Substrates should be free from contamination, including oils, grease, dust, etc. It is also important that the surface is dry before working with a wear-resistant coating because moisture on the surface can interfere with the curing process. The final step is to abrade the surface to provide an increased surface area for bonding. When working with metals, the surface should be abraded to a near-white metal finish, which also helps to ensure that all surface corrosion is removed.

Henkel Adhesive and Sealant Product Specialists are available to assist you. For application assistance, call **1-800-LOCTITE (562-8483)**; *within Canada, call 1-800-263-5043*; or, contact us through the web at [www.henkelna.com/loctite](http://www.henkelna.com/loctite).

**STRAIGHT FROM** *The Source*



# Coatings

50

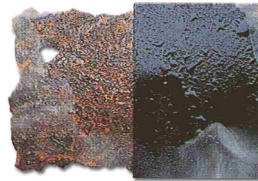
Coatings

## SURFACE RESTORATION MADE EASY!

### STOP RUST DEAD WITH EXTEND® RUST TREATMENT



**1** Brush or spray Extend® Rust Treatment onto any wire-brushed or sanded surface. Leave on some rust. Extend® Rust Treatment goes on white. Turns black in 10 minutes.



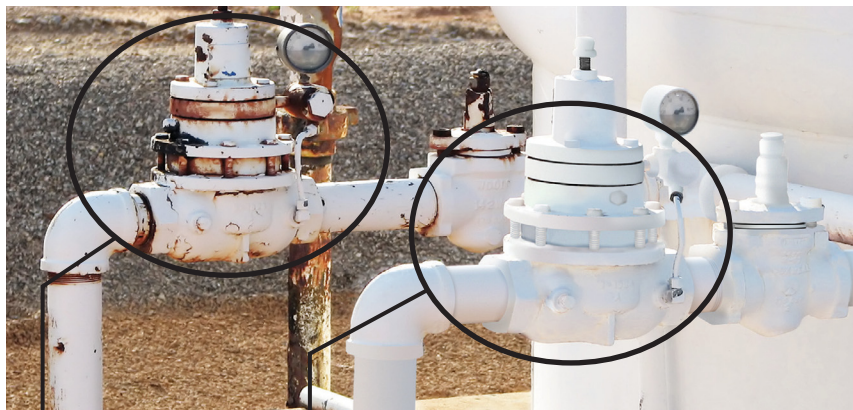
**3** 1 Year: Even under continuous high humidity Extend® Rust Treatment still looks new.



**2** 6 Months: Extend® Rust Treatment continues to prevent rust even with constant water/salt spray contact.



**4** 18 Months Later: Extend® Rust Treatment still keeps old rust from coming back. Prevents new rust from starting.



BEFORE

AFTER EXTEND® RUST TREATMENT AND FRESH PAINT

## PERFORMANCE CHARACTERISTICS

Extend® Rust Treatment's unique capability makes it ideal for maintenance use in applications where sandblasting is not practical or economical. Extend® Rust Treatment gives a quality level of conversion and protection, especially when followed by conventional prime and/or finish coats. Most finish paints will not require any additional primer. However, light color latex and metal filled paints require a solvent base primer on top of Extend® Rust Treatment coating before finish application.

Extend® Rust Treatment was tested for 100 hours at 95°F, condensing humidity, salt spray (ASTM B117-73), and satisfactory performance was obtained. This test is equivalent to 2 years of outdoor exposure. Protection is enhanced with Extend® Rust Treatment plus an overcoat such as epoxy, alkyd, urethane, or chlorinated rubber.

# Protective Coatings



## Your Application

- Protect, seal, insulate, prevent corrosion, add gripping power and color code tools
- Provide excellent resistance to acids, alkalis, salt and moisture, which can damage equipment

## SURFACE PROTECTION AND RUST PREVENTION

### Corrosion Protection

#### General-Purpose

#### Cathodic Protection

#### Cold Galvanizing Compound

#### Undercoating

#### Heavy-Duty Rubberized Undercoating

#### Non-Drying

#### Maxi-Coat™

#### Color Coding

#### Color Guard® Coating

## Solution

Description	Zinc Spray	Rubberized Spray	Wax Film	Rubber Coating
Color	Grey	Black	Brown	Red, Yellow, Blue, Black
Temperature Range	Up to 400°F (204°C)	Up to 200°F (93°C)	Up to 200°F (93°C)	Up to 200°F (93°C)
Cure/Dry Time	15 min.	20 min.	N/A	4 hrs.

## Product Description

### LOCTITE® Cold Galvanizing Compound

Sprays on metal surfaces to prevent corrosion even when the surface is scratched. Ideal touch-up for welded seams. Highly resistant to salt corrosion and water. Not resistant to acid or alkaline solutions. Contains no ozone-depleting compounds. Won't yellow, chalk or peel.

P/N	Package Size
82039	15 oz. net wt. aerosol

### LOCTITE® Heavy-Duty Rubberized Undercoating

This heavy-duty undercoating seals, protects and insulates. Rubberized for maximum durability. Features abrasion resistance and sound-deadening properties.

P/N	Package Size
30538	16 oz. net wt. aerosol

### LOCTITE® Maxi-Coat™

Heavy-duty coating provides long-term protection for metal parts, equipment and machinery. Forms a protective, waxy film that seals out moisture, air, acid and other corrosive elements. Great for protecting parts in storage. Removable with LOCTITE® Electrical Contact Cleaner.

P/N	Package Size
51211	12 oz. net wt. aerosol
51213	1 gallon can

### LOCTITE® Color Guard® Coating

#### *Inhibits Rust and Corrosion, Seals, Insulates and Identifies*

A solvent-based, modified thermoplastic liquid coating that dries to a durable, flexible, rubber-like protective coating on parts and equipment. Dip, spray or brush to apply. Great for tools, metals, electrical connections, masonry, wood, conveyors, glass, rope and fabric.

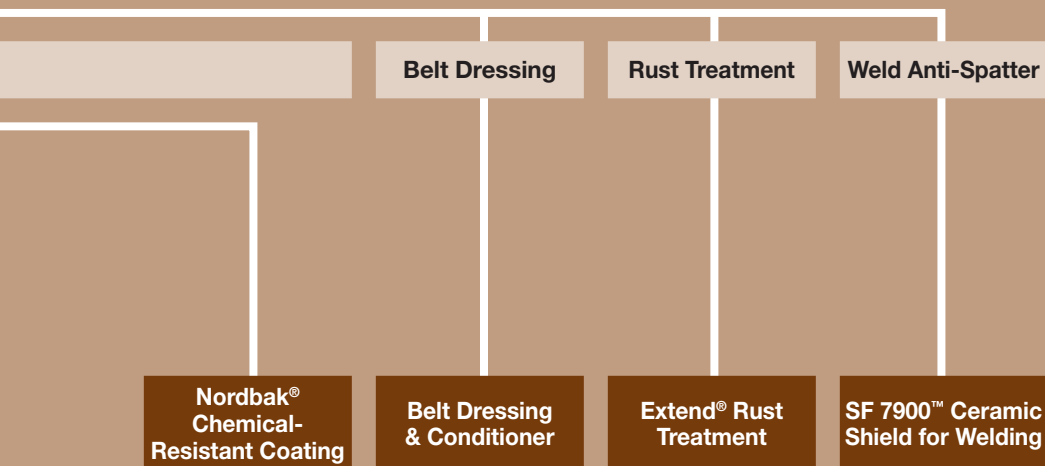
P/N	Package Size
34979	14.5 fl. oz. can, black
34980	1 gallon can, black
34982	14.5 fl. oz. can, blue
34983	1 gallon can, blue
34985	14.5 fl. oz. can, red
34988	14.5 fl. oz. can, yellow
34989	1 gallon can, yellow

## COATING HINTS

- When coating any surface, make sure the parts are clean and dry. Try doing a small test piece first to confirm that the coating meets your expectations. This will save you time and money if the desired results are not achieved.
- LOCTITE® Color Guard® Thinner can be used to remove cured LOCTITE® Color Guard® Coating.
- LOCTITE® Color Guard® Coating colors can be mixed to make different colors.

## HELPFUL HINTS





	Epoxy Coating		Liquid Spray		Rust Converter		Weld Anti-Spatter
	Grey		Colorless		Matte Black		White
	Up to 150°F (65°C)		Up to 200°F (93°C)		Up to 250°F (121°C)		N/A
	16 hrs.		N/A		30 min.		10 sec.

**LOCTITE® Nordbak®**  
**Chemical-Resistant**  
**Coating**

Smooth, glossy, low-friction finish protects against turbulence, abrasion and cavitation. This advanced epoxy protects equipment from extreme chemical attack and corrosion. Low viscosity epoxy can be applied by bristle brush. Not a wear-resistant coating.

<b>P/N</b>	<b>Package Size</b>
96092	12 lb. kit

## LOCTITE® Belt Dressing & Conditioner

Recommended to prevent slipping and increase friction for all types of belts. Extends belt life. Penetrates the cord fibers of "V" belts to restore pliability and flexibility. Eliminates squeaking and glazing. Not for serpentine belts. VOC compliant.

<u>P/N</u>	<u>Package Size</u>
30527	12 oz. net wt. aerosol

**LOCTITE® Extend®**  
**Rust Treatment**

Converts existing rust (rust required) into a stable base. Cured product acts as a primer ready for painting with oil- or solvent-based paint. Protects surface from corrosion. Use on metal pipes, valves, fittings, outside surfaces of storage tanks, fences, guardrails, wrought iron furniture, conveyors, and construction and agricultural equipment.

<b>P/N</b>	<b>Package Size</b>
30539	10.25 oz. net wt. aerosol (Clear)
75430	1 quart bottle
75448	1 gallon bottle
75465	5 gallon pail

**LOCTITE® SF 7900™**  
**Ceramic Shield for**  
**Welding**

A ceramic dry film protective coating for Mig/Mag welding processes. This product protects contact tips and welding nozzles by preventing adhesion of welding spatter. This results in significantly longer processing time (up to 8 hours) without cleaning of the welding equipment and reduction in downtime.

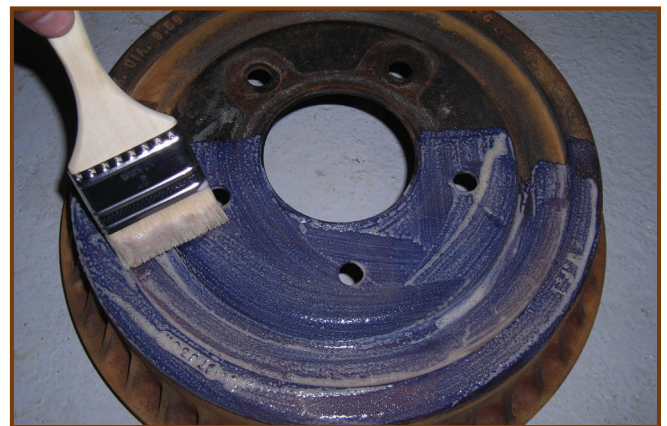
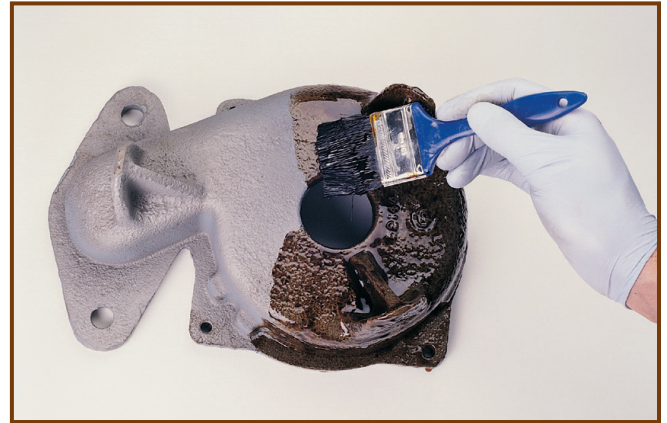
<u>P/N</u>	<u>Package Size</u>
1616692	9.5 oz. net wt. aerosol



# Protective Coatings

## LOCTITE® Protective Coating Properties Chart

LOCTITE® PRODUCT		ITEM NUMBER	PACKAGE TYPE/SIZE	COLOR	TEMPERATURE	DRY TIME	FULL CURE	COVERAGE	APPLICATION METHOD	AGENCY APPROVALS
LIQUID RUBBER COATINGS	COLOR GUARD® COATING	34979 34980	14.5 fl. oz. can 1 gallon can	Black	Up to 200°F (93°C)	4 hours (allow 30 minutes between coats)	24 hours at ambient temperature	180 sq. ft. per gallon at 2.5 mil thickness	Dip, brush or spray	CFIA Listed
	COLOR GUARD® COATING	34982 34983	14.5 fl. oz. can 1 gallon can	Blue						
	COLOR GUARD® COATING	34985	14.5 fl. oz. can	Red						
	COLOR GUARD® COATING	34988 34989	14.5 fl. oz. can 1 gallon can	Yellow						
RUST TREATMENT	EXTEND® RUST TREATMENT	30539	10.25 oz. net wt. aerosol	Clear Liquid	Up to 250°F (121°C) intermittent	Re-coat in 2 to 3 minutes	24 hours at ambient temperature	200 sq. ft. per gallon at 2.5 mil thickness	Aerosol spray	ABS, CFIA Listed
		75430 75448 75465	1 quart bottle 1 gallon bottle 5 gallon pail	Converts from a White Liquid to Matte Black	Up to 250°F (121°C) intermittent	Re-coat in 20 minutes			Brush or commercial sprayer	
SPECIALTY COATINGS	HEAVY-DUTY RUBBERIZED UNDERCOATING	30538	16 oz. net wt. aerosol	Brown to Black	Up to 200°F (93°C)	20 minutes	24 hours at ambient temperature	Recommended 2 coats	Aerosol spray	N/A
	MAXI-COAT™	51211 51213	12 oz. net wt. aerosol 1 gallon can	Brown	Up to 200°F (93°C)	3 to 6 hours	Waxy coat	Apply heavy coat with brush	Brush on	CFIA Listed
	COLD GALVANIZING COMPOUND	82039	15 oz. net wt. aerosol	Low Gloss Grey	Up to 400°F (204°C) constant; 600°F (316°C) intermittent	15 minutes to touch	24 hours at ambient temperature	Apply heavy coat at 12 to 15 inches away	Aerosol spray	CFIA Listed
	BELT DRESSING & CONDITIONER	30527	12 oz. net wt. aerosol	White	Up to 200°F (93°C)	Penetrates belt	Increases friction right away	Spray light coating	Aerosol spray	CFIA Listed
	NORDBAK® CHEMICAL-RESISTANT COATING	96092	12 lb. kit	Grey	Up to 150°F (65°C) wet; >200°F (93°C) dry	16 hours	48 hours	74 sq. ft. at 20 mil thickness	Roll or brush on	CFIA Listed
	SF 7900™ CERAMIC SHIELD FOR WELDING	1616692	9.5 oz. net wt. aerosol	White	N/A	10 seconds	10 seconds	Spray on sparingly (excess coating will flake)	Aerosol spray	N/A



# Wear-Resistant Coatings



## Your Application

- Utilize the superior wear properties of ceramic and the convenience of two-part epoxies to protect equipment like pumps, chutes and augers in harsh industrial environments
- Stand up to almost any corrosion, abrasion and wear problem
- Make large-scale repairs that last

## ARE YOU EXPERIENCING CORROSION OR WEAR?

### Wear

### Sliding abrasion or impact resistance?

### Sliding

### Are you filling shallow or deep wear?

### Shallow

## Solution

### Nordbak® Pneu-Wear

### Nordbak® Brushable Ceramic

### Nordbak® Sprayable Ceramic

### Nordbak® Wear Resistant Putty

Color	Grey	Grey or White	Green	Dark Grey
Maximum Temperature	225°F (107°C)	200°F (93°C)	200°F (93°C)	250°F (121°C)
Working Time*	30 min.	30 min.	40 min.	30 min.
Cure Time*	6 hrs.†	6 hrs.	6 hrs.	6 hrs.

## Product Description

**NOTE:** Available in trowelable and brushable formulations with special fillers for tough conditions.

### LOCTITE® Nordbak® Pneu-Wear

Resists fine particle abrasion caused in pipe elbows of pneumatic conveyor systems.

**ABS Approved.**

**P/N Package Size**

98383 3 lb. kit  
98382 25 lb. kit

**LOCTITE® Nordbak® 7224™ Pneu-Wear Cure Accelerator**

**P/N Package Size**

1736175 2.49 lb. can

### LOCTITE® Nordbak® Brushable Ceramic

Smooth, wear-resistant, low-friction coating to combat turbulence and cavitation on components such as pump housings and impellers.

**P/N Package Size**

98733 Grey 2 lb. kit  
98732 Grey 6 lb. kit  
96443 White 2 lb. kit  
997367\*\* Grey 12 lb. kit

### LOCTITE® Nordbak® 7255™ Sprayable Ceramic

Smooth, wear-resistant, low-friction coating to combat turbulence and cavitation on components such as pump housings and impellers.

**P/N Package Size**

1389509 Green 900 ml cartridge

### LOCTITE® Nordbak® Wear Resistant Putty

Ceramic fibers give this trowelable putty excellent wear and abrasion resistance with a smooth, low-friction finish. Can be used over other wearing compounds to fill voids

**P/N Package Size**

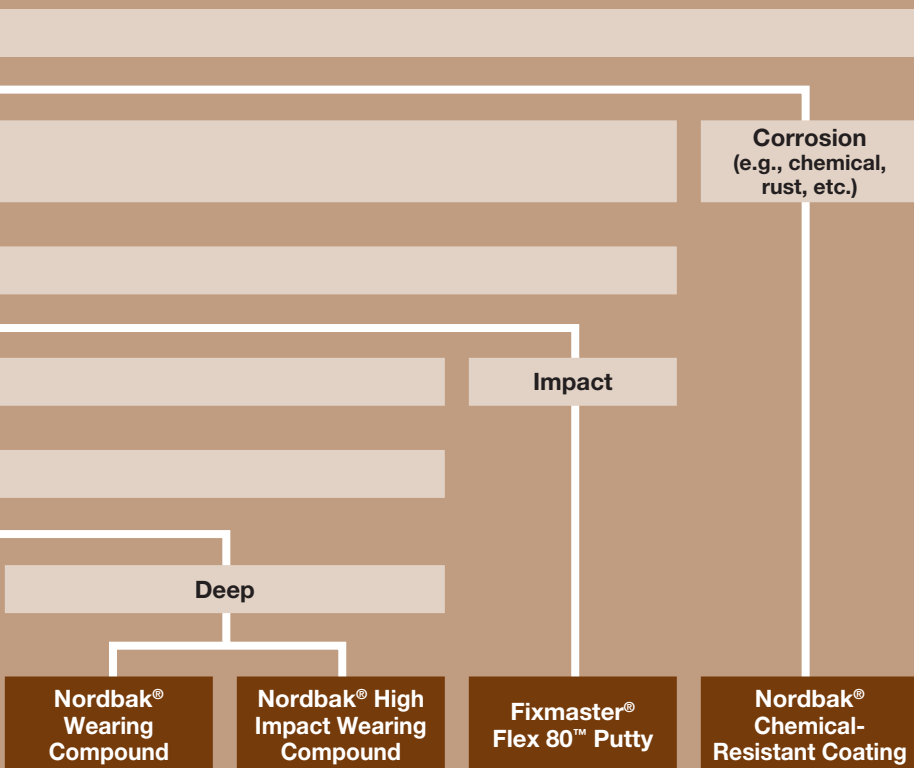
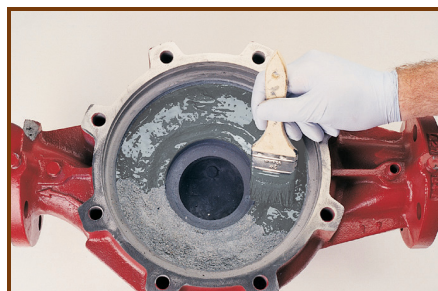
98742 1 lb. kit  
98743 3 lb. kit

\* At 77°F (25°C).

\*\* Made-to-order item.

† Cure time can be reduced to 2-3 hours with cure accelerator.





	Grey	Light Grey	Black	Grey
	250°F (121°C)	200°F (93°C)	180°F (82°C)	200°F (93°C)
	20 min.	20 min.	10 min.	20 min.
	6 hrs. <sup>†</sup>	6 hrs.	8 hrs.	16 hrs.

#### LOCTITE® Nordbak® Wearing Compound

Trowelable compound that protects against sliding abrasion. Use to rebuild and protect chutes, pump housings, elbows, cyclones and material handling equipment.

**P/N Package Size**  
1324008 5 lb. kit  
1323940 25 lb. kit

#### LOCTITE® Nordbak® 7223™ Wearing Compound Cure Accelerator

**P/N Package Size**  
1728412 2.49 lb. can

#### LOCTITE® Nordbak® High Impact Wearing Compound

Rubber-modified compound absorbs impact. Recommended where both sliding abrasion and impact are present.

**P/N Package Size**  
1327836 25 lb. kit

#### LOCTITE® Fixmaster® Flex 80™ Putty

A trowelable, two-part urethane for rebuilding and repairing rubber parts and linings, providing impact, abrasion, and corrosion resistant protection. Use Flex™ accessory products to properly etch, clean and prime surfaces.  
**ABS Approved.**

**P/N Package Size**  
97423 1 lb. kit  
97422 6 lb. kit

#### LOCTITE® Nordbak® Chemical-Resistant Coating

Smooth, glossy, low-friction finish protects against turbulence, abrasion and cavitation. This advanced epoxy protects equipment from extreme chemical attack and corrosion. Low viscosity epoxy can be applied by brush.




**P/N Package Size**  
96092 12 lb. kit

### COATING HINTS

- You may smooth out any composite repair product using isopropyl alcohol (IPA) or acetone and a gloved hand.
- When applying two coats of LOCTITE® Nordbak® Brushable Ceramic, a different color can be used for each: grey and white. When the first coat begins to wear, the second color coat will show through, providing an accurate visual indicator of wear.

HELPFUL HINTS

### NORDBAK® SPRAYABLE CERAMIC EQUIPMENT

LOCTITE® PRODUCT	ITEM NUMBER	DESCRIPTION
 PNEUMATIC HANDGUN	1175530	Dual cartridge handgun; 2:1 ratio. Spray adapter with pressure regulator, gauge, air hose.
 PRE-HEATER BOX	796993	Preheating system for 900 ml cartridge
 STATIC MIX NOZZLE	1248606	Mix nozzle 6.4 mm/24 elements include orifice restrictor OR4



# Wear-Resistant Coatings

## LOCTITE® Wear-Resistant Coating Properties & Applications Chart

LOCTITE® PRODUCT		ITEM NUMBER	PACKAGE TYPE/SIZE	COVERAGE (FT² @ 1/4 IN. THICKNESS)	COLOR	MAXIMUM OPERATING TEMPERATURE (°F)	COMPRESSIVE STRENGTH (psi)	SHORE HARDNESS	WORKING TIME (MINUTES) 77°F	FUNCTIONAL CURE (HOURS) 77°F	MIX RATIO BY VOLUME (R:H)	
COARSE/LARGE PARTICLE ABRASION	<b>NORDBAK® WEARING COMPOUND</b>	1324008 1323940	5 lb. kit 25 lb. kit	1.75 8.7	Grey	250	16,000	D 90	30	7 †	2:1	
	NORDBAK® HIGH TEMPERATURE WEARING COMPOUND	99112	25 lb. kit	8.7	Grey	450	15,000	D 90	30	N/A	4:1	
	NORDBAK® ULTRA-HIGH TEMPERATURE WEARING COMPOUND	96392	25 lb. kit	8.7	Red	550	N/A	D 90	30	N/A	2.5:1	
	NORDBAK® FAST CURE WEARING COMPOUND	96373	6 lb. kit	2.3	Blue	225	10,000	D 90	10	3	2:1	
	<b>NORDBAK® COMBO BEAD WEARING COMPOUND</b>	1324571	6 lb. kit	2.3	Grey	250	13,000	D 90	25	8	2:1	
	NORDBAK® LOW ODOR WEARING COMPOUND	41343	25 lb. kit	8.75	Grey	250	16,000	D 90	30	7	2:1	
FINE PARTICLE ABRASION	NORDBAK® PNEU-WEAR	98383 98382	3 lb. kit 25 lb. kit	1.1 9	Grey	250	15,000	D 85	30	6 ‡	4:1	
	NORDBAK® HIGH TEMPERATURE PNEU-WEAR	98372	25 lb. kit	8.7	Grey	450	15,000	D 90	30	N/A	4:1	
	NORDBAK® ULTRA-HIGH TEMPERATURE PNEU-WEAR	96332	25 lb. kit	8.8	Red	550	N/A	D 90	30	N/A	2:1	
	NORDBAK® FAST CURE PNEU-WEAR	96363 1117828***	6 lb. kit 25 lb. kit	2.3 9.6	Blue	225	12,000	D 90	10	3	2:1	
	NORDBAK® WEAR-RESISTANT PUTTY	98742 98743	1 lb. kit 3 lb. kit	0.37 1.11	Grey	225	11,600	D 89	30	N/A	2:1	
LIQUID/SLURRY TURBULENCE	NORDBAK® BRUSHABLE CERAMIC - GREY	98733 98732 997367***	2 lb. kit 6 lb. kit 12 lb. kit	12* 36* 72*	Grey	200	10,180	D 85	30	6	2.75:1	
	NORDBAK® BRUSHABLE CERAMIC - WHITE	96443	2 lb. kit	12*	White	200	10,866	D 85	15	5	2.8:1	
	NORDBAK® 7255™ SPRAYABLE CERAMIC	1389509	900 ml cartridge	8.8 ft²†	Green	230	15,400	D 86	40	6	100:50	
	NORDBAK® HIGH TEMPERATURE BRUSHABLE CERAMIC	96433 997369***	2 lb. kit 12 lb. kit	12* 72*	Red	550	16,000	D 90	120	N/A	2.6:1	
IMPACT WEAR RESISTANCE	<b>NORDBAK® HIGH IMPACT WEARING COMPOUND</b>	1327836	25 lb. kit	8.75	Grey	250	12,000	D 85	30	6	2:1	
	FIXMASTER® FLEX 80™ PUTTY	97423 97422	1 lb. kit 6 lb. kit	94** 560**	Black	180	N/A	A 87	10	8	2.5:1	
SPECIALTY WEAR RESISTANCE	<b>NORDBAK® CASTABLE WEARING COMPOUND</b>	98992	25 lb. kit	277 in.³	Grey	225	18,500	D 90	30	6	2:1	
	NORDBAK® CERAMIC TILE ADHESIVE	1324544	20 lb. kit	20††	Beige	200	14,000	D 88	60	12	1:1	
SPECIALTY COATINGS	NORDBAK® CHEMICAL-RESISTANT COATING	96092	12 lb. kit	75 sq. ft. at 20 ml thickness	Grey	150 wet/ >200 dry	10,000	D 83	20	16	2.3:1	

ITEMS IN RED = Source's PICK or NEW

\* 20 mil thickness. \*\* in.² at 1/4 in. thickness. \*\*\* Made-to-order item. † At 250 micron. †† At 1/8 in. thick.

‡ Cure time can be reduced using LOCTITE® Nordbak® 7223™ Wearing Compound Cure Accelerator, item # 1728412 (see page 56)

§ Cure time can be reduced using LOCTITE® Nordbak® 7224™ Pneu-Wear Cure Accelerator, item # 1736175 (see page 55)

△ Good Choice ▲ Preferred Choice

PLEASE NOTE: Properties are based on mixing 1 lb. mass at 77°F, ultimate cure.



	MIX RATIO BY WEIGHT (R:H)	AGENCY APPROVALS	FINE PARTICLE ABRASION	MULTIPLE PARTICLE ABRASION	IMPACT RESISTANCE	CHEMICAL CORROSION PROTECTION	HIGH TEMPERATURE RESISTANCE	FAST CURE	CORROSION PROTECTION	TILE INSTALLATION	PUMP REPAIR	ELBOWS	FAN HOUSINGS	CYCLONES	CHUTES
	2:1	NEHC, NAVSEA									△	△	▲	△	▲
	3.9:1	N/A					▲				△	△	▲	△	▲
	2.85:1	N/A					▲				△	△	▲	△	▲
	2:1	N/A						▲			△	△	▲	△	▲
	2:1	N/A	△	▲								△	△	△	△
	2:1	N/A	△	▲											
	4:1	ABS, CFIA, NEHC, NAVSEA	▲	△							▲	▲	△	▲	△
	4:1	N/A	▲	△			▲				▲	▲	△	▲	△
	2.27:1	N/A	▲	△			▲				▲	▲	△	▲	△
	2:1	CFIA	▲	△				▲			▲	▲	△	▲	△
	2:1	N/A				△			△		▲	▲	△	▲	△
	4.8:1	CFIA, NSF				△			▲		△				
	4.5:1	CFIA				△			▲		△				
	100:50	N/A							▲		△				
	4.25:1	N/A				△	▲		▲		△				
	2:1	N/A			▲										
	2.6:1	ABS			▲										
	6.8:1	N/A	△	△		△						▲		▲	
	1:1.25	N/A			△					▲					
	3.4:1	CFIA													

# Flooring & Concrete Repair



59	FLOORING & CONCRETE REPAIR
61	Anti-Slip Coatings
63	Floor Sealants & Topcoats
65	Flooring, Concrete Repair & Grouting

## WHY USE LOCTITE® FLOORING AND CONCRETE REPAIR PRODUCTS?

In today's harsh industrial environments, facility floors, concrete floors and other concrete structures endure constant abuse. The family of LOCTITE® Fixmaster® and LOCTITE® Nordbak® concrete repair products, and LOCTITE® Fixmaster® and LOCTITE® Big Foot® floor coating systems provide the solutions needed to keep facilities looking good and performing great. The systems include concrete repair products, primers and sealants, topcoats, and sealants for expansion and control joints. These two- or three-part, premeasured epoxy and urethane systems are non-shrinking and will bond to concrete without the use of special bonding agents. The full line includes water-based and 100% solids products. They are appropriate for vertical, horizontal and overhead surfaces. The full line includes products in a wide variety of compressive strengths, chemical and temperature resistance.

## WHAT CONSIDERATIONS ARE NECESSARY WHEN CHOOSING A LOCTITE® FLOORING REPAIR PRODUCT?

- **Anti-Slip Coating:** There are several factors to consider – the most important of which is profile size. A more aggressive profile will provide better traction and a higher coefficient of friction. A lower profile will provide a better walking surface and will be easier to clean, in addition to the anti-slip properties. It is also important to consider the substrate that is being coated and the type of exposure the coating will endure. Information and charts on the following pages will help guide you through the selection process.
- **Flooring, Concrete Repair & Grouting:** When choosing a floor or concrete repair product, the important things to consider are substrate condition, traffic and chemical exposure, and time available to complete the repair. Information and charts on the following pages will help you choose a product that will provide superior protection against the harshest environments or get your floor back in service in under an hour!

## KEY BENEFITS OF LOCTITE® FLOORING AND CONCRETE REPAIR PRODUCTS:

- Concrete protection
- Chemical resistance
- Improved facility safety
- Available in variety of colors
- Significantly higher compressive strengths than concrete
- Varying cure times ranging from 15 minutes to 24 hours, depending on product

## HOW IMPORTANT IS SURFACE PREPARATION?

A floor repair is only as good as the concrete or substrate to which it is adhering. It is important to check thoroughly for damaged or loose concrete, because a failure of the substrate below the repair would eventually degrade the integrity of the repair itself. Surface preparation is the most important aspect of any concrete or floor repair.

## WHEN DO I NEED TO USE A PRIMER?

It is always recommended that a primer be used before applying an anti-slip coating. Primers increase adhesion to the substrate and also seal porosity when applied on concrete. The decision of which primer to use is based on the product being used and the substrate. The following charts will assist you in choosing the right primer for your application.

Henkel Adhesive and Sealant Product Specialists are available to assist you with new product designs, or to help you re-engineer an existing application for improved performance and cost savings. They can also set up testing of your parts at the Henkel Customer Engineering Center. For application assistance, call **1-800-LOCTITE (562-8483)**; within Canada, call **1-800-263-5043**; or, contact us through the web at [www.henkelna.com/loctite](http://www.henkelna.com/loctite).

**STRAIGHT FROM** *The Source*





# Flooring & Concrete Repair

60

Flooring & Concrete Repair





# Anti-Slip Coatings



## Your Application

- Provide tough, long-lasting anti-skid surfaces for added safety
- Can be easily applied using LOCTITE® phenolic or bristle rollers to concrete, metal or wood surfaces
- Stand up to heavy traffic and harsh environments
- For maximum adhesion, use LOCTITE® Big Foot® primers

## Solution

### DO YOU HAVE PEDESTRIAN OR VEHICULAR TRAFFIC?

#### Pedestrian Traffic

**Barefoot Traffic, Highly Flexible, UV Resistance/ Outdoor Applications**

**Big Foot® Flexible Low Profile Exterior Grade**

**Light Pedestrian Traffic, Enhanced Cleanability, Indoor Applications**

**Big Foot® Low Profile Pedestrian Grade**

**Asphalt, Outdoor or Flexible Applications**

**Big Foot® Acrylic Pedestrian Grade**

**Light Rolling or Heavy Pedestrian Traffic**

**Big Foot® Heavy Duty Pedestrian Grade**

Color	Black/Grey	Black/Grey/ Safety Yellow	Black/Grey	Black/Grey/ Safety Yellow
Coverage per Gallon (ft. <sup>2</sup> /meter <sup>2</sup> )	60 ft. <sup>2</sup> (5.8 m <sup>2</sup> )	90 ft. <sup>2</sup> (8.3 m <sup>2</sup> )	70 ft. <sup>2</sup> (6.5 m <sup>2</sup> )	50 ft. <sup>2</sup> (4.7 m <sup>2</sup> )
Working Time (minutes)	N/A	60	N/A	N/A
Recommended Primer on Concrete or Porous Surfaces	LOCTITE® Big Foot® Acrylic Primer	LOCTITE® Big Foot® Water Based Primer/Sealer	LOCTITE® Big Foot® Acrylic Primer	LOCTITE® Big Foot® Water Based Primer/Sealer
Recommended Primer on Metal Surfaces	LOCTITE® Big Foot® Metal Primer	LOCTITE® Big Foot® Metal Primer	LOCTITE® Big Foot® Metal Primer	LOCTITE® Big Foot® Metal Primer
Profile Illustration				

## Product Description

### LOCTITE® Big Foot® Flexible Low Profile Exterior Grade

Single component, water-based, anti-slip coating. Designed for barefoot traffic in water-prone areas. It is chip-, scuff- and impact-resistant, as well as UV-resistant and flexible. Ideal for recreation areas as well as industrial and institutional facilities.

**P/N Package Size**  
1354766 1 gallon can, grey  
1352349 1 gallon can, black

### LOCTITE® Big Foot® Low Profile Pedestrian Grade

A two-component coating that combines water-borne epoxy resins and tough, fine-grained abrasives to produce a self-sealing, non-slip floor and deck coating. Enhanced cleanability, chemical resistance and coverage are but a few of the reasons LOCTITE® Big Foot® Low Profile Pedestrian Grade is the first choice for low-profile applications.

**P/N Package Size**  
1629607 1 gallon kit, black  
1633986 5 gallon kit, black  
1625197 1 gallon kit, light grey  
1629597 5 gallon kit, light grey  
1601332 1 gallon kit, safety yellow

### LOCTITE® Big Foot® Acrylic Pedestrian Grade

A single-component, elastomeric, anti-slip floor and deck coating for optimum adhesion to asphalt and flexible applications. Best for outdoor applications.

**P/N Package Size**  
1620706 1 gallon can, grey  
1629598 1 gallon can, black

### LOCTITE® Big Foot® Heavy Duty Pedestrian Grade

#### Chemical Resistant

For areas with heavy pedestrian or light rolling traffic. Ideal for ramps, walkways, locker rooms, stairs and assembly areas. Fire retardant when cured.

**P/N Package Size**  
1602679 1 gallon can, black  
1602121 1 gallon can, grey  
1629599 5 gallon can, grey  
1592315 1 gallon can, safety yellow

## USE A PRIMER

- Use a primer before applying any anti-slip coating to increase adhesion and seal porosity on concrete surfaces. See the selector chart at the beginning of this section for assistance in choosing the right primer for your application.

## HELPFUL HINTS



## LOCTITE® Anti-Slip Properties Chart

LOCTITE® PRODUCT		ITEM NUMBER	PACKAGE TYPE/SIZE	COLOR	COVERAGE	MIX RATIO BY WEIGHT/VOLUME (RESIN : HARDENER)	MIXTURE TEMP.	WORK TIME (MIN.)	FUNCTIONAL CURE (HOURS)*
ADHESIVES/COATINGS	BIG FOOT® LOW PROFILE PEDESTRIAN GRADE	1629607 1633986 1625197 1629597 1601332	1 gal. kit 5 gal. kit 1 gal. kit 5 gal. kit 1 gal. kit	Black Black Light Grey Light Grey Safety Yellow	90 ft. <sup>2</sup>	5.7:1	130°F	60	72
	BIG FOOT® FLEXIBLE LOW PROFILE EXTERIOR GRADE	1354766 1352349	1 gal. can 1 gal. can	Grey Black	60 ft. <sup>2</sup> per gallon	Single Component	140°F	N/A	24/72
	BIG FOOT® HEAVY DUTY PEDESTRIAN GRADE	1602679 1602121 1629599 1592315	1 gal. can 1 gal. can 5 gal. can 1 gal. can	Black Grey Grey Safety Yellow	50 ft. <sup>2</sup> per gallon	Single Component	140°F	N/A	12/72
	BIG FOOT® VEHICULAR GRADE	1602678 1602674 1625203	1 gal. kit 1 gal. kit 5 gal. kit	Black Grey Grey	40 ft. <sup>2</sup> per gallon	17.6:1 / 8.9:1	140°F	120	12/72
	BIG FOOT® ZERO V.O.C.	1624641 1716378	0.95 gal. kit 0.95 gal. kit	Black Grey	35 ft. <sup>2</sup> per gal.	8.5:1 / 3.75:1	140°F	60	24/72
	BIG FOOT® ACRYLIC PEDESTRIAN GRADE	1620706 1629598	1 gal. can 1 gal. can	Grey Black	70 ft. <sup>2</sup>	Single Component	140°F	N/A	4/24
PRIMERS/SEALERS	BIG FOOT® METAL PRIMER	1624642	1 gal. kit	Grey	250 ft. <sup>2</sup>	3.2:1 / 3:1	140°F	240	12
	BIG FOOT® ACRYLIC PRIMER	1620703	1 gal. pail	Clear	250 ft. <sup>2</sup>	Single Component	140°F	N/A	1 to 2
	BIG FOOT® WATER-BASED PRIMER/SEALER	1617851	1 gal. kit	Clear	320 ft. <sup>2</sup>	1:1 / 1:1	140°F	120	3 to 6

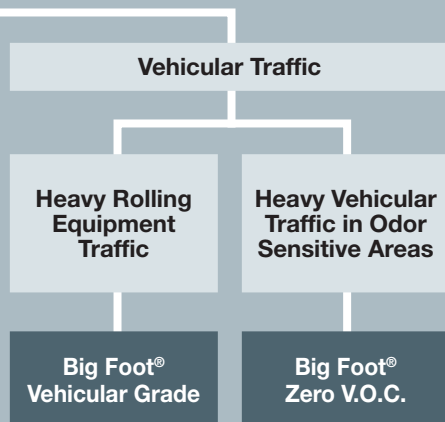
ITEMS IN RED = Source's PICK  
OR NEW

\* Cure Time is for light pedestrian/heavy pedestrian traffic. Values are temperature- and thickness-specific. PLEASE NOTE: For best adhesion results, it is critical to follow surface preparation procedures outlined in the Technical Data Sheet for the primer/sealer to be used in your application.

## LOCTITE® Anti-Slip Applications Chart

LOCTITE® PRODUCT	ASPHALT	WOOD	CONCRETE	METAL	FLEXIBLE COATING	WATER RESISTANT	CHEMICAL RESISTANT	ANTI-SLIP (PEDESTRIAN)	ANTI-SLIP (VEHICULAR)	ANTI-SLIP (ZERO V.O.C.)
<b>BIG FOOT® LOW PROFILE PEDESTRIAN GRADE</b>		▲	▲	▲			△	▲		
<b>BIG FOOT® FLEXIBLE LOW PROFILE EXTERIOR GRADE</b>	▲	▲	▲		▲	▲	△	▲		
<b>BIG FOOT® HEAVY DUTY PEDESTRIAN GRADE</b>		▲	▲	▲			▲	▲	△	
<b>BIG FOOT® VEHICULAR GRADE</b>		▲	▲	▲			▲	△	▲	
<b>BIG FOOT® ZERO V.O.C.</b>		▲	▲	▲			▲	△	△	▲
<b>BIG FOOT® ACRYLIC PEDESTRIAN GRADE</b>	▲	▲	▲	▲	▲	▲		▲		

△ Good Choice ▲ Preferred Choice



Black/Grey	Black/Grey
40 ft. <sup>2</sup> (3.7 m <sup>2</sup> )	35 ft. <sup>2</sup> (3.3 m <sup>2</sup> )
120	60
LOCTITE® Big Foot® Water Based Primer/Sealer	LOCTITE® Big Foot® Water Based Primer/Sealer
LOCTITE® Big Foot® Metal Primer	LOCTITE® Big Foot® Metal Primer

### LOCTITE® Big Foot® Vehicular Grade

Withstands even the heaviest rolling equipment traffic. Resists liquids as harsh as jet fuels and hydraulic fluids. Superior adhesion forms a solid bond to metal, concrete and wood.

**P/N Package Size**  
1602678 1 gallon kit, black  
1602674 1 gallon kit, grey  
1625203 5 gallon kit, grey

### LOCTITE® Big Foot® Zero V.O.C.

This 100% reactive, solvent-free epoxy has the most aggressive profile in the Big Foot® line. Use in odor-sensitive areas such as wineries, food processing plants, hospitals or confined spaces.

**P/N Package Size**  
1624641 0.95 gallon kit, black  
1716378 0.95 gallon kit, grey

## COATING ACCESSORIES

### LOCTITE® Big Foot® Phenolic Roller Cores (Heavy Duty, Vehicular, Acrylic Pedestrian, Zero V.O.C.)

Use with LOCTITE® Big Foot® Heavy Duty Vehicular and Zero V.O.C. Grade Coatings.



Item # 96121 1 per case

### LOCTITE® Big Foot® Bristle Roller Cores

Use with LOCTITE® Big Foot® Acrylic Primer, Metal Primer and Water-Based Primer / Sealer.

Item # 96153 1 per case



### LOCTITE® Mixer Blades

For use with all 1 gallon kits of LOCTITE® Big Foot® flooring compounds.

Item # 96131 1 per case



ADDITIONAL RESOURCES

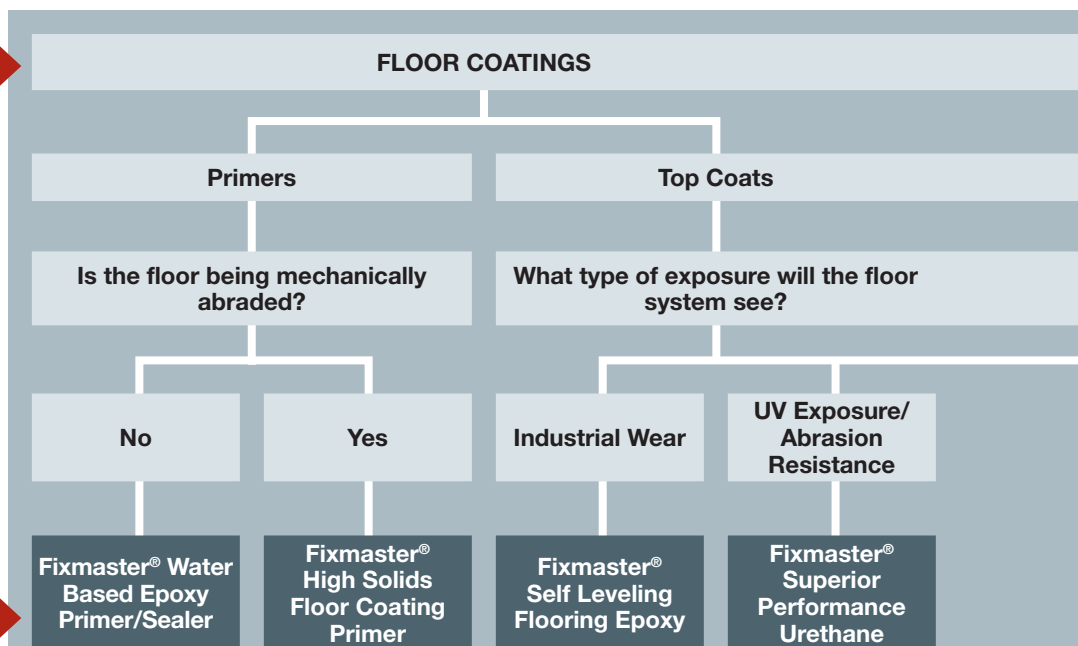
# Floor Sealants & Topcoats



## Your Application

- Bond to concrete without special bonding agents
- Provide a hard wearing, durable coating
- Keep facilities safe, looking good and performing great

## Solution



Color	Clear	Clear	See Below	See Below
Work Life	90 min.	40 min.	30 min.	4 hrs.
Recoat Time (hours)	6 to 48 hrs.	8 to 36 hrs.	8 to 72 hrs.	6 to 24 hrs.
Cure Time (full service)	N/A	N/A	72 hrs.	72 hrs.
Coverage (sq. ft./gal.)	250 sq. ft. at 5 to 7 mils	200 sq. ft. at 7 to 9 mils	105 sq. ft. at 15 mils	250 sq. ft. at 5 to 7 mils

## Product Description

### LOCTITE® Fixmaster® Water-Based Epoxy Primer/Sealer

LOCTITE® Fixmaster® Water Based Epoxy Primer/Sealer is a thin film, two-component, clear, water-based primer designed for use with most high performance floor coatings. It has a low viscosity for maximum penetration and can be brushed, rolled or sprayed on. Use over new or old concrete, masonry, wood and previously coated surfaces.

**P/N Package Size**  
 1617851 1 gallon kit  
 1617855 5 gallon kit

### LOCTITE® Fixmaster® High Solids Floor Coating Primer

LOCTITE® Fixmaster® High Solids Floor Coating Primer is a clear, high solids, high build primer designed for use with clear finish coats or any of the LOCTITE® Fixmaster® Self Leveling Flooring Epoxy systems. It is fast curing, low odor and low viscosity. Reduces bubbling and pinholes that occur when coating porous substrates. High build for use over mechanically prepared substrates.

**P/N Package Size**  
 1633983 1 quart kit  
 1634904 3 gallon resin  
 1634903 1 gallon hardener

### LOCTITE® Fixmaster® Self Leveling Flooring Epoxy

LOCTITE® Fixmaster® Self Leveling Flooring Epoxy is a two-component, 100% solids, high performance, self-leveling floor coating. Provides a high gloss, seamless, hygienic surface that is extremely hard wearing and durable. Has zero VOCs, is extremely low-odor and offers high chemical resistance.

**P/N Package Size**  
 1633982 1 quart kit, dark grey  
 1634304 1 quart kit, light grey  
 1634890 1 gallon hardener\*  
 1634894 3 gallon resin\*\*, dark grey  
 1634881 3 gallon resin\*\*, light grey

#### Line Striping

**P/N Package Size**  
 1633988 1 quart kit, white  
 1633987 1 gallon kit, white  
 1633984 1 quart kit, safety yellow  
 1633970 1 gallon kit, safety yellow

### LOCTITE® Fixmaster® Superior Performance Urethane

LOCTITE® Fixmaster® Superior Performance Urethane is an interior or exterior high solids, polyester aliphatic floor coating. This coating offers high chemical resistance and can be brushed, rolled or sprayed on to a thickness of 3 to 4 mils. Also available for use as line striping to mark particular areas of your plant in Safety Yellow or White.

**P/N Package Size**  
 1633890 1 quart kit, dark grey  
 1633981 1 quart kit, light grey  
 1634880 3 gallon resin, dark grey  
 1633892 3 gallon resin, light grey  
 1633947 1 gallon hardener

\* Needs Clear or Color Resin.  
 \*\* A Hardener must be added.



## LOCTITE® Floor Sealant & Topcoat Properties Chart

	LOCTITE® PRODUCT	ITEM NUMBER	PACKAGE TYPE/SIZE	COLOR	COVERAGE (PER GALLON)	CURE TIME	RECOAT TIME
TOPCOATS	<b>FIXMASTER® SELF-LEVELING FLOORING EPOXY</b>	1633982 1634304 1634890 1634894 1634881	1 quart kit 1 quart kit 1 gallon hardener* 3 gallon resin** 3 gallon resin**	Dark Grey Light Grey N/A Dark Grey Light Grey	110 ft. <sup>2</sup>	24 hours per foot 72 hours full cure	8 to 16 hours
	<b>LINE STRIPING</b>	1633988 1633987 1633984 1633970	1 quart kit 1 gallon kit 1 quart kit 1 gallon kit	White White Safety Yellow Safety Yellow	110 ft. <sup>2</sup>	24 hours per foot 72 hours full cure	8 to 16 hours
	<b>FIXMASTER® SUPERIOR PERFORMANCE URETHANE</b>	1633890 1633981 1634880 1633892 1633947	1 quart kit 1 quart kit 3 gallon resin 3 gallon resin 1 gallon hardener	Dark Grey Light Grey Dark Grey Light Grey N/A	110 ft. <sup>2</sup>	24 hours per foot 72 hours full cure	8 to 16 hours
	<b>FIXMASTER® NOVOLAC EPOXY COATING</b>	1633948 1634906 1634896	1 quart kit 3 gallon resin 1 gallon hardener	Light Grey Light Grey N/A	110 ft. <sup>2</sup>	24 hours per foot 72 hours full cure	8 to 16 hours
PRIMER / SEALERS	<b>FIXMASTER® WATER-BASED EPOXY PRIMER / SEALER</b>	1617851 1617855	1 gallon kit 5 gallon kit	Clear	250 ft. <sup>2</sup>	N/A	6 to 48 hours
	<b>FIXMASTER® HIGH SOLIDS FLOOR COATING PRIMER</b>	1633983 1634904 1634903	1 quart kit 3 gallon resin 1 gallon hardener	Clear	200 ft. <sup>2</sup>	N/A	8 to 36 hours

ITEMS IN RED = Source's PICK or NEW

Chemical  
Resistance &  
Containment

Fixmaster®  
Novolac Epoxy  
Coating

Light Grey

4 hrs.

6 to 24 hrs.

72 hrs.

105 sq. ft. at  
5 to 7 mils

### LOCTITE® Fixmaster® Novolac Epoxy Coating

A two-component, high solids, high chemical resistant coating ideal for chemical containment areas.

#### P/N Package Size

1633948 1 quart kit, light grey  
1634906 3 gallon resin, light grey  
1634896 1 gallon hardener

## COLOR COMPARISON CHART

### LOCTITE® Fixmaster® Topcoats

Self-Leveling  
Flooring Epoxy  
& Urethane

Line Striping



Dark Grey



White



Light Grey



Safety Yellow



# Flooring, Concrete Repair & Grouting



## Your Application

- Repair cracked concrete floors
- Keep facility floors, concrete floors and other concrete structures safe, looking good and performing great

## GENERAL CONCRETE OR FLOOR REPAIRS?

### General Concrete Repairs

#### Small Concrete Repairs

#### Fixmaster® Concrete Repair Epoxy

#### Crack Filler

#### Vertical Application

#### Fixmaster® Crack Filler NS

#### Horizontal Application

#### Fixmaster® Crack Filler SL

#### Large Application Area

#### Fixmaster® Crack Filler

## Solution

Color	Grey	Grey	Grey	Grey
Maximum Temperature	250°F (121°C)	135°F (57°C)	120°F (49°C)	180°F (82°C)
Compressive Strength	12,000 psi	9,800 psi	9,800 psi	6,170 psi
Working Time	4 to 7 min.	8 min.	3 to 6 min.	30 min.
Functional Cure	1 hr.	2 hrs.	90 min.	6 hrs.
Chemical Resistance	Good	Good	Good	Good

## Product Description

- When checking for damaged concrete, tap around the repair area with a hammer and listen for hollow spots. This will help to reveal damaged areas that are not apparent.
- Use LOCTITE® Fixmaster® Magna-Crete™ Summer Additive or Winter Additive with LOCTITE® Fixmaster® Magna-Crete™ or Magna-Grout™ to accelerate or slow the cure in high temperature or speed the cure in low temperature environments.

HELPFUL HINTS

#### LOCTITE® Fixmaster® Concrete Repair Epoxy

Enables permanent repairs to concrete and masonry. Convenient stick contains premeasured portions of activator and base. Once cured, it can be tapped, drilled, screwed, sawed, filed or painted, and will have an appearance and texture similar to concrete.

**P/N Package Size**  
39366 4 oz. stick

#### LOCTITE® Fixmaster® Crack Filler NS

Non-drip, non-sag formula will repair holes, spalls, and cracks in concrete, brick, block, and masonry on horizontal or vertical surfaces. This two-part, rapid curing, high strength epoxy will not soften over time, and can be used indoors or outdoors.

**P/N Package Size**  
1108886 8.6 fl. oz. cartridge

#### LOCTITE® Fixmaster® Crack Filler SL

Two-component, self-leveling, flexible formula in a coaxial cartridge. Can be used indoors or outdoors. Bonds concrete, block, brick, stone, wood and metal.

**P/N Package Size**  
1291113 8.6 fl. oz. cartridge

#### LOCTITE® Fixmaster® Crack Filler

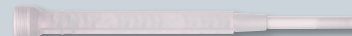
A three-component 100% solids epoxy designed for maximum productivity when filling cracks, pin holes and anchor bolt holes. Can also be used as a skim coat for mildly spalled areas, sealing and smoothing.

**P/N Package Size**  
1599980 3 gallon kit

### LOCTITE® 300 ml Single-Axis Cartridge Mix Nozzle

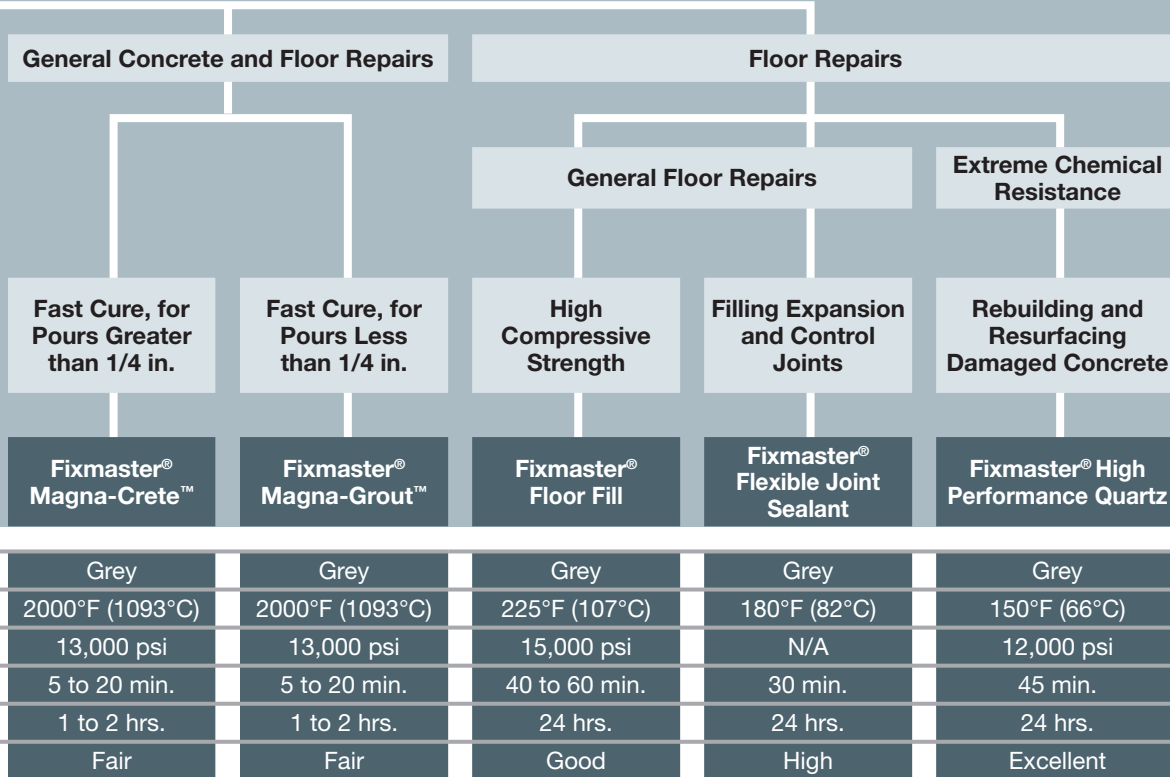
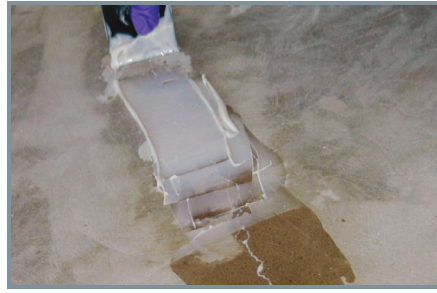
Threaded Tip, 10" overall length, 11.2 mm inner diameter; 20 elements.

**Item #** 1100962 3 pack



ADDITIONAL RESOURCES

\* Uses activator 976786.



#### LOCTITE® Fixmaster® Magna-Crete™

This two-component magnesium phosphate cement sets rapidly and has a very high early strength. Ideal for road and aircraft runway repairs, which can typically be driven over after 45 minutes. It bonds to new and old concrete, as well as most construction materials including wood, glass and steel. No water additive, can be applied at temperatures as low as -15°F (-26°C).

P/N	Package Size
95551	1 gallon kit
95555	5 gallon kit
1012500	1 lb. 12 oz. kit
831304*	2,475 lb. supersack
36334	1 gallon bottle – Activator
976786	55 gallon drum – Activator
40270	1 lb. tub – Winter Additive
40271	1 lb. tub – Summer Additive

#### LOCTITE® Fixmaster® Magna-Grout™

A two-component, rapid-setting concrete repair and grouting system with the same properties as Magna-Crete™ but containing smaller aggregate (less than 1/4 in.) so that the mixed material can be poured thinner for resurfacing applications and feather edging.

P/N	Package Size
1477097	1 gallon kit
1476710	5 gallon kit
1476709*	2,475 lb. supersack
36334	1 gallon bottle – Activator
976786	55 gallon drum – Activator
40270	1 lb. tub – Winter Additive
40271	1 lb. tub – Summer Additive

#### LOCTITE® Fixmaster® Floor Fill

A three-component, self-leveling, non-shrinking epoxy floor repair system. 100% solid, epoxy-based system for repairing holes in floors, spalled areas, ramps, stairs, cracks in floors, and for use in grouting applications. Stronger than concrete, it bonds to almost any clean substrate, and provides corrosion and chemical resistance. Typical dry service temperature ranges from -20°F to 225°F (-29°C to 107°C).

P/N	Package Size
99361	10 lb. kit
99365	40 lb. kit

#### LOCTITE® Fixmaster® Flexible Joint Sealant

A two-component, urethane-based sealant. Excellent adhesion, high chemical resistance, and excellent tensile strength, flexibility and elongation.

P/N	Package Size
1599979	1 gallon kit

#### LOCTITE® Fixmaster® High Performance Quartz

A highly-filled, quartz epoxy system designed to protect old or new concrete from chemical attack. Provides a surface resistant to concentrated acids, alkalis and solvents. Areas damaged by chemical attack may be resurfaced with HPQ. Easily applied, trowelable system that should be applied at a minimum 1/4 in. build to provide maximum chemical resistance.

P/N	Package Size
96495	42 lb. kit

#### LOCTITE® Heavy Duty Manual Cartridge Applicators

The non-sag, high viscosity formulas of LOCTITE® Fixmaster® Crack Filler NS, Anchor Bolt Grout and Anchor Bolt Grout HP require a heavy-duty dispensing tool.

Item #	Use with 300 ml cartridges	Use with 600 ml dual cartridges
1093940		
1093981		

**CONSUMABLES – DISPENSE ACCESSORIES**  
Static Mix Nozzles and Accessories – Pages 178-180



**ADDITIONAL  
RESOURCES**

# Flooring, Concrete Repair & Grouting



## LOCTITE® Flooring, Concrete Repair & Grouting Properties Chart

	LOCTITE® PRODUCT	ITEM NUMBER	PACKAGE TYPE/SIZE	COLOR	COVERAGE	MIXTURE VISCOSITY (cP)	MAXIMUM TEMPERATURE	COMPRESSIVE STRENGTH (psi)	WORKING TIME	FUNCTIONAL CURE	MIX RATIO BY VOLUME (RESIN : HARDENER)	MIX RATIO BY WEIGHT (RESIN : HARDENER)	AGENCY APPROVALS
GROUTS	FIXMASTER® DEEP POUR GROUT	99545	5 gallon kit	Black	660 in. <sup>3</sup>	Pourable	225°F	14,500	30 minutes	24 hours	4.1:1 to 8.2 Filler	16.4:3.6 to 80 Filler	CFIA Listed
	FIXMASTER® FAST SET GROUT	1324134	2 gallon kit	Red	347 in. <sup>3</sup>	5,500	200°F	14,500	10 minutes	12 hours	100:11.7	100:6.5	CFIA Listed
	FIXMASTER® SUPER GROUT	33510	5 gallon kit	Red	620 in. <sup>3</sup>	Pourable	225°F	12,900	4.75 hours	24 hours	N/A	10:5 to 85 Aggregate	N/A
ANCHOR BOLT GROUT	FIXMASTER® ANCHOR BOLT GROUT HP**	1108757	8.6 fl. oz. single cartridge	Grey	15.5 in. <sup>3</sup>	N/A	110°F 115°F	9,880	20 minutes	4 hours	100:80	N/A	N/A
		1108758	20.7 fl. oz. dual cartridge		37.36 in. <sup>3</sup>								
FLOOR REPAIR & RESURFACING	FIXMASTER® HIGH PERFORMANCE QUARTZ (EXTREME CHEMICAL RESISTANCE)	96495	42 lb. kit	Grey	15 ft. <sup>2</sup> (Coverage at 1/4 in. thickness.) 540 in. <sup>3</sup>	Semi-Pourable	150°F	12,000	Primer - 45 minutes Topcoat - 60 minutes	24 hours	Primer - 100:61 Topcoat - 100:60 to 282 Filler	N/A	CFIA Listed
	FIXMASTER® FLOOR FILL	99361 99365	10 lb. kit 40 lb. kit	Grey	133 in. <sup>3</sup> 532 in. <sup>3</sup>	Semi-Pourable	225°F	15,000	40 minutes	24 hours	4.6:1 to 9.8 Filler	16:3.2 to 80.8 Filler	CFIA Listed
	FIXMASTER® MAGNA-CRETE™ (WINTER OR SUMMER ADDITIVE REQUIRED, SEE BELOW)	95551 95555 1012500 831304*	1 gallon kit 5 gallon kit 1 lb. 12 oz. kit 2,475 lb. supersack	Grey	170 in. <sup>3</sup> 770 in. <sup>3</sup>	N/A	2000°F	13,000	5 to 20 minutes	1 to 2 hours	N/A	N/A	CFIA Listed
	FIXMASTER® MAGNA-GROUT™ (WINTER OR SUMMER ADDITIVE REQUIRED, SEE BELOW)	1477097 1476710 1476709*	1 gallon kit 5 gallon kit 2,475 lb. supersack	Grey	170 in. <sup>3</sup> 770 in. <sup>3</sup>	N/A	2000°F	13,000	5 to 20 minutes	1 to 2 hours	N/A	N/A	N/A
	WINTER ADDITIVE FOR MAGNA-CRETE™ AND MAGNA-GROUT™	40270	1 lb. tub for Winter Use	White	N/A	N/A	2000°F	13,000	5 to 20 minutes	(+)10 minutes	N/A	N/A	N/A
	SUMMER ADDITIVE FOR MAGNA-CRETE™ AND MAGNA-GROUT™	40271	1 lb. tub for Summer Use							(-)10 minutes			
	FIXMASTER® ACTIVATOR FOR MAGNA-CRETE™ & MAGNA-GROUT™	36334 976786	1 gallon bottle 55 gallon drum	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	FIXMASTER® CONCRETE REPAIR EPOXY	39366	4 oz. stick	Grey	N/A	Putty	250°F	12,000	4 to 6 minutes	1 hour	N/A	N/A	N/A
	FIXMASTER® FLEXIBLE JOINT SEALANT	1599979	1 gallon kit	Grey	231 in. <sup>3</sup>	17,000	180°F	N/A	30 minutes	6 hours	8:1	9.7:1	N/A
	FIXMASTER® CRACK FILLER	1599980	3 gallon kit	Grey	360 in. <sup>3</sup>	80,000	180°F	6,170	30 minutes	6 hours	3.5:1	4.3:1	N/A
	FIXMASTER® CRACK FILLER NS**	1108886	8.6 fl. oz. cartridge (one nozzle included)	Grey	15.5 in. <sup>3</sup>	Paste	135°F (57°C)	9,800	8 minutes	2 hours	1:1	N/A	N/A
	FIXMASTER® CRACK FILLER SL**	1291113	8.6 fl. oz. cartridge (one nozzle included)	Grey	15.5 in. <sup>3</sup>	Flowable	120°F (49°C)	N/A	3 to 6 minutes	90 minutes	1:1	N/A	N/A
CHOCKING COMPOUND	FIXMASTER® MARINE CHOCKING	97572	2 gallon kit	Green	378 in. <sup>3</sup>	15,000	250°F	22,000	10 minutes	24 hours	100:11.6	100:6.9	ABS, CFIA Listed
		37316 96102	1 gallon kit 2 gallon kit	Orange	132 in. <sup>3</sup> 378 in. <sup>3</sup>								ABS, NAVSEA, NEHC

\* Uses activator 976786.

\*\* Requires use of applicator and nozzles.



## LOCTITE® Flooring, Concrete Repair & Grouting Applications Chart

	LOCTITE® PRODUCT	ANCHOR BOLT FASTENING	CHOCKING (SHIPS)	CONCRETE FLOOR REPAIR	NON-SAG CONCRETE REPAIR	ENGINE INSTALLATION	GROUT LIGHT EQUIPMENT 1 IN. OR LESS	GROUT HEAVY EQUIPMENT 1-6 IN.	GROUT HEAVY EQUIPMENT TO 18 IN.	LEVELING EQUIPMENT	ACID/CHEMICAL RESISTANT FLOOR REPAIR	RAMPS & LOADING DOCKS	HIGHWAYS & ROADWAYS	LEVELING FLOORS
GROUTS	FIXMASTER® DEEP POUR GROUT					△	△	▲		△				
	FIXMASTER® FAST SET GROUT					△	▲			▲				
	FIXMASTER® SUPER GROUT					△		△	▲	△				
ANCHOR BOLT GROUT	FIXMASTER® ANCHOR BOLT GROUT HP	▲												
FLOOR REPAIR & RESURFACING	FIXMASTER® HIGH PERFORMANCE QUARTZ <small>(EXTREME CHEMICAL RESISTANCE)</small>			△							▲			
	FIXMASTER® FLOOR FILL			▲		△					△			
	FIXMASTER® MAGNA-CRETE™			▲			△	△				▲	▲	▲
	FIXMASTER® MAGNA-GROUT™			▲			△	△				▲	▲	▲
	FIXMASTER® CONCRETE REPAIR EPOXY	▲		▲						△	△	▲		
	FIXMASTER® FLEXIBLE JOINT SEALANT			▲							▲			
	FIXMASTER® CRACK FILLER			▲							▲			
	FIXMASTER® CRACK FILLER SL			▲							▲			
	FIXMASTER® CRACK FILLER NS				▲									
CHOCKING COMPOUND	FIXMASTER® MARINE CHOCKING		▲			▲	△			△				

ITEMS IN RED = Source's PICK or NEW

△ Good Choice ▲ Preferred Choice

## LOCTITE® Heavy Duty Cartridge Applicators

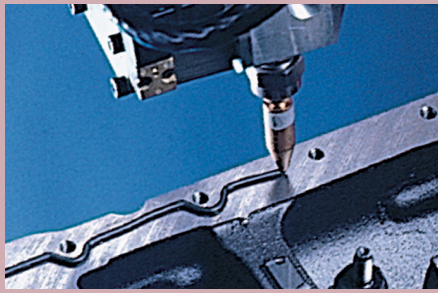
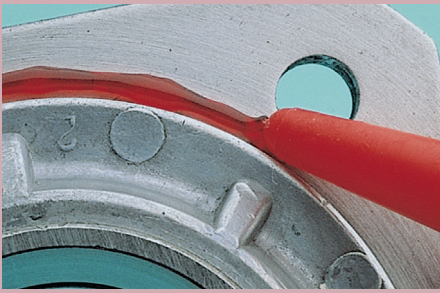
	LOCTITE® PRODUCT	ITEM NUMBER	DESCRIPTION	USED TO DISPENSE	RECOMMENDED MIX NOZZLE
MANUAL CARTRIDGE DISPENSERS		1093940	Manual Cartridge Applicator 300 ml Single/Coaxial/ Dual Cartridges (8.6 fl. oz., 26:1 Thrust)	LOCTITE® Fixmaster® Anchor Bolt Grout HP, Item 1108757	Item 1100962 (3 pk.)
				LOCTITE® Fixmaster® Crack Filler SL, Item 1291113	Item 1100963 (3 pk.)
				LOCTITE® Fixmaster® Crack Filler NS, Item 1108886	Item 1100962 (3 pk.)
	HEAVY DUTY MANUAL CARTRIDGE APPLICATOR 	1093981	Manual Cartridge Applicator 600 ml Dual Cartridges (20.7 fl. oz., 26:1 Thrust)	LOCTITE® Fixmaster® Anchor Bolt Grout HP, Item 1108758	Item 1100963 (3 pk.)



Your Source for **FLOOR FILL**  
LOCTITE® Fixmaster® Floor Fill 6-Step Process



# Gasketing & Sealing



69	GASKETING & SEALING
71	Anaerobic & RTV Gasketing & Sealing
74	Anaerobic & RTV Gasketing & Sealing Equipment
75	Elastomeric Gasketing & Sealing
80	Elastomeric Gasketing & Sealing Equipment
81	Windshield Glass Installation (DGX)
82	Windshield Glass Installation (DGX) Equipment

## WHY USE LOCTITE® GASKETING & SEALING PRODUCTS?

Gaskets are used to prevent leakage of fluids or gases by forming impervious barriers. For successful gasketing, it is necessary that the seal must remain intact and leak-free over a long period of time. The gasket must be resistant to fluids and/or gasses, and withstand the operating temperatures and pressures to which it is subjected. LOCTITE® gasketing products are self-forming gaskets that provide a perfect seal between components, with maximum face-to-face contact, eliminating flange face corrosion. A low-pressure seal is formed immediately on assembly. At full cure it provides a seal that won't shrink, crack or relax.

## TRADITIONAL METHODS VS. LOCTITE® MODERN SOLUTION

The major causes of failure and leakage of compression gaskets are:

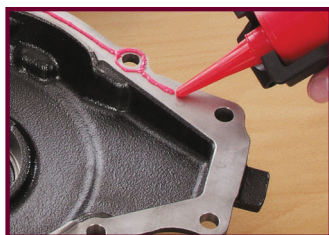
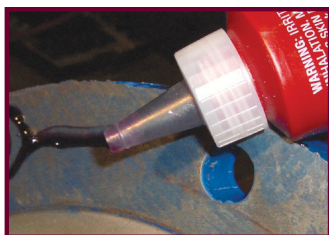
- Surface contact: Compression gaskets do not provide total contact between the gasket and the flange surfaces. Therefore, minor leakages may occur (weeping rate).
- Compression set: Compression gaskets relax under dynamic loads and decrease in thickness, with subsequent loss of bolt tension in the flange joint resulting in leakage.
- Extrusion: Gaskets can be squeezed out between flanges.
- Bolt hole distortion: High stresses are transferred to the gasket material under the bolt head, causing the gasket to crack, tear, rupture or extrude.

## KEY BENEFITS OF LOCTITE® GASKETING & SEALING PRODUCTS VS. CONVENTIONAL PRECUT COMPRESSION GASKETS:

- Single-component – easy and clean to apply
- Replace conventional gaskets – reduce inventory
- Excellent instant seal
- Fill all voids
- No need for re-torquing
- High resistance to solvents
- Resist high pressure when fully cured

Henkel Adhesive and Sealant Product Specialists are available to assist you with new product designs, or to help you re-engineer an existing application for improved performance and cost savings. They can also set up testing of your parts at the Henkel Customer Engineering Center. For application assistance, call 1-800-LOCTITE (562-8483); within Canada, call 1-800-263-5043; or, contact us through the web at [www.henkelna.com/loctite](http://www.henkelna.com/loctite).

**STRAIGHT FROM** *The Source*

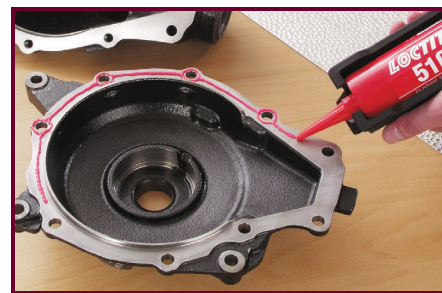


GENERAL COMPARISON & PROCESS CONSIDERATIONS	GASKET TYPE			
	CONVENTIONAL GASKET DRESSINGS	CURED-IN-PLACE SILICONES	FORMED-IN-PLACE ANAEROBICS	FORMED-IN-PLACE SILICONES
NUMBER OF COMPONENTS	1	1	1	1
BENEFITS	Versatile, immediate green strength (sticky)	High gap filling, reusable/serviceable gasket, immediate fill properties	Improved structural strength, long open time, high pressure seal	High gap filling, resistant to dynamic fatigue, on-line pressure testing
LIMITATIONS	Non-curing, limited gap fill, % shrinkage	Requires process equipment	Limited gap fill	Short open time
TEMPERATURE RESISTANCE				
CONTINUOUS OPERATION	-65°F to 400°F (-54°C to 204°C)	-60°F to 400°F (-51°C to 204°C)	-40°F to 400°F (-40°C to 204°C)	-60°F to 400°F (-51°C to 204°C)
MAXIMUM	600°F (315°C)	500°F (260°C)	400°F (204°C)	725°F (385°C)
FLUID RESISTANCE				
OIL	Yes	Yes	Yes	Yes
WATER/GLYCOL	Yes	Yes	Yes	Yes
FUEL	Limited	No	Limited	No
TRANSMISSION FLUID	Yes	Yes	Yes	Yes
GAP FILL				
IDEAL	0.001 in. to 0.005 in.	0.020 in. to 0.125 in.	0.001 in. to 0.005 in.	0.001 in. to 0.125 in.
MAXIMUM	0.010 in.	0.240 in.	0.050 in.	0.240 in.
INSTANT SEAL	High Pressure	High Pressure	Low Pressure	Low Pressure
FLANGE TYPE	Rigid or Flexible	Rigid or Flexible	Rigid	Rigid or Flexible
SUITABLE FOR USE WITH:				
METALS	Yes	Yes	Yes	Yes
PLASTICS	Yes	Yes	No*	Yes
CURE				
CURE METHOD	N/A	UV/RTV	Anaerobic	RTV
CURE TEMPERATURE	Room Temperature	Room Temperature	Room Temperature	Room Temperature
INITIAL CURE SPEED	Immediate	15 to 30 seconds	15 to 30 minutes	15 to 30 minutes
FULL CURE SPEED	N/A	30 seconds	24 to 72 hours	1 to 7 days
PROCESSING OPTIONS				
MANUAL	Yes	No	Yes	Yes
AUTOMATED	No	Yes	Yes	Yes

\* Uncured liquid adhesives may cause stress cracking of certain thermoplastics (e.g., polycarbonates, acrylics and polysulfone). Special products and process techniques are available. Consult the LOCTITE® Design Guide for Bonding Plastics (LT-2197) or call 1-800-(562-8483) for more information.

**PLEASE NOTE:** This chart should not be used to specify products without specific testing. It is recommended that you conduct on-part testing to ensure product performance before specifying any gasketing product.

# Anaerobic & RTV Gasketing & Sealing



## Your Application

- Revolutionized flange sealing in the automotive industry, the assembly of heavy equipment, and the manufacture of various types of fluid power equipment
- Remain a liquid when exposed to air, but cure when confined between mating flanges
- Best suited for small gap applications and rigid metal-to-metal assemblies

## Solution

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

No

Are you sealing a rigid or a flexible flange?

Rigid

Flexible

**510™  
Flange Sealant**

**518™  
Flange Sealant**

**587™ Blue, High  
Performance  
RTV Silicone  
Gasket Maker\***

**598™ Black\***

Gasket Type	Formed-in-Place	Formed-in-Place	Formed-in-Place	Formed-in-Place
Gap Fill	0.010" (0.25 mm)	0.010" (0.25 mm)	0.250" (6.35 mm)	0.250" (6.35 mm)
Gap Fill with Primer	0.020" (0.50 mm)	0.050" (1.27 mm)	N/A	N/A
Cure Method	Anaerobic	Anaerobic	Moisture (RTV)	Moisture (RTV)
Cure Time	4 to 24 hrs.	4 to 24 hrs.	50 min.	20 min.
Temperature Resistance (Continuous/Intermittent)	400°F (204°C)/ N/A	300°F (150°C)/ N/A	400°F (204°C)/ 500°F (260°C)	400°F (204°C)/ 500°F (260°C)
Oil Resistance	Excellent	Excellent	Excellent	Excellent
Water/Glycol Resistance	Excellent	Excellent	Excellent	Excellent
Recommended Primer	7088™, 7649™, 7471™	7088™, 7649™, 7471™	Not Required	Not Required

## Product Description

### LOCTITE® 510™ Flange Sealant

#### High Temperature

Product withstands temperatures to 400°F (204°C) and has excellent solvent and chemical resistance. Fills gaps up to 0.010 in. (0.254 mm) and maintains clamping loads for strong, leakproof assemblies. Makes or dresses gaskets in rigid assemblies. Eliminates gasket compression set.

P/N	Package Size
51031	50 ml tube
51041	250 ml tube
51074	300 ml cartridge

### LOCTITE® 518™ Flange Sealant

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

**NSF/ANSI 61 Certified.  
CFIA Listed.**

P/N	Package Size
22423	25 ml syringe kit
22424	300 ml syringe kit
51817	6 ml tube
51831	50 ml tube
51845	300 ml cartridge

### LOCTITE® 587™ Blue, High Performance RTV Silicone Gasket Maker

Recommended for sealing all types of flanges, including stamped sheet metal. Designed for superior bonding properties to oil-contaminated metals.

**ABS Approved.  
NSF/ANSI P1 Certified.  
CFIA Listed.**

P/N	Package Size
58730	70 ml tube
58775	300 ml cartridge
58791	50 lb. pail
40462	190 ml can

### LOCTITE® 598™ Black

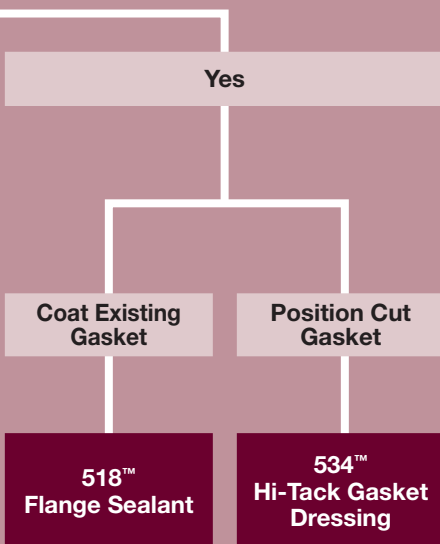
High-performance silicone gasket maker resists aging, weathering and thermal cycling without hardening, shrinking or cracking.

**CFIA Listed.**

P/N	Package Size
34018	0.5 oz. tube**
59830	70 ml tube
59875	300 ml cartridge
59891	49 lb. pail
40463	190 ml can

\* See page 77 for additional properties.

\*\* Uncarded tubes, sold as full cases of 100 pieces.



Formed-in-Place	Two-Part Acrylic
0.010" (0.25 mm)	N/A
0.050" (1.27 mm)	N/A
Anaerobic	Anaerobic
N/A	N/A
300°F (150°C)/ N/A	300°F (150°C)/ N/A
Excellent	Excellent
Excellent	N/A
7088™, 7649™, 7471™	Not Required

#### LOCTITE® 518™ Flange Sealant

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

**NSF/ANSI 61 Certified.  
CFIA Listed.**

P/N	Package Size
22423	25 ml syringe kit
22424	300 ml syringe kit
51817	6 ml tube
51831	50 ml tube
51845	300 ml cartridge

#### LOCTITE® 534™ Hi-Tack Gasket Dressing

No mess, semisolid formula offers added control and ease of use. Patented package is portable and won't leak or spill. Seals and holds the heaviest gaskets in place during assembly. Solvent-free and low odor. Suitable to 300°F (150°C).

P/N	Package Size
39156	19 g stick

#### WHEN SHOULD A LOCTITE® PRIMER BE USED?

LOCTITE® anaerobic adhesives cure (1) in the absence of air, and (2) in the presence of metal ions. When assembling inactive metal parts – which are low in metal ions – use of a LOCTITE® Primer is strongly recommended to ensure proper performance.

INACTIVE METALS (PRIMERS RECOMMENDED)		ACTIVE METALS (PRIMERS OPTIONAL)
PLATED PARTS	SILVER	IRON
ANODIZED ALUMINUM (ALODINE®, IRIDITE™)	GOLD	PLAIN STEEL
TITANIUM	ZINC	COPPER
STAINLESS STEEL	PURE	BRASS
GALVANIZED STEEL	ALUMINUM†	BRONZE
MAGNETITE STEEL	CADMIUM	MANGANESE
INCONEL™	MAGNESIUM	MONEL™
NICKEL	NATURAL OR CHEMICAL BLACK OXIDE	KOVAR™

Primers also help speed up cure rates. Fixture time can be reduced from several hours to minutes, allowing faster assembly and production throughput.

LOCTITE® primers are also recommended when assembling metal parts that are cold, have large gaps or deep threads.

**NOTE:** Using a primer will decrease ultimate bond strength.



#### GASKETING & SEALING PREP STEPS

- Clean parts with LOCTITE® ODC-Free Cleaner & Degreaser.
- If the parts were in contact with aqueous washing solutions or cutting fluids, which leave a protective layer on the surface, wash with hot water before use.
- If applying below 40°F, pretreat parts with LOCTITE® 7649™ Primer N™.

† Pure aluminum is an inactive metal. Alloys of aluminum containing copper are considered active metals.



HELPFUL HINTS

HELPFUL HINTS



# Anaerobic & RTV Gasketing & Sealing



## LOCTITE® Rigid Assembly Gasketing Product Properties Chart

LOCTITE® PRODUCT	ITEM NUMBER	PACKAGE TYPE/SIZE	COLOR	TYPICAL USE	GAP FILL (INCHES)	CURED STATE	VISCOSITY (cP)	TEMPERATURE RANGE	CURE SPEED	RECOMMENDED PRIMER	SPECIFIC GRAVITY	AGENCY APPROVALS
<b>RIGID ASSEMBLY GASKETING PRODUCTS</b>	<b>510™ HIGH TEMPERATURE</b> 	51031 51041 51074 50 ml tube 250 ml tube 300 ml cartridge	Red	High temp. applications, excellent solvent resistance	Unprimed – 0.010 Primed – 0.020	Rigid	188,000/ 500,000 Thixotropic	-65°F to 400°F (-54°C to 204°C)	Unprimed – 4 to 24 hrs. Primed – 30 min. to 4 hrs.	7088™, 7471™ or 7649™	1.16	N/A
	<b>515™</b>	51517 51531 51580 6 ml tube 50 ml tube 300 ml cartridge	Purple	For flexible applications	Unprimed – 0.010 Primed – 0.050	Flexible	275,000/ 950,000 Thixotropic	-65°F to 300°F (-54°C to 149°C)	Unprimed – 1 to 12 hrs. Primed – 15 min. to 2 hrs.	7088™, 7471™ or 7649™	1.10	UL Classified for U.S.
	<b>518™</b> 	22423 22424 51817 51831 51845 25 ml syringe kit 300 ml syringe kit 6 ml tube 50 ml tube 300 ml cartridge	Red	For all metals, including aluminum flanges	Unprimed – 0.010 Primed – 0.050	Flexible	800,000/ 3,750,000 Thixotropic	-65°F to 300°F (-54°C to 149°C)	Unprimed – 4 to 24 hrs. Primed – 30 min. to 4 hrs.	7088™, 7471™ or 7649™	1.13	NSF/ANSI 61, CFIA Listed
	<b>549™</b>	1661866 250 ml tube	Orange	Slow curing for extended assembly operations	Unprimed – 0.020 Primed – 0.050	Rigid	22,500	-65°F to 300°F (-54°C to 149°C)	Unprimed – 6 to 24 hrs. Primed – 2 to 24 hrs.	7471™ or 7649™	1.25	N/A
	<b>5127™</b>	17430 300 ml cartridge	Blue	For flexible applications, high elongation	0.010	Flexible	100,000/ 500,000 Thixotropic	-65°F to 300°F (-54°C to 149°C)	Unprimed – 4 to 24 hrs. Primed – 1 to 24 hrs.	7649™	1.10	N/A
<b>HIGHLY FLEXIBLE</b>	<b>509™</b>	21525 50965 300 ml cartridge 850 ml cartridge	Blue	Very flexible	Unprimed – 0.010 Primed – 0.020	Flexible	65,000/ 200,000 Thixotropic	-65°F to 300°F (-54°C to 149°C)	Unprimed – 6 to 48 hrs. Primed – 1 to 6 hrs.	7088™, 7471™ or 7649™	1.12	N/A
	<b>5188™</b>	1241991 1253203 98128 300 ml cartridge 50 ml tube Cartridge dispense tip	Red	Rigid metal flanges	0.005	Highly Flexible	14,000 - 32,000	-65°F to 300°F (-54°C to 149°C)	24 hrs. @ room temperature	7649™	1.10	N/A

## LOCTITE® Sealing / Dressing for Existing Gasket Properties Chart

LOCTITE® PRODUCT	ITEM NUMBER	PACKAGE TYPE/SIZE	COLOR	TYPICAL USE	CONSISTENCY	VISCOSITY (cP)	TEMPERATURE RANGE	CURE SPEED	OIL RESISTANCE	AGENCY APPROVALS
<b>SEALING / DRESSINGS FOR EXISTING GASKETS</b> <b>NONCORROSIVE</b>	<b>534™ HI-TACK GASKET DRESSING</b>	39156 19 g stick	Purple	Vertical, repositionable	Semisolid	N/A	-65°F to 300°F (-54°C to 149°C)	5 minutes to set	Oil resistant	N/A
	<b>GASKET SEALANT 1</b>	30510 30512 1.5 oz. tube 7 fl. oz. tube	Reddish-Brown	Fast dry, rigid cure	Paste	75,000/ 110,000	-65°F to 400°F (-54°C to 204°C)	Full strength – 24 hours	Oil resistant	CFIA Listed
	<b>GASKET SEALANT 2</b>	30513 30514 30515 80964 1.5 oz. tube 3 oz. tube 7 fl. oz. tube 5 gallon can	Black	Slow drying, flexible cure	Paste	75,000/ 110,000	-65°F to 400°F (-54°C to 204°C)	Remains tacky	Oil resistant	N/A
	<b>HIGH TEMPERATURE GASKET MAKER</b>	30558 7 fl. oz. tube	Black	High temperature	Paste	75,000/ 110,000	-50°F to 600°F (-45°C to 315°C)	3 to 5 hours to set	Oil resistant	CFIA Listed
	<b>HI-TACK GASKET SEALANT</b>	1540591 30526 1 pint brush-top can 9 oz. net wt. aerosol	Red	Improved heat transfer, repositionable	Liquid	420/650	-65°F to 500°F (-54°C to 260°C) [aerosol to 600°F/316°C]	5 minutes to set	Increased oil resistance	N/A
	<b>AVIATION GASKET SEALANT</b>	1522029 1 pint brush can	Dark Reddish-Brown	Close tolerance, slow cure	Liquid	85/140	-65°F to 400°F (-54°C to 204°C)	Full strength – 12 hours	Oil resistant	CFIA Listed
	<b>COPPER GASKET ADHESIVE</b>	30535 9 oz. net wt. aerosol	Copper	Improved heat transfer, fills surface imperfections	Aerosol	N/A	-50°F to 500°F (-45°C to 260°C)	Remains tacky	Oil resistant	N/A

## LOCTITE® Primer Properties Chart

LOCTITE® PRODUCT	ITEM	PACKAGE TYPE & SIZE	COLOR	VISCOSITY (cP)	BASE	ON-PART LIFE	DRY TIME	APPLICATION	AGENCY APPROVALS
<b>PRIMERS</b>	<b>7088™ PRIMER</b>	1069258 17 g stick	Teal	Semisolid	No solvent	30 days	None	Anaerobics	N/A
	<b>7090™</b>	19368 12695 1 fl. oz. bottle 1 liter bottle	Dark Blue	17.5	No solvent	1 hour	None	Anaerobics	N/A
	<b>7471™ PRIMER T™</b> 	19267 22477 19268 1.75 fl. oz. bottle 4.5 oz. net wt. aerosol can 1 gallon can	Amber	2	Acetone/ Isopropanol	7 days	30 to 70 seconds	Anaerobics	MIL-S-22473E for existing designs, ASTM D-5363 for new designs
	<b>7649™ PRIMER N™</b> 	19269 21347 21348 19266 1.75 fl. oz. glass bottle 25 g net wt. aerosol can 4.5 oz. net wt. aerosol can 1 gallon can	Clear/ Green	2	Acetone	30 days	30 to 70 seconds	Anaerobics	MIL-S-22473E for existing designs, ASTM D-5363 for new designs, NSF/ANSI 61, NSF P1, CFIA Listed

ITEMS IN RED = Source's PICK or NEW  = Indicates Worldwide Availability

U.S.: 1-800-LOCTITE (562-8483)

Canada: 1-800-263-5043

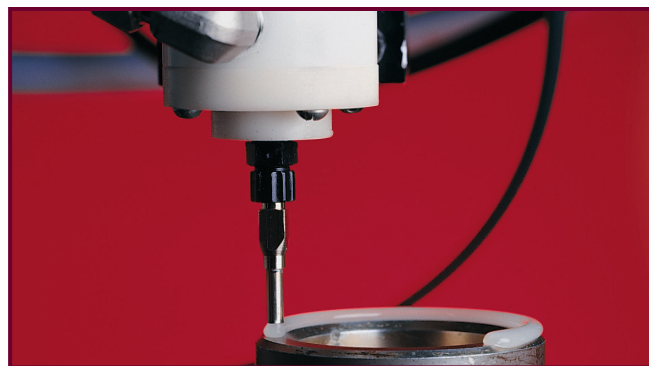
www.henkelna.com/loctite

www.equipment.loctite.com




# Anaerobic & RTV Gasketing & Sealing Equipment





## YOUR EQUIPMENT Source


For more details, see the **LOCTITE® Equipment Sourcebook, LT-3669**, or visit us on the web for additional information, diagrams, products and our full line of equipment at [www.equipment.loctite.com](http://www.equipment.loctite.com).






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LOCTITE® PRODUCT		ITEM NUMBERS	USED TO DISPENSE	PACKAGE TYPES & SIZES	VISCOSITY RANGE	CONSUMABLES – DISPENSE ACCESSORIES	
HANDHELD APPLICATORS	SYRINGE DISPENSING – SIMPLE MANUAL DISPENSERS FOR LOW VOLUME SYRINGE APPLICATIONS						
		30 ML MANUAL SYRINGE APPLICATOR	1544934	Any fluid in a 30 ml syringe, including 25 ml syringes	30 ml syringe	Low to High	Dispense Tips and Accessories – Pages 176-177
		10/30 ML SYRINGE MANUAL PLUNGERS	98192	Any fluid in a 10 ml syringe	10 ml syringe (3 pack)	Low to High	
			98193	Any fluid in a 30 ml syringe	30 ml syringe (3 pack)		
	TUBE DISPENSING – EASY BUT EFFECTIVE TUBE DISPENSING						
		50 ML-F TUBE SQUEEZE DISPENSER	1083845	Any 50 ml tube	50 ml tubes	Low to High	Dispense Tips and Accessories – Pages 176-177

LOCTITE® PRODUCT		ITEM NUMBER	PRESSURE REGULATION	USED TO DISPENSE	PACKAGE TYPE & SIZES	VISCOSITY RANGE	LOW LEVEL SENSING	CONSUMABLES – DISPENSE ACCESSORIES
CARTRIDGE DISPENSING	MANUAL CARTRIDGE DISPENSING							
	 MANUAL CARTRIDGE APPLICATOR 300 ML	1093940	N/A	Henkel Construction Adhesives, Caulking products in 10 oz. caulking tubes	300 ml cartridges	Medium to High	N/A	Cartridge Accessories – Page 177
	PNEUMATIC CARTRIDGE DISPENSING							
	 300 ML PNEUMATIC CARTRIDGE DISPENSING RETAINER	98319A	0 to 60 psi	Gel Cyanoacrylates, Anaerobic Gasketing, Light Cure/Acrylics, Silicones	300 ml cartridges	Low to Medium	No	Cartridge Accessories – Page 177
	 HD10 300 ML PNEUMATIC CARTRIDGE DISPENSER	1714379	0 to 60 psi	Gel Cyanoacrylates, Anaerobic Gasketing, Light Cure/Acrylics, Silicones	300 ml cartridges 250 ml tubes	Medium to High	No	
	 300 ML CARTRIDGE PUSHER	98022	0 to 50 psi	Gel Cyanoacrylates, Anaerobic Gasketing, Light Cure/Acrylics, Low Viscosity Silicones	300 ml cartridges 250 ml tubes	Medium	Yes	

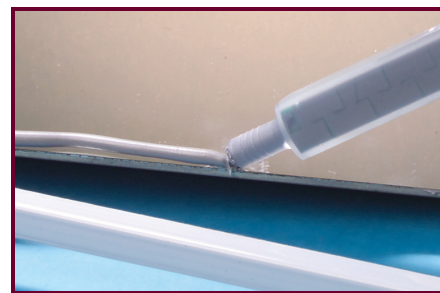
LOCTITE® PRODUCT		ITEM NUMBER	DISPENSE PATTERNS	USED TO DISPENSE	PACKAGE TYPE & SIZES	VISCOSITY RANGE	CONSUMABLES – DISPENSE ACCESSORIES
DISPENSE SYSTEMS	ANAEROBIC GASKETING DELIVERY SYSTEM						
	 PUMP-A-BEAD™ II DISPENSER	986000	Bead	Anaerobic Gasketing	850 ml cartridges	Medium to High	For Spare Parts and Accessories, visit <a href="http://www.equipment.loctite.com">www.equipment.loctite.com</a>

LOCTITE® PRODUCT		ITEM NUMBER	TYPE	VISCOSITY RANGE	DISPENSE PATTERNS	USED TO DISPENSE	STROKE ADJUSTMENT	SUCK-BACK	CONSUMABLES – DISPENSE ACCESSORIES
VALVES	SPRAY VALVE								
	 SPRAY VALVE	98520	Spray Valve	Low	Spray	Primers, Accelerators, Activators	Yes	No	989268 – 0.014" Nozzle Kit 989269 – 0.028" Nozzle Kit
	HIGH VISCOSITY FLUID AND PASTE VALVE								
	 POPPET VALVE	986300	High Viscosity Fluid and Paste	Medium to High	Drop, Bead	Anaerobic Gasketing	Yes	Yes	Dispense Tips and Accessories – Pages 176-177

LOCTITE® PRODUCT		ITEM NUMBER	PRESSURE REGULATION	USED TO DISPENSE	PACKAGE TYPES & SIZES	VISCOSITY RANGE	LOW LEVEL SENSING	CONSUMABLES – DISPENSE ACCESSORIES
CONTROLLERS	MULTI-FUNCTION CONTROLLER							
	 SPRAY VALVE CONTROLLER	1406023	0 to 100 psi	Primers, Accelerators, Activators	250 ml bottle 1 lb. bottle 1 liter bottle 2 kg bottle 200 g squeeze tube	Low	No	Use with Loctite® Spray Valve 98520

Your Source for Motion Control Robot Dispense Systems. See page 171.

# Elastomeric Gasketing & Sealing



## Your Application

- Excellent fluid resistance
- Formulations for high operating temperatures available
- UV-curing formulations for cure-in-place production requirements
- Suited best for large gap applications and stamped metal assemblies, where flange flexing occurs

## ARE YOU GASKETING OR SEALING?

### Gasketing

#### Fast Cure

#### High Fluid Resistance

#### One-Part

#### Light Cure

#### Rigid for High Torque

#### Normal Hardness

## Solution

### Instant Gasket

### 5050™ Fastgasket®

### 5699™

### 5810A™

Color	Black	Translucent	Grey	Black
Viscosity	Paste	Paste	Paste	Paste
Temperature Range	-75°F to 500°F (-59°C to 260°C)	Up to 300°F (150°C)	-75°F to 625°F (-59°C to 329°C)	-40°F to 300°F (-40°C to 150°C)
Oil Resistance	Increased Oil Resistance	N/A	Increased Oil Resistance	Excellent Oil Resistance
Agency Approvals	CFIA Listed	N/A	CFIA Listed	N/A

## Product Description

### LOCTITE® Instant Gasket

Makes high performance, leakproof gaskets in one minute. Equipment can be returned to service immediately. Blowout resistant. Outperforms pre-cut gaskets.

P/N	Package Size
30509	5 oz. cartridge
40479	190 ml can
40478	90 ml can

### LOCTITE® 5050™ Fastgasket® Silicone Adhesive Sealant

A UV light curing silicone for high speed adhesion, gasketing and sealing applications. High adhesion for difficult-to-bond substrates.

P/N	Package Size
1212166	300 ml cartridge
1212165	40 lb. pail

### LOCTITE® 5699™ Grey, High Performance RTV Silicone Gasket Maker

For rigid flange assemblies. Excellent fluid resistance. Easy to dispense, noncorrosive, low odor, low volatility. Grey in color.

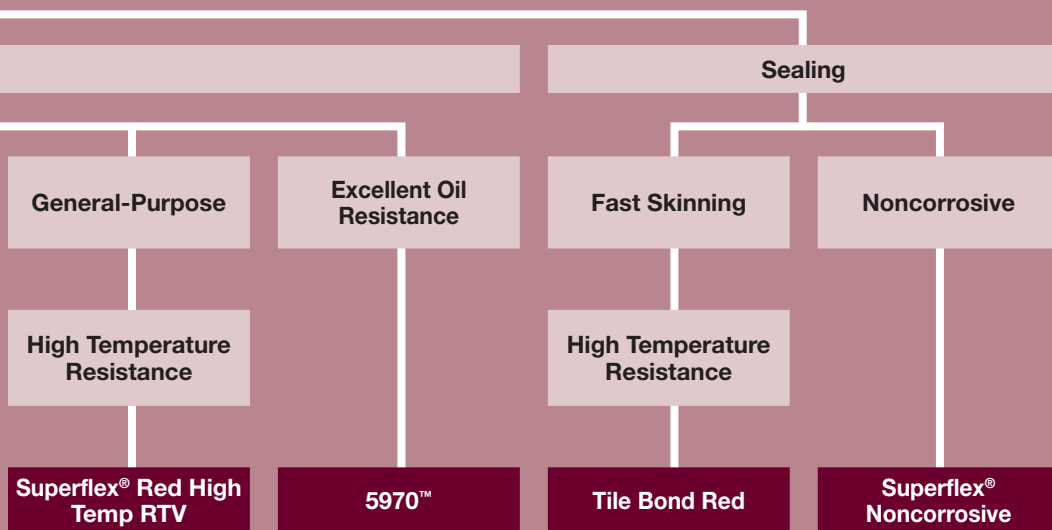
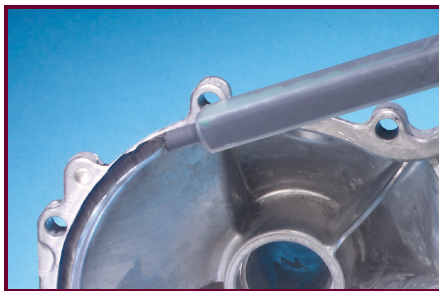
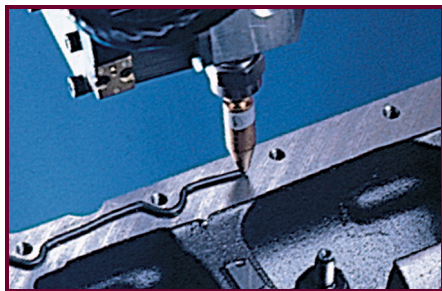
P/N	Package Size
18718	70 ml tube
18581	300 ml cartridge
18582	50 lb. pail
18583	550 lb. drum
40505	190 ml can

### LOCTITE® 5810A™

Single-component, non-silicone polyacrylate-based adhesive/sealant. Excellent oil resistance.

P/N	Package Size
39211	300 ml cartridge
39210	50 lb. pail

\* Made-to-order item.  
\*\* Also available in Grey and Black.



Red	Black	Red	Clear
Paste	N/A	Paste	Paste
-75°F to 600°F (-59°C to 316°C)	-40°F to 450°F (-40°C to 232°C)	Up to 600°F (316°C)	-75°F to 500°F (-59°C to 316°C)
N/A	Oil/Water Resistant	N/A	Oil Resistant
CFIA Listed	N/A	N/A	N/A

**LOCTITE® Superflex® Red High Temp RTV Silicone Adhesive Sealant**

Makes gaskets that resist temperatures to 600°F (316°C) intermittent. Resists aging, weather and thermal cycling without shrinking, cracking or hardening. Fills gaps to 0.25 in.

P/N	Package Size
59630	80 ml tube
59675	300 ml cartridge
82279	12 oz. tube
40465	190 ml can

**LOCTITE® 5970™ Alcoxy Gasket Maker**

A non-oxime gasket maker. Resistant to liquid coolants, oils and most automotive fluids.

P/N	Package Size
39246	300 ml cartridge
35230	50 lb. pail

**LOCTITE® Tile Bond Red, High Temp RTV Silicone Adhesive Sealant**

High initial tack strength silicone that resists temperatures to 600°F (316°C) intermittent.

P/N	Package Size
19163	300 ml cartridge
1162399	4.5 gallon pail

**LOCTITE® Superflex® Noncorrosive**

Neutral curing and noncorrosive for aluminum, concrete and electrical applications.

P/N	Package Size
51387	80 ml tube
51388	300 ml cartridge



# Elastomeric Gasketing & Sealing



## LOCTITE® Gasketing Properties Charts

LOCTITE® PRODUCT		ITEM NUMBER	PACKAGE TYPE/SIZE	COLOR	CONSISTENCY	OIL RESISTANCE	TEMPERATURE RANGE (INTERMITTENT)	SEALING TIME	AGENCY APPROVALS	
SEALING / FORMED-IN-PLACE	NONCORROSIVE	INSTANT GASKET	30509 40479 40478	5 oz. cartridge 190 ml can 90 ml can	Black	Paste	Increased oil resistance	-75°F to 500°F (-59°C to 260°C)	Operating strength 15 psi – 1 min.	CFIA Listed
		598™ BLACK	34018 59830 59875 59891 40463	0.5 oz. tube** 70 ml tube 300 ml cartridge 49 lb. pail 190 ml can	Black	Paste	Excellent oil resistance	-75°F to 625°F (-59°C to 329°C)	Tack-Free – 30 min. Full Strength – 24 hrs.	CFIA Listed
		587™ BLUE, HIGH PERFORMANCE RTV SILICONE GASKET MAKER	58730 58775 58791 40462	70 ml tube 300 ml cartridge 50 lb. pail 190 ml can	Blue	Paste	Increased oil resistance	-75°F to 500°F (-59°C to 260°C)	Tack-Free – 30 min. Full Strength – 24 hrs.	NSF P1, CFIA Listed, ABS
		5699™ GREY	18718 18581 18582 18583 40505	70 ml tube 300 ml cartridge 50 lb. pail 550 lb. drum 190 ml can	Grey	Paste	Increased oil resistance	-75°F to 625°F (-59°C to 329°C)	Tack-Free – 30 min. Full Strength – 24 hrs.	CFIA Listed
		5920™ COPPER	30542 82046 21472	70 ml tube 300 ml cartridge 40 lb. pail	Copper	Paste	Increased oil resistance	-65°F to 700°F (-54°C to 371°C)	Tack-Free – 60 min. Full Strength – 24 hrs.	CFIA Listed

LOCTITE® PRODUCT	ITEM NUMBER	PACKAGE TYPE/SIZE	COLOR	TYPICAL USE	GAP FILL (INCHES)	EXTRUSION RATE (g/min.)	TEMP. RANGE	CURE METHOD	CURE SPEED*	SPECIFIC GRAVITY	SHORE HARDNESS	% ELONGATION	TENSILE STRENGTH (psi†)	AGENCY APPROVALS
FORMED-IN-PLACE	<b>5620™</b>	1257478	400 ml dual cartridge	Ultra-clear potting, encapsulating, and sealing; noncorrosive	Unlimited	N/A	-40°F to 450°F (-40°C to 232°C)	Two-part	30 min.	1.00	A 35	N/A	N/A	N/A
		Part A - 1257595 Part B - 1257597	40 lb. pail											
		Part A - 1257594 Part B - 1257596	400 lb. drum											
			400 lb. drum											
	<b>5900®</b>	20166	300 ml cartridge	High adhesion, instant seal	0.250	35	-65°F to 500°F (-54°C to 260°C)	Moisture	Tack-Free – 20 min. Full Cure – 24 hrs.	1.34	A 35	550	200	CFIA Listed, NSF P1
		20167 20168	50 lb. pail 550 lb. drum											
	<b>5905™</b>	38535 36923	300 ml cartridge 50 lb. pail	High adhesion, fast cure depth	0.240	350	-65°F to 500°F (-54°C to 260°C)	Moisture	Tack-Free – 20 min. Full Cure – 24 hrs.	1.30	A 39	345	270	CFIA Listed
		40969	300 ml cartridge											
	<b>5910®</b>	21746 21747 21748	300 ml cartridge 50 lb. pail 550 lb. drum	High adhesion	0.240	600	-65°F to 500°F (-54°C to 260°C)	Moisture	Tack-Free – 20 min. Full Cure – 24 hrs.	1.34	A 30	550	200	CFIA Listed
	<b>5970™</b>	39246 35230	300 ml cartridge 50 lb. pail	Oil/water resistance	0.240	60	-40°F to 450°F (-40°C to 232°C)	Moisture	Tack-Free – 25 min. Full Cure – 24 hrs.	1.41	A 44	>200	278	N/A
	<b>5999™</b>	21744 28298 20170	300 ml cartridge 50 lb. pail 550 lb. drum	Oil/water resistant, instant seal	0.240	105	-75°F to 625°F (-59°C to 329°C)	Moisture	Tack-Free – 10 min. Full Cure – 24 hrs.	1.45	A 60	175	500	N/A
	<b>5045™</b>	40409 40408 40724	3 oz. tube 300 ml cartridge 40 lb. pail	Military, high tensile	0.250 in.	40	-65°F to 400°F (-54°C to 204°C)	Moisture	Tack-Free – 1.5 hrs. Full Cure – 24 hrs.	1.14	A 25	>500	>493	MIL-A-46146B

ITEMS IN RED = Source's PICK or NEW

\* Varies with substrates.

\*\* Uncured tubes, sold as full cases of 100 pieces.

† Grit-blasted steel.

 = Indicates Worldwide Availability

## LOCTITE® Gasketing Properties Chart

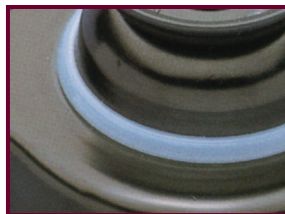
LOCTITE® PRODUCT		ITEM NUMBER	PACKAGE TYPE/SIZE	COLOR	CONSISTENCY	OIL RESISTANCE	TEMPERATURE RANGE (INTERMITTENT)	SEALING TIME	AGENCY APPROVALS
POLYACRYLATE	5810A™	39211 39210	300 ml. cartridge 50 lb. pail	Black	Paste	Excellent oil resistance	-40°F to 300°F (-40°C to 150°C)	Tack-Free – 190 min.	N/A
	SUPERFLEX® RTV – BLUE, EQUIPMENT GREEN & CONSTRUCTION YELLOW	30560 30533 30518 40482 1165866	80 ml tube 300 ml cartridge 12 oz. tube 190 ml can 190 ml can	Blue Blue Blue Blue Equipment Green	Paste	N/A	-65°F to 500°F (-54°C to 260°C)	Tack-Free – 30 min. Full Strength – 24 hrs.	N/A
SUPERFLEX® RTV SILICONES	SUPERFLEX® RED HIGH TEMP RTV	59630 59675 82279 40465	80 ml tube 300 ml cartridge 12 oz. tube 190 ml can	Red	Paste	N/A	-75°F to 600°F (-59°C to 316°C)	Tack-Free – 30 min. Full Strength – 24 hrs.	CFIA Listed
	SUPERFLEX® NON-CORROSIVE RTV, CLEAR	51387 51388	80 ml tube 300 ml cartridge	Clear	Paste	Oil resistant	-75°F to 500°F (-59°C to 260°C)	Tack-Free – 25 min. Full Strength – 24 hrs.	N/A
	TILE BOND RED HIGH TEMP RTV	19163 1162399	300 ml cartridge 4.5 gallon pail	Red	Paste	N/A	Up to 600°F (316°C)	Tack-Free – 30 min. Full Strength – 24 hrs.	N/A
HIGH TEMPERATURE	SILICONE								

## LOCTITE® Elastomeric Gasketing Attributes & Applications Chart


LOCTITE® PRODUCT		MAIN ATTRIBUTES	APPLICATIONS
GASKETING SILICONES	INSTANT GASKET	Instant seal and blowout resistance, replaces most cut gaskets, low odor, sensor-safe	Timing gear and valve covers, water pumps, gearboxes, transmission pans
	598™ BLACK	Forms a tough, flexible silicone rubber gasket	Oil pans, valve covers, timing gear covers, differential covers
	587™ BLUE	Plant maintenance and small-to-large-sized OEMs	Typical automotive gasketing applications
	5699™ GREY	Excellent oil resistance	Rigid flange sealing of transmissions and cast metal housings
	5920™ COPPER	Fills voids in surfaces for a positive seal	Adheres to most surfaces
	5905™ BLACK	Fast cure, excellent fluid resistance	Large gap applications, flange flexing
	SUPERFLEX® BLUE RTV	Forms a tough, flexible silicone rubber gasket, oxygen sensor-safe	Typical automotive gasketing applications
	SUPERFLEX® RED HIGH TEMP RTV	Plant maintenance and small-to-large-sized OEMs low silicone volatiles	Automotive gasketing, industrial furnaces, boilers, ducting
	SUPERFLEX® NON-CORROSIVE RTV, CLEAR	Resists steam, chemical and UV ozone exposure	Adheres to most surfaces

ITEMS IN RED = Source's PICK or NEW

# Elastomeric Gasketing & Sealing



## LOCTITE® Cured-in-Place Silicone Gasketing Properties Chart

CURED-IN-PLACE												
LOCTITE® PRODUCT	ITEM NUMBER	PACKAGE TYPE/SIZE	COLOR	CONSISTENCY	EXTRUSION RATE (g/min.)	CURE METHOD	CURE SPEED*	SHORE HARDNESS	% ELONGATION	TENSILE STRENGTH (psi†)	AGENCY APPROVALS	
5039™ NUVA-SIL®	40438 40439	300 ml cartridge 40 lb. pail	Translucent/ Colorless/ Fluorescent	Paste	222	UV or Visible/ Moisture	30 sec. @ 120 mW/cm²	A 40	210	290	N/A	
5050™ FASTGASKET®	1212166 1212165	300 ml cartridge 40 lb. pail	Translucent	Paste	500	Ultraviolet	Ultraviolet	A 45	260	421	N/A	
5950™ FASTGASKET® 	29287 18495	300 ml cartridge 40 lb. pail	Black	Paste	350	UV/Moisture	30 sec. @ 120 mW/cm²	A 27	200	150	N/A	
5964™ PROCURE™	34347	50 lb. pail	Brown	Paste	120	Heat/ Microwave	10 min. @ 302°F (150°C) VFM 2 to 4 min.	A 28	530	635	N/A	
3407™ OPTILOC™	35173	30 ml syringe	Black	Paste	5	Heat	60 min. @ 302°F (150°C)	A 38	>600	>493	N/A	

ITEMS IN RED = Source's PICK or NEW

\* Varies with substrates.

† Grit-blasted steel.

 = Indicates Worldwide Availability

### LOCTITE® Manual Cartridge Applicators

This applicator has a revolving barrel frame that rotates to allow for easy application of materials around corners. The one-piece sintered friction catch plate has extra durability and higher precision when compared to models with two-piece friction catch plate with plastic inserts.

#### Description:

- High mechanical advantage 26:1 ratio
- 300 ml cartridges
- Medium to high viscosity range



Item #

1093940

use with 300 ml cartridges

### Easy-to-Dispense Aerosol Can Systems for LOCTITE® Silicones

Several LOCTITE® silicones are now available in the most advanced system for dispensing silicones. This new package offers effortless fingertip control, easy-to-use (even upside down), and accurate dispensing while eliminating the waste, mess, and caulking guns needed for other silicone dispense systems.

Item #	Quantity	Product Name
40479	190 ml	Instant Gasket
40478	90 ml	Instant Gasket
40505	190 ml	5699 Grey
40462	190 ml	587 Blue
40463	190 ml	598 Black
40465	190 ml	RTV Red
40481	190 ml	RTV Clear
40466	190 ml	RTV White
40464	190 ml	RTV Black
40482	190 ml	RTV Blue
1165866	190 ml	Equipment Green RTV

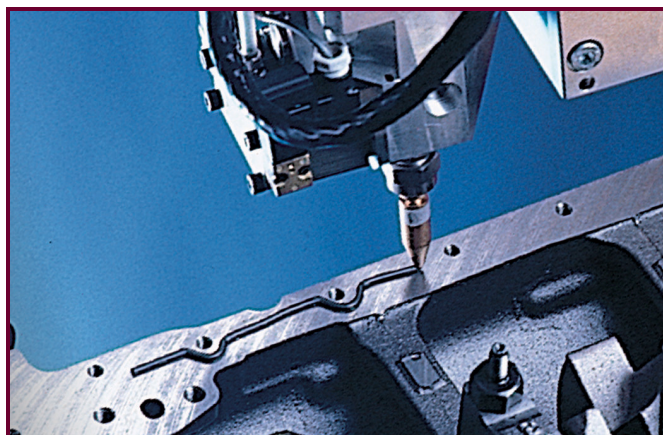


ADDITIONAL RESOURCES

# Elastomeric Gasketing & Sealing Equipment






## YOUR EQUIPMENT Source



For more details, see the **LOCTITE® Equipment Sourcebook, LT-3669**, or visit us on the web for additional information, diagrams, products and our full line of equipment at [www.equipment.loctite.com](http://www.equipment.loctite.com).



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Elastomeric Gasketing &amp; Sealing Equipment

LOCTITE® PRODUCT		ITEM NUMBER	PRESSURE REGULATION	USED TO DISPENSE	PACKAGE TYPE & SIZES	VISCOSITY RANGE	LOW LEVEL SENSING	CONSUMABLES – DISPENSE ACCESSORIES
CARTRIDGE DISPENSING	MANUAL CARTRIDGE DISPENSING							
	 <b>MANUAL CARTRIDGE APPLICATOR 300 ML</b>	1093940	N/A	Henkel Construction Adhesives, Caulking products in 10 oz. caulking tubes	300 ml cartridges	Medium to High	N/A	Cartridge Accessories – Page 177
	PNEUMATIC CARTRIDGE DISPENSING							
	 <b>300 ML PNEUMATIC CARTRIDGE DISPENSER RETAINER</b>	98319A	0 to 60 psi	Gel Cyanoacrylates, Anaerobic Gasketing, Light Cure/Acrylics, Silicones	300 ml cartridges	Low to Medium	No	Cartridge Accessories – Page 177
	 <b>HD10 300 ML PNEUMATIC CARTRIDGE DISPENSER</b>	1714379	0 to 60 psi	Gel Cyanoacrylates, Anaerobic Gasketing, Light Cure Acrylics, Silicones	300 ml cartridges 250 ml tubes	Medium to High	No	
	 <b>300 ML CARTRIDGE PUSHER</b>	98022	0 to 50 psi	Gel Cyanoacrylates, Anaerobic Gasketing, Light Cure/Acrylics, Low Viscosity Silicones	300 ml cartridges 250 ml tubes	Medium	Yes	
	 <b>HIGH PRESSURE 300 ML BENCHTOP CARTRIDGE DISPENSER</b>	1046901	0 to 725 psi	Silicone, Polyurethane, MS Polymer Adhesives	290 ml cartridges 300 ml cartridges 310 ml cartridges	10,000 to 1,000,000	Yes	Use with High Pressure Dispense Valve (sold separately) – see below

LOCTITE® PRODUCT		ITEM NUMBER	TYPE	VISCOSITY RANGE	DISPENSE PATTERNS	USED TO DISPENSE	STROKE ADJUSTMENT	SUCK-BACK	CONSUMABLES – DISPENSE ACCESSORIES
VALVES & PUMPS	HIGH VISCOSITY FLUID & PASTE VALVES								
	 <b>VA 25 DISPENSE VALVE – 50 BAR</b>	1838885	High Viscosity Fluid and Paste Valves	10,000 to 1,000,000 cP	Drop, Bead	Silicones, MS Polymers, Urethanes	Yes	Yes	Dispense Tips and Accessories – Pages 176-177
	 <b>HIGH PRESSURE DISPENSE VALVE – 150 BAR</b>	1153502		500,000 to 2,000,000 cP			Yes	No	

ITEMS IN RED = Source's PICK or NEW

Your Source for Motion Control Robot Dispense Systems. See page 171.

**EQUIPMENT** – Henkel is a full-service supplier of LOCTITE® branded equipment and offers a wide variety of equipment services to its customers. **For more LOCTITE® branded equipment, go to page 165.**

Can't find what you're looking for? Visit [www.equipment.loctite.com](http://www.equipment.loctite.com) or call 1-800-LOCTITE (562-8483).

**STRAIGHT FROM** The Source



# Windshield Glass Installation (DGX)



## Your Application

### ARE YOU BONDING OR SEALING?

Cold Applied (No Heat Required)

Fast Return to Service

Primerless

## Solution

9096 PL

8597 PL HMLC

8599

Tensile Strength (psi)	1000	1300	1200
Drive Away Time (with/without airbags)	4 hrs.	2 hrs./1 hr.	15 min.
Feature	Primerless, Cold Applied	Cold Applied	Very Fast, Warm Applied
Skin Formation (minutes)	20	25	20

## Product Description

Terostat® branded products have been used in leading edge direct glazing (DGX) application solutions for more than 20 years. DGX is the bonding and sealing of front windshields, side and rear glass to vehicle assemblies. Our DGX products are sag-resistant with high elasticity, high tensile strength and fast curing rates. The Terostat® DGX line include adhesives/sealants that are polyurethane and modified silane polymer, which is free of isocyanates and has high UV resistance.

### Terostat® 9096 PL Direct Glazing Adhesive

#### Polyurethane Adhesive/Sealant

A primerless, cold applied polyurethane. High green strength. 4-hour drive away time.

**P/N** **Package Size**  
1377641 310 ml cartridge

### Terostat® 8597 PL HMLC Direct Glazing Adhesive

#### Polyurethane Adhesive/Sealant

A cold applied, high modulus, low conductivity polyurethane. Primer recommended for glass adhesion. 1-hour drive away time.

**P/N** **Package Size**  
1377642 310 ml cartridge

### Terostat® 8599 Direct Glazing Adhesive

#### Polyurethane Adhesive/Sealant

A warm applied, very fast-curing polyurethane. Primer recommended for glass adhesion. 15-minute drive away time.

**P/N** **Package Size**  
1377643 310 ml cartridge  
1371250 25 kg pail  
1377390 245 kg drum

## LOCTITE® Windshield Glass Installation Adhesive Properties Chart






LOCTITE® PRODUCT	ITEM NUMBER	PACKAGE TYPE/SIZE	FEATURE	CHEMISTRY	SHORE HARDNESS	TENSILE STRENGTH	ELONGATION	SKIN FORMATION	DRIVE AWAY TIME (WITH/WITHOUT AIRBAGS)	AGENCY APPROVALS
<b>TEROSTAT® 9096 PL</b>	1377641	310 ml cartridge	Primerless, cold applied	Polyurethane	A 60	1,000 psi	350%	20 minutes	4 hours	N/A
<b>TEROSTAT® 8597 HMLC WITH TEROSTAT® 8517H PRIMER</b>	1377642	310 ml cartridge	Cold applied	Polyurethane	A 70	1,300 psi	350%	25 minutes	2 hours/1 hour	N/A
<b>TEROSTAT® 8599</b>	1377643 1371250 1377390	310 ml cartridge 25 kg pail 245 kg drum	Very fast, warm applied	Polyurethane	A 60	1,200 psi	300%	20 minutes	15 minutes	N/A

## LOCTITE® Windshield Glass Installation Primer Properties Chart

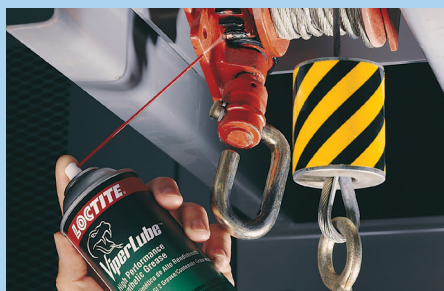
LOCTITE® PRODUCT	ITEM NUMBER	PACKAGE TYPE/SIZE	FEATURE
<b>TEROSTAT® 8519 P</b>	1418666 1418664	250 ml bottle 1 liter bottle	All-in-one primer and activator
<b>TEROSTAT® 8517 H</b>	1418667	250 ml bottle	Glass primer
<b>TEROSTAT® FL+</b>	1581028	1 liter bottle	Isopropanol-based cleaner
<b>TEROSTAT® 450</b>	642844	1 liter can	Cleaner

ITEMS IN RED = Source's PICK or NEW

## Windshield Glass Installation (DGX) Equipment

EQUIPMENT & ACCESSORIES	LOCTITE® PRODUCT	ITEM NUMBER	PACKAGE TYPE/SIZE	USED TO DISPENSE	VISCOSITY	TYPE	CONSUMABLES – DISPENSE ACCESSORIES
	 <b>HD10 300 ML PNEUMATIC CARTRIDGE DISPENSER</b>	1714379	300 ml cartridges 250 ml tubes	MS Polymer Polyurethane	Medium to High	Pneumatic	Cartridge Accessories – Page 177
	 <b>POWERLINE II 300 ML DISPENSER</b>	960304	300/310 ml cartridge	MS Polymer Polyurethane	Medium to Very High	Pneumatic - mechanical	
	 <b>PRIMER APPLICATORS</b>	142245	N/A	MS Polymer Polyurethane	All	Manual	
	 <b>CARTRIDGE OPENER</b>	395397	N/A	MS Polymer Polyurethane	N/A	Manual	
	 <b>CUTTING WIRE FOR GLASS REMOVAL</b>	149361	N/A	N/A	N/A	Manual	

# Lubricating



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85	Anti-Seize
89	Lubricants

## WHY USE A LOCTITE® LUBRICANT?

LOCTITE® Lubricants offer protection for industrial plants and equipment. This range includes organic, mineral and synthetic-based products meeting the requirements of industrial applications.

## WHAT IS THE FUNCTION OF A LUBRICANT?

The typical function of a lubricant is to protect against friction and wear. Lubricants are also used to protect against corrosion by displacing moisture and leaving a continuous coating on the part.

## WHAT CONSIDERATIONS ARE IMPORTANT WHEN CHOOSING A LUBRICANT?

When choosing a lubricant, it is important to consider the intended application as well as the environmental conditions to which the assembly will be exposed. Environmental conditions are critical to the successful selection of the right lubricant product. Factors including high temperature, harsh chemicals and contaminants may have an adverse effect on the expected lubricant performance.

## KEY BENEFITS OF USING A LOCTITE® LUBRICANT:

- Improved high temperature performance
- Higher lubricity
- Provides lubrication in extreme environments
- Superior water-washout properties
- Higher purity
- Protects against rust, corrosion, seizing and galling

## ANTI-SEIZE

LOCTITE® anti-seize products provide protection against rust, corrosion, seizing and galling, as well as lubrication. Anti-seizes are typically the products of choice for high temperature

applications because of their unique ability to provide protection in extreme temperature conditions. Each product contains a combination of solid lubricating agents resulting in different high temperature limits and lubricities. These are the two major factors in choosing the right anti-seize product for your application.

## METAL-FREE

The “Metal-Free” products utilize nonmetallic fillers to achieve high temperature resistance properties as well as lubricity. These fillers typically provide a much higher temperature resistance than that of metallic fillers and, due to the less abrasive nature of these fillers, they also typically provide lower K-values, resulting in higher lubricity.

## APPLICATIONS:

- Pump
- Gearbox
- Hoists
- Conveyor Systems
- Overhead Doors
- Way Lube
- Seals

## INDUSTRIES:

- Mining
- Wastewater
- Power Generation
- Food Processing
- Pulp and Paper
- Beverage



# Lubricating

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Lubricating



Henkel Adhesive and Sealant Product Specialists are available to assist you. For application assistance, call 1-800-LOCTITE (562-8483); within Canada, call 1-800-263-5043; or, contact us through the web at [www.henkelna.com/loctite](http://www.henkelna.com/loctite).

**STRAIGHT FROM** *The Source*



# Anti-Seize



## Your Application

### HELPFUL HINT

- Look for this icon for Metal-Free LOCTITE® Anti-Seize Products.



## WHAT TYPE OF ANTI-SEIZE DO YOU REQUIRE?

### General-Purpose

Up to 1600°F  
(871°C)

Up to 1800°F  
(982°C)

Up to 2400°F  
(1315°C)

Available in a Paste  
or Semisolid Stick

Available in a Paste  
or Semisolid Stick

Silver Grade  
Anti-Seize

C5-A®  
Copper Anti-Seize  
Lubricant

Nickel  
Anti-Seize

## Solution

Color	Silver	Copper	Silver
Solid Lubricating Agent	Graphite/Aluminum	Copper/Graphite	Nickel/Graphite
Torque Coefficient*	0.18	0.16	0.13
Temperature Range	-20°F to 1600°F (-29°C to 870°C)	-20°F to 1800°F (-29°C to 982°C)	-20°F to 2400°F (-29°C to 1315°C)
Metal-Free	No	No	No

## Product Description

### LOCTITE® 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 1600°F (871°C).

#### CFIA Listed.

P/N	Package Size
38181	7 g pouch
80209	4 oz. brush-top can
76732	8 oz. brush-top can
76759	12 oz. net wt. aerosol
76764	1 lb. brush-top can
80206	1 gallon can
76775	5 gallon pail
37230	20 g (stick)

### LOCTITE® C5-A® Copper Anti-Seize Lubricant

Exclusive formula suspends copper and graphite in a high quality grease. Protects metal parts from rust, corrosion, galling and seizing at temperatures to 1800°F (982°C).

#### CFIA Listed Stick.

P/N	Package Size
51299	2 g pouch
51277	7 g pouch
51001	1 oz. tube
51002	4 oz. tube
51144	4 oz. brush-top can
51147	8 oz. brush-top can
51005	10 oz. brush-top can
1786073	12 oz. net wt. aerosol
51004	13 oz. cartridge
51006	1 lb. can
51007	1 lb. brush-top can
39643	1 lb. brush-top metal can
51008	2.5 lb. can
51009	8 lb. can
38584	25 lb. pail
51011	42 lb. pail
51146	425 lb. drum
37229	20 g (stick)

### LOCTITE® Nickel Anti-Seize

Copper-free. Recommended for stainless steel and other metal fittings. For preventing corrosion, seizing and galling in harsh chemical environments and temperatures to 2400°F (1315°C).

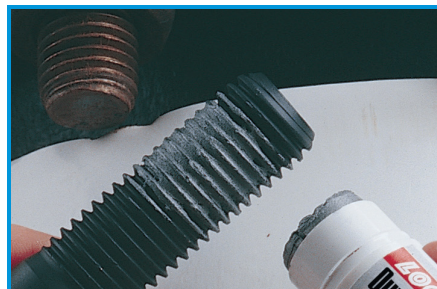
P/N	Package Size
77124	8 oz. brush-top can
1852753	12 oz. net wt. aerosol
51102	1 lb. can
77164	1 lb. brush-top can
51152	8 lb. can
77175	5 gallon pail




### ANTI-SEIZE IS OFTEN...

- Used as a gasket release agent in instances where reuse of the gasket is desirable
- Recommended for use on spark plug threads and electrical connections

HELPFUL HINTS

\* K value on steel nuts and bolts.



Stainless Steel and Titanium Applications	Soft Metal Applications	Incidental Food Contact	Water-Resistant
Available in a Paste or Semisolid Stick			
 Heavy Duty Anti-Seize	Zinc Anti-Seize	 Food Grade Anti-Seize	 Marine Grade Anti-Seize
Grey	Grey	White	Black
Graphite/Calcium Fluoride	Zinc	White Lubricating Solids	Calcium Sulfonate
0.16	0.15	0.13	0.18
-20°F to 2400°F (-29°C to 1315°C)	-20°F to 750°F (-29°C to 399°C)	-20°F to 750°F (-29°C to 399°C)	-20°F to 2400°F (-29°C to 1315°C)
Yes	No	Yes	Yes

#### LOCTITE® Heavy Duty Anti-Seize

##### Metal-Free

Excellent lubricity. Provides outstanding lubrication to all metals including stainless steel, aluminum and soft metals up to 2400°F (1315°C).

**CFIA Listed.**

##### P/N Package Size

51609	1 oz. tube
51605	9 oz. brush-top can
51606	18 oz. brush-top can
51607	2.3 lb. can
51608	45 lb. pail
41205	20 g (stick)

#### LOCTITE® Zinc Anti-Seize

Protects aluminum and ferrous surfaces from seizure and corrosion up to 750°F (399°C).

##### P/N Package Size

39901	1 lb. can
-------	-----------

#### LOCTITE® Food Grade Anti-Seize

##### Metal-Free

Prevents seizure, galling and friction in stainless steel and other metal parts up to 750°F (399°C).

**NSF H1 rated for incidental food contact. CFIA Listed.**

##### P/N Package Size

1167237	8 oz. brush-top can
1169241	2 lb. can
1170163	40 lb. pail

#### LOCTITE® Marine Grade Anti-Seize

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

**ABS Approved.**

##### P/N Package Size

34395	8 oz. brush-top can
34026	16 oz. brush-top can

# Anti-Seize



## LOCTITE® Anti-Seize Properties Chart

	LOCTITE® PRODUCT	ITEM NUMBER	PACKAGE TYPE/SIZE	TEMPERATURE RESISTANCE	COLOR	K VALUE*
GENERAL-PURPOSE	<b>C5-A® COPPER ANTI-SEIZE LUBRICANT</b>	51299 51277 51001 51002 51144 51147 51005 1786073 51004 51006 51007 39643 51008 51009 38584 51011 51146	2 g pouch 7 g pouch 1 oz. tube 4 oz. tube 4 oz. brush-top can 8 oz. brush-top can 10 oz. brush-top can 12 oz. net wt. aerosol 13 oz. cartridge 1 lb. can 1 lb. brush-top can 1 lb. brush-top metal can 2.5 lb. can 8 lb. can 25 lb. pail 42 lb. pail 425 lb. drum	1800°F (982°C)	Copper	0.16
	<b>C5-A® COPPER ANTI-SEIZE</b>	37229	20 g stick			
	<b>SILVER GRADE ANTI-SEIZE</b>	38181 80209 76732 76759 76764 80206 76775	7 g pouch 4 oz. brush-top can 8 oz. brush-top can 12 oz. net wt. aerosol 1 lb. brush-top can 1 gallon can 5 gallon pail	1600°F (871°C)	Silver	0.18
	<b>SILVER GRADE ANTI-SEIZE</b>	37230	20 g stick			
	<b>NICKEL ANTI-SEIZE</b>	77124 1852753 51102 77164 51152 77175	8 oz. brush-top can 12 oz. net wt. aerosol 1 lb. can 1 lb. brush-top can 8 lb. can 5 gallon pail	2400°F (1315°C)	Silver	0.13
HIGH PERFORMANCE	<b>HEAVY DUTY ANTI-SEIZE</b>	51609 51605 51606 51607 51608	1 oz. tube 9 oz. brush-top can 18 oz. brush-top can 2.3 lb. can 45 lb. pail	2400°F (1315°C)	Grey	0.16
	<b>HEAVY DUTY ANTI-SEIZE</b>	41205	20 g stick			
	<b>MARINE GRADE ANTI-SEIZE</b>	34395 34026	8 oz. brush-top can 16 oz. brush-top can	2400°F (1315°C)	Black	0.18
	<b>WHITE HI-TEMP ANTI-SEIZE</b>	34517 34518	8 oz. brush-top can 16 oz. brush-top can	2000°F (1093°C)	White	0.16
SPECIALTY	<b>FOOD GRADE ANTI-SEIZE</b>	1167237 1169241 1170163	8 oz. brush-top can 2 lb. can 40 lb. pail	750°F (400°C)	White	0.13
	<b>GRAPHITE-50™ ANTI-SEIZE</b>	51084	1 lb. can	900°F (482°C)	Black	0.13
	<b>MOLY PASTE</b>	1852755 51048 51049 51145	12 oz. net wt. aerosol 8 oz. brush-top can 1 lb. brush-top can 15 lb. can	750°F (400°C)	Black	0.11
	<b>MOLY-50™ ANTI-SEIZE</b>	51094	1 lb. can	750°F (400°C)	Black	0.13
	<b>ZINC ANTI-SEIZE</b>	39901	1 lb. can	750°F (400°C)	Grey	0.15
HIGH PURITY	<b>N-7000™ HIGH PURITY ANTI-SEIZE</b>	51272 51270 51273	8 oz. brush-top can 1 lb. brush-top can 2 lb. can	2400°F (1315°C)	Silver	0.16
	<b>N-5000™ HIGH PURITY ANTI-SEIZE</b>	51346 51243 51269 51246 51245	1 oz. tube 8 oz. brush-top can 1 lb. brush-top can 2 lb. can 8 lb. can	2400°F (1315°C)	Silver	0.15
	<b>HIGH PERFORMANCE N-5000™ HIGH PURITY ANTI-SEIZE</b>	51572	1 lb. brush-top can	2400°F (1315°C)	Silver	0.15
	<b>N-1000™ HIGH PURITY ANTI-SEIZE</b>	51115 51116 51117	8 oz. brush-top can 1 lb. can 2 lb. can	1800°F (982°C)	Copper	0.17

ITEMS IN RED = Source's PICK or NEW

\* See K Value on next page.

## LOCTITE® INDUSTRIAL HAND WIPES

Clean hands anywhere! Quick and easy to use – no rinsing, drying or residue. Each 9 ½ in. x 12 in. towel is premoistened with powerful citrus-scented cleaning formula. Towels are abrasive enough to scrub off the toughest grease and grime.



**ADDITIONAL  
RESOURCES**

## LOCTITE® Anti-Seize Applications Chart

	LOCTITE® PRODUCT	MAXIMUM ANTI-SEIZE PROPERTIES	FOR MAXIMUM LUBRICITY	FOR LOW SPEEDS, HIGH LOADS	EXTREME HIGH TEMPERATURE RESISTANCE (TO 2000°F-2400°F)	EXTREME CHEMICAL RESISTANCE	ELECTRICALLY CONDUCTIVE	FOR ALUMINUM/ SOFT METALS	FOR STAINLESS STEEL	METAL-FREE FORMULATION	COPPER-FREE FORMULATION	KEY SPECIFICATIONS & AGENCY APPROVALS
GENERAL- PURPOSE	<b>C5-A° COPPER ANTI-SEIZE LUBRICANT</b>	△					△	△	△			CFIA Listed (stick)
	SILVER GRADE ANTI-SEIZE	△					△	△	△			CFIA Listed
	NICKEL ANTI-SEIZE	△			▲	▲	△		△		▲	N/A
HIGH PERFORMANCE	<b>HEAVY DUTY ANTI-SEIZE</b>	▲			▲	△	△	△	▲	▲	▲	N/A
	MARINE GRADE ANTI-SEIZE	▲			▲			△	▲	▲	▲	ABS
	WHITE HI-TEMP ANTI-SEIZE	△			▲			△	△	▲	▲	N/A
SPECIALTY	<b>FOOD GRADE ANTI-SEIZE</b>	■						△	▲	▲	▲	NSF H1, CFIA Listed
	GRAPHITE-50™ ANTI-SEIZE	■				△	▲	△		▲	▲	N/A
	<b>MOLY PASTE</b>	■	▲	▲					▲	▲	▲	N/A
	MOLY-50™ ANTI-SEIZE	■	△	△					▲	▲	▲	N/A
	ZINC ANTI-SEIZE	■					■	▲	△			N/A
HIGH PURITY	<b>N-7000™ HIGH PURITY ANTI-SEIZE</b>	▲			▲	△	△		△	▲	▲	N/A
	N-5000™ HIGH PURITY ANTI-SEIZE	△			▲	▲	△		△		▲	N/A
	HIGH PERFORMANCE N-5000™ HIGH PURITY ANTI-SEIZE	▲	▲		▲	▲	△		△		▲	N/A
	N-1000™ HIGH PURITY ANTI-SEIZE	△					△		△			N/A

ITEMS IN RED = Source's PICK or NEW

△ Good Choice

▲ Preferred Choice

■ Acceptable Choice

## TORQUE GUIDE

Proper clamp load is an essential part of any bolted assembly for trouble-free operations. Torquing either nut or bolt creates the clamp load. An anti-seize lubricant used on a bolt helps to develop greater clamp load for the same torque compared to a non-lubricated bolt. An additional benefit is greater uniformity in clamp load among a series of bolts. The relationship between torque and clamp load is expressed in the following equation:  $T = KFD$ .

Where:

T = Torque (in.-lb., ft.-lb., N-m)

F = Clamp Load (lb., N)

D = Nominal diameter of bolt (in., ft., m)

K = Torque coefficient or nut factor, determined experimentally

**K Factors:** K factors are obtained on Grade 8, ½ in. steel bolts and grade 5 nuts by a test procedure that measures torque tension properties. Lubricant was applied to the bolt threads and both faces of the washer.

See the Properties Chart for the torque coefficient or K value for the anti-seize compounds.

Henkel Corporation believes that this data fairly represents performance to be expected. However, Henkel makes no warranty of specific performance on any individual fastener. In critical applications, it is necessary to determine K values independently.

**PLEASE NOTE:** There are two "coefficients" used to express the relationship between torque and tension: torque coefficient (also called "nut factor") is the most commonly used. A different concept is the "friction coefficient," which has a value of 2/3 (or 67%) of the torque coefficient.

**ADDITIONAL  
RESOURCES**



# Lubricants



## Your Application

- Temperature resistant
- Thermal stability
- Penetrate and free corroded assemblies

## HIGH PERFORMANCE LUBRICATION

### Dry Film Lubricant

### Aerosol

## Solution

### Moly Dry Film Lubricant

### Krytox® RFE Advanced PTFE Dry Lubricant

### ViperLube® High Performance Synthetic Grease

Base Oil	Molybdenum Disulfide	PTFE†	PAO†
Viscosity	N/A	N/A	N/A
Temperature Range	-20°F to 750°F (-29°C to 398°C)	-15°F to 500°F (-26°C to 260°C)	-40°F to 500°F* (-40°C to 260°C)
Four Ball Wear Test (mm) (ASTM D-2266)	N/A	N/A	N/A
Food Grade	N/A	N/A	NSF H1

## Product Description

### LOCTITE® Moly Dry Film Lubricant

Solid film lubricant for sliding surfaces and slow-moving parts. Temperature resistant up to 750°F (399°C) as a dry film lubricant, 2400°F (1315°C) as an anti-seize. Won't squeeze out, burn off, or pick up dirt.

**P/N Package Size**  
 1786074 12 oz. net wt. aerosol  
 39896 1.3 lb. can  
 39897 10 lb. can

### LOCTITE® Krytox® RFE Advanced PTFE Dry Lubricant

High performance, synthetic lubricant designed to provide long-lasting lubrication for parts that require a dry, thin lubricating film. Krytox® RFE Advanced PTFE Dry Lubricant provides excellent lubrication properties over a broad temperature range.

**P/N Package Size**  
 30138 8 oz. net wt. aerosol

### LOCTITE® ViperLube® High Performance Synthetic Grease

NLGI Grade 2/Severe Duty GC-LB Grease provides protection against equipment exposed to a wide range of temperatures. Use as a lubricant and protective anti-rust film on bearings and machine parts, or as a release agent on gaskets and seals. **NSF H1 rated for incidental food contact.**

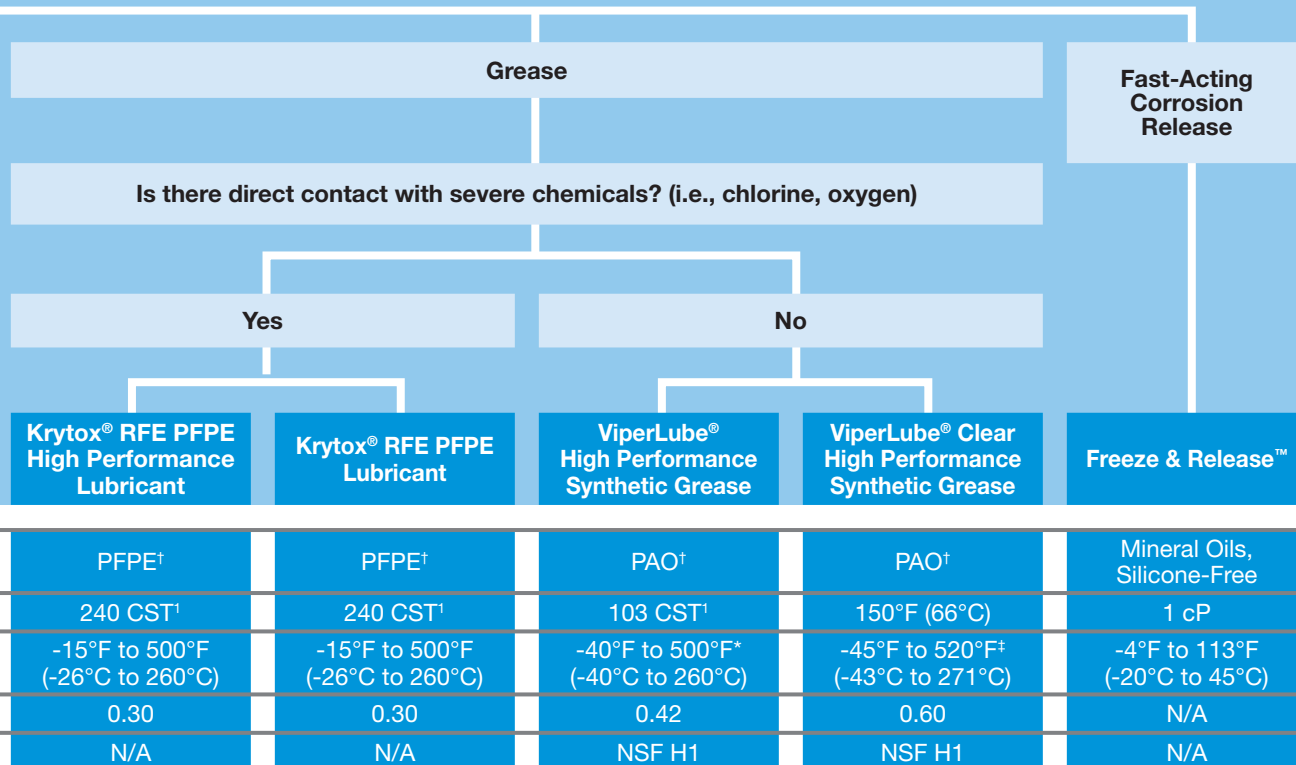
**P/N Package Size**  
 1906102 10.1 oz. net wt. aerosol

† PTFE = PolyTetraFluoroEthylene, PFPE = PerFluoroPolyEther, PAO = PolyAlphaOlefin.

\* 400°F (204°C) – Continuous, 500°F (260°C) – Intermittent.

‡ 420°F (216°C) – Continuous, 520°F (271°C) – Intermittent.

¹ CST at 104°F (40°C).



#### LOCTITE® Krytox® RFE PFPE High Performance Lubricant

High performance synthetic grease provides long-lasting lubrication for all types of moving and/or sliding parts. Compatible with all plastics, elastomers and metals. Nonflammable, chemically resistant and oxygen compatible.

P/N	Package Size
29711	2 oz. tube
29709	16 oz. cartridge

#### LOCTITE® Krytox® RFE PFPE Lubricant

Synthetic grease formulated specifically for severe environments. Great for lubricating O-rings. Excellent lubrication properties over a broad temperature range and in chlorine processing.

**NLGI Grade 2 grease.**

P/N	Package Size
29710	2 oz. tube
31361	16 oz. cartridge

#### LOCTITE® ViperLube® High Performance Synthetic Grease

NLGI Grade 2/Severe Duty GC-LB Grease provides protection against equipment exposed to a wide range of temperatures. Use as a lubricant and protective anti-rust film on bearings and machine parts, or as a release agent on gaskets and seals. **NSF H1 rated for incidental food contact. CFIA Listed.**

P/N	Package Size
36780	1 cc tube
36781	3 oz. tube
36782	14 oz. cartridge
36783	400 g can
36784	0.42 oz. tube
37061	30 lb. pail
37710	120 lb. drum

#### LOCTITE® ViperLube® Clear High Performance Synthetic Grease

Lasts four times longer than petroleum-based lubricants. Withstands temperatures up to 420°F (520°F intermittent). Contains PTFE for added protection against friction and wear. Nonflammable. Contains no ODCs. Clear in color. **NLGI Grade 2 grease. NSF H1 rated for incidental food contact. CFIA Listed.**

P/N	Package Size
39341	3 oz. tube
39342	400 g cartridge

#### LOCTITE® Freeze & Release™ Fast-Acting Corrosion Release

The solution for releasing seized or corroded parts. Instantly freezes seized and rusted parts (bolts, nuts, studs) down to -38°F (-39°C). The shock-freeze causes microscopic cracks in the layer of rust, allowing the lubricating ingredient to wick directly into the rust. Dismantle parts in 1 to 2 minutes.

P/N	Package Size
996456	13.52 oz. net wt. aerosol

# Lubricants



## LOCTITE® ViperLube® Synthetic Lubricant Properties Chart

LOCTITE® PRODUCT	ITEM NUMBER	PACKAGE TYPE/SIZE	TEMPERATURE RESISTANCE	TYPE OF LUBRICANT	VISCOSITY RANGE	POUR POINT (ASTM D 97)	FOUR BALL TEST	NLGI RATING	DROP POINT	SPRAY TEST (ASTM B111)	AGENCY APPROVALS
SYNTHETIC / HIGH PERFORMANCE	VIPERLUBE® HIGH PERFORMANCE SYNTHETIC GREASE	36780 1 cc tube 36781 3 oz. tube 36782 14 oz. cartridge 36783 400 g can 36784 0.42 oz. tube 1906102 10.1 oz. net wt. aerosol 37061 30 lb. pail 37710 120 lb. drum	400°F (204°C) continuous 500°F (260°C) intermittent	Synthetic hydrocarbon (polyalphaolefin-based)	240 CST	N/A	0.45 mm (ASTM D 2266)	2	500°F (260°C) (ASTM D 556)	Pass	NSF H1, CFIA Listed
	VIPERLUBE® CLEAR HIGH PERFORMANCE SYNTHETIC GREASE	39341 3 oz. tube 39342 400 g cartridge	420°F (216°C) continuous 520°F (271°C) intermittent	Synthetic hydrocarbon (polyalphaolefin-based)	N/A	N/A	0-60 mm (ASTM D 2266)	2	<590°F (<310°C) (ASTM D 2265)	N/A	NSF H1, CFIA Listed

## Grease Compatibility Chart

THICKENER TYPE	CALCIUM SULFONATE VIPERLUBE®	SILICA GEL VIPERLUBE® CLEAR	LITHIUM SOAP	LITHIUM COMPLEX	ALUMINUM COMPLEX	CALCIUM COMPLEX	BARIUM SOAP	SODIUM SOAP	BENTONE	POLYUREA
CALCIUM SULFONATE VIPERLUBE®		SC	FC	FC	NC	FC	SC	NC	NC	NC
SILICA GEL VIPERLUBE® CLEAR	SC		FC	FC	FC	NC	FC	NC	FC	NA
LITHIUM SOAP	FC	FC		FC	NC	FC	SC	NC	NC	SC
LITHIUM COMPLEX	FC	FC	FC		NC	FC	SC	NC	NC	SC
ALUMINUM COMPLEX	NC	FC	NC	NC		NC	NC	SC	NC	NC
CALCIUM COMPLEX	FC	NC	FC	FC	NC		SC	NC	NC	SC
BARIUM SOAP	SC	FC	SC	SC	NC	SC		NC	NC	NA
SODIUM SOAP	NC	NC	NC	NC	SC	NC	NC		NC	NC
BENTONE	NC	FC	NC	NC	NC	NC	NC	NC		NC
POLYUREA	NC	NA	SC	SC	NC	SC	NA	NC	NC	

FC = Fully Compatible  
NC = Not Compatible (Mixtures soften severely and do not remain grease-like.)

SC = Somewhat Compatible (Mixtures soften but remain grease-like.)  
NA = Not Available

## Krytox® RFE Lubricant Properties Chart

LOCTITE® PRODUCT	ITEM NUMBER	PACKAGE TYPE/SIZE	TEMPERATURE RESISTANCE	NON-FLAMMABLE	HIGH LOAD CAPACITY	CORROSION INHIBITORS	COMPATIBLE WITH ALL PLASTICS, METALS & ELASTOMERS	CHEMICALLY RESISTANT	OXYGEN COMPATIBLE*	THERMALLY STABLE	WATER/STREAM RESISTANT	NLGI GRADE
SPECIALTY OILS AND LUBRICANTS	KRYTOX® RFE PFPE LUBRICANT (O-RING)	29710 2 oz. tube 31361 16 oz. cartridge	-15°F to 500°F (-26°C to 260°C)	•	•		•	•	•	•	•	2
	KRYTOX® RFE PFPE HIGH PERFORMANCE LUBRICANT	29711 2 oz. tube 29709 16 oz. cartridge	-15°F to 500°F (-26°C to 260°C)		•	•	All plastics and metals	•	•	•	•	2
	KRYTOX® RFE ADVANCED PTFE DRY LUBRICANT	30138 8 oz. net wt. aerosol	-15°F to 500°F (-26°C to 260°C)	Once film is dry			•	•		•	Water-repellent	N/A

\* Per BAM 8104-411 & MSFC 106B under specific conditions. Test the proposed application thoroughly before use.

- Dry film lubricants are an ideal choice for “unclean” environments where there is potential for dirt and other contaminants to come in contact with the product. Contaminants will not stick like they would with a standard grease.

HELPFUL  
HINTS

## LOCTITE® Lubricant Applications Chart

	LOCTITE® PRODUCT	ITEM NUMBER	PACKAGE TYPE/SIZE	TEMPERATURE RESISTANCE	FOOD PROCESSING EQUIPMENT	CLOSE- FITTING PARTS	HIGH TEMP	DIELECTRIC COMPOUND	ELECTRICAL EQUIPMENT	GEAR, BEARINGS, CABLE & CONVEYORS	HYDRAULIC UNITS (NOT BRAKES)	FOR HIGH SPEED BEARINGS	FOR LOW SPEEDS & HIGH LOADS	CHAIN- DRIVEN EQUIPMENT	SOLID FILM
SYNTHETIC / HIGH PERFORMANCE	VIPERLUBE® HIGH PERFORMANCE SYNTHETIC GREASE	36780 36781 36782 36783 36784 1906102 37061 37710	1 cc tube 3 oz. tube 14 oz. cartridge 400 g can 0.42 oz. tube 10.1 oz. net wt. aerosol 30 lb. pail 120 lb. drum	400°F (204°C) continuous 500°F (260°C) intermittent	▲	▲	▲	■		▲		▲	▲	▲	
	VIPERLUBE® CLEAR HIGH PERFORMANCE SYNTHETIC GREASE	39341 39342	3 oz. tube 400 g cartridge	420°F (216°C) continuous 520°F (271°C) intermittent	▲		▲		▲	▲		▲	▲	▲	
SPECIALTY OILS & LUBRICANTS	GEAR, CHAIN & CABLE LUBRICANT	1906177	12 oz. net wt. aerosol	250°F (121°C)						▲				▲	
	SILICONE LUBRICANT	51360 81246	5.3 oz. tube 13 oz. net wt. aerosol	400°F (204°C)	▲		■			△				△	
	MOLY DRY FILM LUBRICANT	1786074 39896 39897	12 oz. net wt. aerosol 1.3 lb. can 10 lb. can	750°F (400°C)			△	△	▲				△	▲	▲
	SOLVO-RUST® SUPER PENETRATING OIL	1865406	12.25 oz. net wt. aerosol	250°F (121°C)		△									
	C-200® HIGH TEMPERATURE SOLID FILM LUBRICANT (FOR UNCLEAN ENVIRONMENTS)	39893 39894	1.3 lb. can 10 lb. can	2400°F (1315°C)			▲	△					△		▲
	PENETRATING OIL	51221	12 oz. net wt. aerosol	100°F (38°C)		△									
	FREEZE & RELEASE™	996456	13.52 oz. net wt. aerosol	N/A		△									
PETROLEUM-BASED GREASES	WHITE LITHIUM GREASE	30530 1906122	1.5 oz. tube 10.75 oz. net wt. aerosol	380°F (193°C) (dropping point)						△			▲	△	
	DIELECTRIC GREASE	30536 37535	0.33 oz. tube 3 oz. tube	400°F (204°C)			■	■							
	EXTREME PRESSURE GREASE	51242	14.5 oz. cartridge	450°F (232°C)			■					▲	▲		
	FOOD GRADE GREASE	51252	14.5 oz. cartridge	450°F (232°C)	▲		■					▲			

△ Good Choice    ▲ Preferred Choice    ■ Acceptable Choice

### CARTRIDGE ACCESSORIES

Go to [page 177](#) to see LOCTITE® branded cartridge accessories as well as other LOCTITE® Branded Consumables.

Can't find what you're looking for? Visit [www.equipment.loctite.com](http://www.equipment.loctite.com) or call 1-800-LOCTITE (562-8483).

**STRAIGHT FROM** *The Source*



# Machining Compounds



## 93 MACHINING COMPOUNDS

### WHY USE LOCTITE® CLOVER® MACHINING COMPOUNDS?

LOCTITE® Clover® Machining Compounds allow final finishing of metal surfaces not practical with mechanical methods alone. These abrading compounds are abrasive pastes designed especially for the cutting, smoothing and finishing of metal surfaces. They are silicon carbide-filled and are used as a supplemental process to grinding, milling, boring and electrical discharge machining (EDM) on high- or low-tensile-strength materials, including forged or hardened gears. These compounds produce an ultra-flat surface but not a polished one.

### WHAT CONSIDERATIONS ARE IMPORTANT WHEN CHOOSING A MACHINING COMPOUND?

Grit size directly relates to the finish left on the metal surface. A very coarse grit, such as our 54 grit, will quickly remove metal from the surface and leave a somewhat rough finish. To achieve a smoother finish, a smaller grit size should be used, such as 1,000 grit. This compound will fill the smaller metal voids and leave a smoother finish.

Henkel Adhesive and Sealant Product Specialists are available to assist you. For application assistance, call 1-800-LOCTITE (562-8483); within Canada, call 1-800-263-5043; or, contact us through the web at [www.henkelna.com/loctite](http://www.henkelna.com/loctite).

**STRAIGHT FROM** *The Source*

### KEY BENEFITS OF USING A LOCTITE® CLOVER® MACHINING COMPOUND:

- Premixed and ready to use for consistent performance.
- Manufactured from premium abrasive grits; only virgin silicon carbide abrasives, carefully sized, are used.
- Water-soluble – the compound clings to blades for superior honing action, but washes away easily (Pat Gel® Water Mix only).

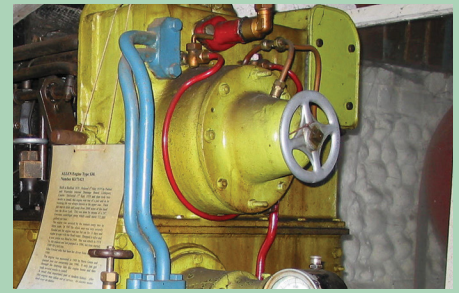
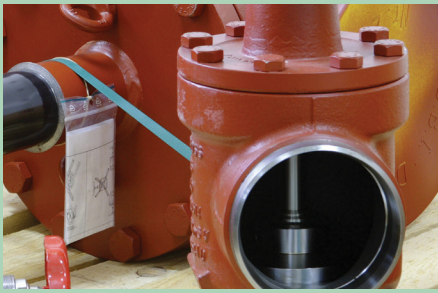
### APPLICATIONS:

- Pumps
- Gears
- Valves
- Machining
- Sharpening
- Precision Fitting

### REMOVAL HINTS

- LOCTITE® Clover® Machining Compounds can be removed using the same solvent in which they are carried.
- LOCTITE® Clover® Grease Mix products can be removed using a petroleum-based solvent: LOCTITE® ODC-Free Cleaner & Degreaser.
- LOCTITE® Clover® Silicon Carbide Pat Gel® Water Mix can be removed with water.
- Once LOCTITE® Clover® products are removed, dry the area thoroughly and apply oil or grease to the metal to prevent corrosion.

HELPFUL HINTS



# Machining Compounds

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Machining Compounds

## Grade & Grit Selector Guide

GRADE	GRIT	TEXTURE & USE	AVERAGE PARTICLE SIZE OF ABRASIVE GRAINS	
			1/1,000 INCHES	MICRONS (0.001 MM)
7A	1,200	<b>EXTREMELY FINE:</b> For polishing and high precision lapping	0.12	3
6A	1,000		0.20	5
5A	800		0.38	9
4A	600	<b>VERY FINE:</b> For fine polishing and lapping	0.56	14
3A	500		0.68	17
2A	400		0.90	23
1A	320	<b>FINE:</b> For finishing, valve lapping bearings, dies and gauges	1.28	33
A	280		1.75	44
B	240	<b>MEDIUM FINE:</b> For cylinder lapping	2.48	63
C	220		2.60	66
D	180	<b>MEDIUM:</b> General-purpose for controlled metal removal	3.40	86
NC	150		4.80	122
E	120	<b>COARSE:</b> For the initial "cut," fast removal of metal	5.60	142
F	100		6.80	173
G	80		15.00	267

# Machining Compounds



## Your Application

### MACHINING AND LAPPING METALS

What type of metal removal is needed?

For the "Initial Cut" Fast Removal of Metal

General-Purpose for the Controlled Removal of Metal

For Cylinder Lapping

## Solution

Coarse

Medium

Medium Fine

Grade		G	F	E	D	C	B
Grit		80	100	120	180	220	240
Average Particle Size of Abrasive Grains	1/1000 in.	15.00	6.80	5.60	3.40	2.60	2.48
	Microns (0.001 mm)	267	173	142	86	66	63

## Product Description

### LOCTITE® Clover® Silicon Carbide Grease Mix

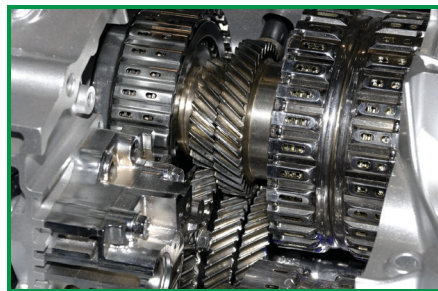
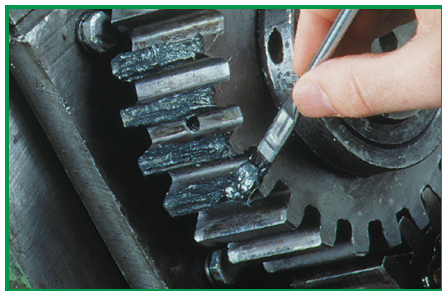
The standard abrasive paste for fast metal removal. Produces a smooth, flat surface but not a polished one. Leaves a rust-preventing film on lapped surfaces.

P/N	Package Size	Grit
39401	1 lb. can	Grade A – 280 Grit
39510	1 lb. can	Grade 1A – 320 Grit
39523	1 lb. can	Grade 2A – 400 Grit
39549	1 lb. can	Grade 4A – 600 Grit
39561	1 lb. can	Grade 5A – 800 Grit
39587	1 lb. can	Grade 7A – 1,200 Grit
39589	25 lb. pail	Grade 7A – 1,200 Grit
39413	1 lb. can	Grade B – 240 Grit
39426	1 lb. can	Grade C – 220 Grit
39439	1 lb. can	Grade D – 180 Grit
39463	1 lb. can	Grade F – 100 Grit
39473	1 lb. can	Grade G – 80 Grit

### LOCTITE® Clover® Silicon Carbide Pat Gel® Water Mix

Paste formulation for fast metal removal. Biodegradable, recommended for applications where cleanup with water is required.

P/N	Package Size	Grit
39406	1 lb. jar	Grade A – 280 Grit
39515	1 lb. jar	Grade 1A – 320 Grit
39528	1 lb. jar	Grade 2A – 400 Grit
39541	1 lb. jar	Grade 3A – 500 Grit
39554	1 lb. jar	Grade 4A – 600 Grit
39566	1 lb. jar	Grade 5A – 800 Grit
39579	1 lb. jar	Grade 6A – 1,000 Grit
39592	1 lb. jar	Grade 7A – 1,200 Grit
39431	1 lb. jar	Grade C – 220 Grit
39444	1 lb. jar	Grade D – 180 Grit
39468	1 lb. jar	Grade F – 100 Grit
39478	1 lb. jar	Grade G – 80 Grit



For Finishing, Valve Lapping, Bearings, Dies and Gauges		For Fine Polishing and Lapping		For Polishing and High Precision Lapping		
Fine		Very Fine		Extremely Fine		
A	1A	2A	4A	5A	6A	7A
280	320	400	600	800	1,000	1,200
1.75	1.28	0.90	0.56	0.38	0.20	0.12
44	33	23	14	9	5	3

**LOCTITE® Clover® Duplex Packaging Kit**  
*Contains Clover Silicon Carbide Grease Mix Grades E/A*

LOCTITE® Clover® Silicon Carbide Grease Mix in two convenient grit sizes (120 and 280).

P/N	Package Size	Grit
39598	Kit – 4 oz. duplex can	Grade E/A – 120/280 Grit

**LOCTITE® Clover® Silicon Carbide Reel Sharpening Mix**  
*Water-Soluble*

This compound clings to blades for superior honing action. Washes away for easy cleanup.

P/N	Package Size	Grit
39712	25 lb. pail	Grade D – 180 Grit
39715	25 lb. pail	Grade F – 100 Grit

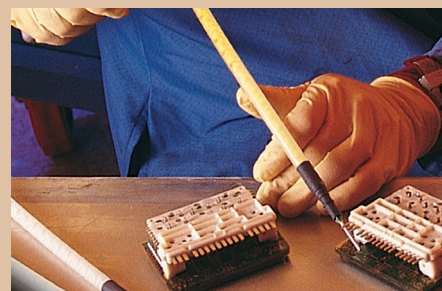
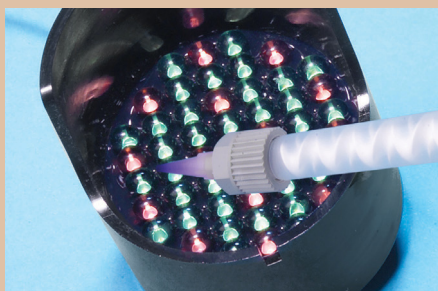
The LOCTITE® line of cleaners and degreasers includes both aqueous and solvent-based products, all of which are free of Class I ozone-depleting chemicals (ODCs).

You can find LOCTITE® cleaners and degreasers in the Surface Cleaning section on [pages 131-134](#).

**ADDITIONAL  
RESOURCES**



# Potting, Molding & Encapsulating



97	POTTING, MOLDING & ENCAPSULATING
99	Epoxies & Polyurethanes
103	Silicones
106	Silicone Equipment
107	Hot Melts
109	Hot Melt Equipment
111	Low Pressure Molding

Potting and encapsulating compounds are used to provide mechanical reinforcement to housed assemblies, to fill large voids, and to protect components from the effects of exposure to chemicals, moisture, mechanical shock and vibration. Sealing components with potting and encapsulating compounds prevents corrosion and ensures long-term integrity of the device.

## VARIABLES TO CONSIDER WHEN SELECTING A POTTING OR ENCAPSULATING MATERIAL INCLUDE:

- Viscosity of uncured compound
- Dispensing requirements
- Device operating temperature
- Desired chemical resistance
- Desired thermal conductivity
- Desired flame retardance
- Hardness of cured product
- Overall cost

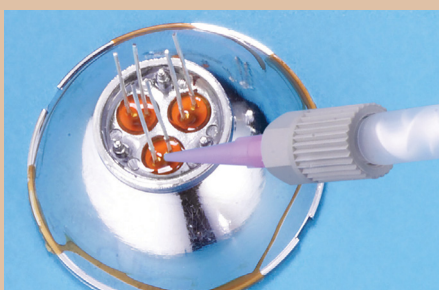
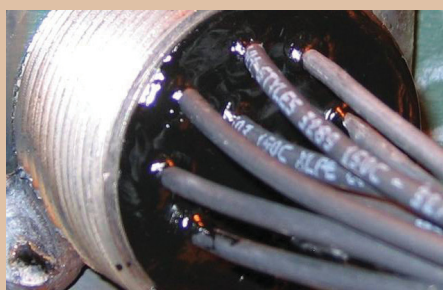
There are a variety of potting and encapsulating compounds to choose from – epoxy, hot melt, silicone and urethane. The thermal properties of epoxy and silicone systems make them ideally suited for applications exposed to temperatures above 257°F (125°C). If a soft, flexible material is needed, particularly at low temperatures, then a urethane, silicone or hot melt material may be used.

## WHAT IS THE BEST PRODUCT FOR MY APPLICATION?

The following chart may assist you when selecting a potting or encapsulating compound. This chart is intended to serve as a general guideline to help you determine which categories are best suited for your application. The data presented represents typical properties for each product category; however, individual product properties may differ. It is suggested that, based on the information provided, you consider at least the two best product categories that meet your application criteria. Individual product information can then be found on the pages that follow to help you narrow your search.

Henkel Adhesive and Sealant Product Specialists are available to assist you with new product designs, or to help you re-engineer an existing application for improved performance and cost savings. They can also set up testing of your parts at the Henkel Customer Engineering Center. For application assistance, call **1-800-LOCTITE (562-8483)**; within Canada, call 1-800-263-5043; or, contact us through the web at [www.henkelna.com/loctite](http://www.henkelna.com/loctite).

**STRAIGHT FROM** *The Source*



# Potting, Molding & Encapsulating

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Potting, Molding & Encapsulating

PERFORMANCE CONSIDERATIONS	POTTING & ENCAPSULATING COMPOUNDS			
	HOT MELTS	POLYURETHANES	EPOXIES	SILICONES
BENEFITS	Fast, large gap filling	Excellent toughness/flexibility	Wide range of formulations	Excellent temperature resistance
LIMITATIONS	Low heat resistance	Liquid adhesive sensitive to moisture	Mixing required	Low strength
TEMPERATURE RESISTANCE	-85°F to 257°F (-65°C to 125°C)	-85°F to 257°F (-65°C to 125°C)	-85°F to 356°F (-65°C to 180°C)	-85°F to 392°F (-65°C to 200°C)
FLUID RESISTANCE				
POLAR SOLVENTS <sup>1</sup>	Good (Polyolefins, Polyamides)	Good	Very Good	Good
NON-POLAR SOLVENTS <sup>2</sup>	Good (Polyamides)	Good	Excellent	Poor
HARDNESS	Semisoft	Soft	Rigid	Soft
FLEXIBILITY	High	High	Low	Very High
GLASS TRANSITION TEMPERATURE (TG)	Low	Low	High	Very Low
PERFORMANCE CONSIDERATIONS	POTTING & ENCAPSULATING COMPOUNDS			
	HOT MELTS	POLYURETHANES	EPOXIES	SILICONES
NUMBER OF COMPONENTS	1	2	2	1
CURE TEMPERATURE	Room Temperature (applied at elevated temperature)	Room Temperature	Room Temperature	UV/Room Temperature
GEL TIME				
AVERAGE	60 seconds	1 to 3 hours	1 to 3 hours	30 seconds
FASTEST	10 to 20 seconds	15 minutes	15 minutes	5 seconds
FULL CURE TIME	1 hour (or when cooled)	24 hours	24 hours	24 hours
DEPTH OF CURE	Unlimited	Unlimited	Unlimited	Shallow (<1.5 in.)
DISPENSING/CURING EQUIPMENT REQUIRED?	Yes	Yes	Yes	Yes
LIGHT CURE VERSIONS AVAILABLE?	No	No	Yes	Yes

<sup>1</sup> Examples of Polar Solvents: Water, Ethylene Glycol, Isopropyl Alcohol, Acetone.

<sup>2</sup> Examples of Non-Polar Solvents: Motor Oil, Gasoline, Toluene, n-Heptane, ATF.

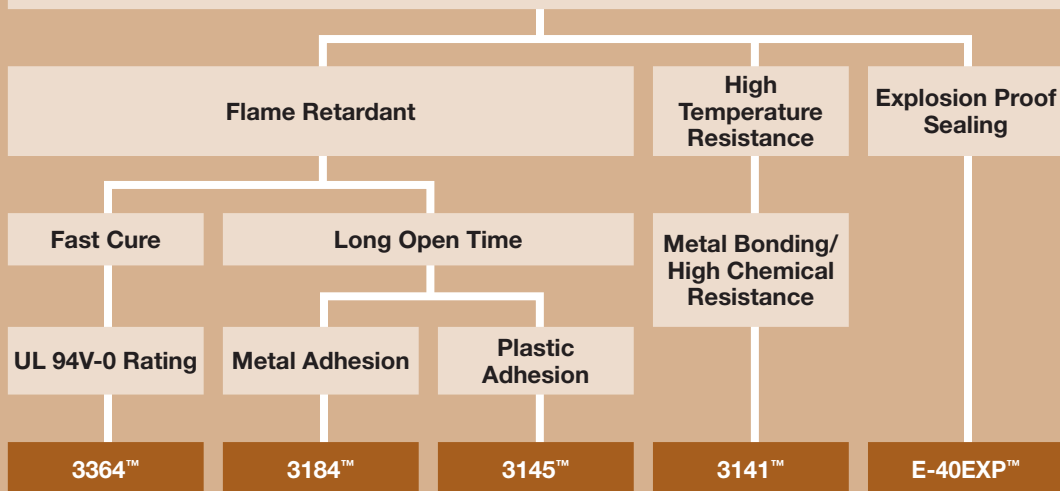
**PLEASE NOTE:** This chart should not be used to specify products without specific testing. It is recommended that you conduct on-part testing to ensure product performance before specifying any adhesives.

# Epoxies & Polyurethanes



## Your Application

### WHAT IS THE MOST IMPORTANT ASPECT WHEN CHOOSING YOUR PRODUCT?



## Solution

Key Feature	Fast Cure, 1:2 Mix Ratio	Flame Retardant	Flame Retardant	High Temperature	Chemical Resistant
Color	Black	White	Mixed: Black	Mixed: Black	Black
Viscosity cP (Resin/Hardener)	N/A	N/A	5,315/13,355	Mixed: 7,000	N/A

## Product Description

### LOCTITE® 3364™ Hysol® Urethane Adhesive

Rigid two-component urethane designed for flame resistance and fast cure.

**P/N** **Package Size**  
1166733 50 ml dual cartridge

### LOCTITE® 3184™ Hysol® Polyurethane Hardener

A two-part polyurethane system to be used with LOCTITE® 3173™ Hysol® Resin to meet UL 94V-0 Flammability Rating at 3/8 in. thickness.

**P/N** **Package Size**  
39398 1 gallon pail  
39397\* 5 gallon pail

### LOCTITE® 3145™ Hysol® Epoxy Resin

A potting compound resin that is formulated to offer improved flame retardance when mixed with HYSOL® Epoxy Hardener (3160, 3162, 3163, 3164, 3165).

**P/N** **Package Size**  
40512 1 gallon pail

### LOCTITE® 3141™ Hysol® Epoxy Resin

Resin formulated to offer improved long-term performance at higher temperatures when mixed with a HYSOL® Epoxy Hardener (3160, 3162, 3163, 3164, 3165).

**P/N** **Package Size**  
39947 1 gallon pail

### LOCTITE® E-40EXP™ Hysol® Epoxy Adhesive

A two-component, room-temperature curing epoxy potting compound designed to pass UL testing and maintain more than 85% of its compression strength following exposure to 13 harsh chemicals.

**P/N** **Package Size**  
1511653 200 ml dual cartridge  
1511896 5 gallon pail - part A  
1511897 5 gallon pail - part B

## LOCTITE® DURAPUMP™ METER MIX SYSTEMS

LOCTITE® DuraPump™ Meter Mix Systems offer superior operating performance and durability for a wide range of two-component adhesive chemistries (including MMA\*\*) up to 10:1 ratios and is available in two different models – programmable and pneumatic. For more product and technical information and other LOCTITE® Meter Mix systems, please go to [page 175](#).



ADDITIONAL  
RESOURCES

\* Made-to-order item. \*\* Pneumatic only.

## EPOXIES & POLYURETHANES

LOCTITE® Hysol® potting and encapsulating compounds are two-part epoxy and polyurethane systems formulated to offer a wide range of performance characteristics matched to specific application requirements. Any epoxy resin can be combined with any epoxy hardener to create a mixed system. The same applies to the polyurethane resins and hardeners.

## LOCTITE® Hysol® Epoxy Product Chart

LOCTITE® PRODUCT		ITEM NUMBER	PACKAGE TYPE & SIZE	PACKAGE WEIGHT	KEY FEATURES	
LOCTITE® HYSOL® EPOXIES	RESINS	3140™	39944 39945*	1 gallon pail 5 gallon pail	12 lbs. 65 lb.	General-Purpose
		3141™	39947	1 gallon pail	12 lbs.	High Temperature
		3142™	39950	1 gallon pail	16 lbs.	Thermally Conductive
		3145™	40512	1 gallon pail	13 lbs.	Flame Retardant
	HARDENERS	3160™	39958*	5 gallon pail	40 lbs.	Glossy Surface Finish
		3162™	39960	1 quart can	1.8 lbs.	Fast Cure
		3163™	39964 39966*	1 quart can 5 gallon pail	1.7 lbs. 38 lbs.	Excellent Adhesion
		3164™	39970*	5 gallon pail	40 lbs.	General-Purpose
		3165™	39395	1 quart can	1.7 lbs.	Low Shrinkage

## LOCTITE® Hysol® Polyurethane Product Chart

LOCTITE® PRODUCT		ITEM NUMBER	PACKAGE TYPE & SIZE	PACKAGE WEIGHT	KEY FEATURES	
LOCTITE® HYSOL® POLYURETHANES	RESINS	3173™	39984 39985 39986*	1 quart can 1 gallon pail 5 gallon pail	2.5 lbs. 10 lbs. 50 lbs.	General- Purpose
	HARDENERS	3182™	39995 39996* 39997*	1 gallon pail 5 gallon pail 55 gallon drum	12 lbs. 62 lbs. 625 lbs.	Fast Cure
		3183™	39998 39999*	1 gallon pail 5 gallon pail	7.5 lbs. 37 lbs.	General- Purpose
		3184™	39398 39397*	1 gallon pail 5 gallon pail	12 lbs. 60 lbs.	Flame Retardant

## LOCTITE® Hysol® Epoxy Kit Properties Chart

LOCTITE® PRODUCT		ITEM NUMBER	PACKAGE TYPE & SIZE	COLOR	WORK LIFE	SHORE HARDNESS	AGENCY APPROVALS	KEY FEATURES
LOCTITE® HYSOL® EPOXY KITS	E-60NC™	29324	50 ml dual cartridge	Black	60 min.	D 85	CFIA Listed	Electrically noncorrosive, low viscosity
		29325	200 ml dual cartridge					
		29326	400 ml dual cartridge					
	E-30CL™	29329	50 ml dual cartridge	Clear	30 min.	D 85	N/A	Medium fixture, chemical resistant
		29330	200 ml dual cartridge					
		29331	400 ml dual cartridge					
	E-40EXP™	1511653	200 ml dual cartridge	Black	35 min.	D 80	UL 674	Chemical resistant, use in hazardous locations
		1511896	5 gallon pail - part A					
		1511897	5 gallon pail - part B					

ITEMS IN RED = Source's PICK or NEW

## LOCTITE® Hysol® Polyurethane Kit Properties Chart

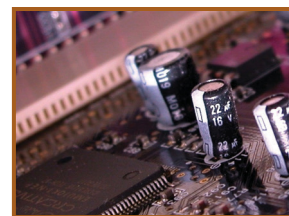
LOCTITE® PRODUCT		ITEM NUMBER	PACKAGE TYPE & SIZE	COLOR	WORK LIFE	SHORE HARDNESS	AGENCY APPROVALS	KEY FEATURES
LOCTITE® HYSOL® POLYURETHANE KIT	3364™	1166733	50 ml dual cartridge	Black	45 sec.	D 80	UL 94V-0	Fast cure, 1:2 mix ratio, black

## LOCTITE® Hysol® Polyurethane System Properties Chart

SYSTEM CHARACTERISTICS			LOCTITE® HYSOL® POLYURETHANE SYSTEMS		
			3173™/3182™	3173™/3183™	3173™/3184™
TYPICAL UNCURED PROPERTIES	VISCOSITY (cP)	Resin	75	75	75
		Hardener	30,000	800	14,000
		Mixed	5,500	450	2,250
	WORKING TIME	At 73°F (23°C)	<7 minutes @ 300 g	20 to 40 minutes @ 105 g	150 minutes @ 300 g
	GEL TIME	At 73°F (23°C)	14 minutes @ 300 g	40 to 70 minutes @ 105 g	150 minutes @ 300 g
	CURE CYCLE	Normal 73°F (23°C)	90 minutes	24 hours	24 hours
		Alternate 185°F (85°C)	30 minutes	1 to 3 hours	1 to 3 hours
	MIX RATIO	By Weight (Resin : Hardener)	13:87	30:70	15:85
		By Volume (Resin : Hardener)	1:5.2	1:3	1:4.8
	COLOR	Resin	Dark Brown	Clear Brown	Clear Brown
Hardener		Black	Opaque Black	Opaque White	
Mixed		Black	Opaque Black	Opaque White	
SPECIFIC GRAVITY	Resin	1.23	1.23	1.23	
	Hardener	1.60	0.96	1.45	
	Mixed	1.55	1.06	1.40	
TYPICAL CURED PROPERTIES	SHORE HARDNESS		A 75	A 70	A 80
	GLASS TRANSITION TEMPERATURE/Tg (°C)		-10	-16	-15
	CTE ABOVE Tg (M/MM°C)		128x10e-6	190x10e-6	151x10e-6
TYPICAL CURED PROPERTIES	DIELECTRIC CONSTANT	0.1 kHz	4.68	5.92	4.51
		1.0 kHz	4.02	4.36	4.29
		10.0 kHz	3.76	3.65	3.94
		100.0 kHz	3.63	3.31	3.56
	DISSIPATION FACTOR	0.1 kHz	0.13	0.22	0.02
		1.00 kHz	0.07	0.17	0.04
		10.0 kHz	0.04	0.10	0.06
		100.0 kHz	0.02	0.05	0.07
	INSULATION RESISTANCE (OHMS)		2.5x10e+13	1.1x10e+11	1.1x10e+12
	VOLUME RESISTIVITY (OHMS/CM)		1.5x10e+15	6.83x10e+12	6.61x10e+13
DIELECTRIC STRENGTH (VOLTS/MIL)		370	375	370	
FLAMMABILITY RATING		N/A	N/A	94V-0 @ 3/8 in.	
UL FILE NO. E257711		N/A	N/A	94V-2 @ 1/4 in.	



# Epoxies & Polyurethanes



SYSTEM CHARACTERISTICS			LOCTITE® 3140™ HYSOL® EPOXY SYSTEM					LOCTITE® 3141™ HYSOL® EPOXY SYSTEM				
			3140™/ 3160™	3140™/ 3162™	3140™/ 3163™	3140™/ 3164™	3140™/ 3165™	3141™/ 3160™	3141™/ 3162™	3141™/ 3163™	3141™/ 3164™	3141™/ 3165™
TYPICAL UNCURED PROPERTIES	VISCOSITY (cP)	Resin	11,000	11,000	11,000	11,000	11,000	80,000	80,000	80,000	80,000	80,000
		Hardener	180	120	450	105	55	180	120	450	105	55
		Mixed	1,700	2,000	1,500	1,500	2,000	7,000	5,000	4,000	6,000	13,000
	WORKING TIME	73°F (25°C)	80 to 100 min. @ 200 g	5 to 10 min. @ 100 g	80 to 100 min. @ 200 g	10 to 15 min. @ 400 g	to 1.5 hrs. @ 400 g	1.5 to 2 hrs. @ 400 g	5 min. @ 200 g	30 to 45 min. @ 200 g	10 min. @ 400 g	35 to 40 min. @ 200 g
	GEL TIME	73°F (25°C)	2.5 to 3 hrs. @ 200 g	10 to 15 min. @ 105 g	2.5 to 3 hrs. @ 200 g	25 to 35 min. @ 400 g	2 to 3 hrs. @ 400 g	2.5 to 3.5 hrs. @ 400 g	10 to 15 min. @ 200 g	60 to 80 min. @ 200 g	20 to 25 min. @ 200 g	65 to 75 min. @ 200 g
	CURE CYCLE	Normal 73°F (25°C)	24 hrs.	16 hrs.	24 hrs.	16 hrs.	24 hrs. @ 77°F + 4 hrs. @ 200°F	24 hrs.	24 hrs.	24 hrs.	24 hrs.	24 hrs. @ 77°F + 4 hrs. @ 200°F
		Alternate 150°F (60°C)	2 hrs.	1 hr.	2 hrs.	2 hrs.	N/A	4 hrs.	2 hrs.	2 hrs.	2 hrs.	N/A
	MIX RATIO	By Weight (R:H)	100:20	100:18.1	100:29	100:29.5	100:9	4:1	100:19.8	100:30	100:31.5	100:9
		By Volume (R:H)	3.1:1	3.6:1	2:1	2:1	6.5:1	2.5:1	3:1	2:1	2:1	6.5:1
	COLOR	Resin	Black	Black	Black	Black	Black	Black	Black	Black	Black	Black
		Hardener	Clear	Clear	Clear	Clear	Clear	Clear	Clear	Amber	Amber	Clear
		Mixed	Black	Black	Black	Black	Black	Black	Black	Black	Black	Black
TYPICAL CURED PROPERTIES	SPECIFIC GRAVITY	Resin	1.64	1.64	1.64	1.64	1.64	1.61	1.61	1.61	1.61	1.61
		Hardener	1.00	0.99	0.96	0.97	0.96	1.00	0.99	0.96	0.97	0.96
		Mixed	1.48	1.48	1.41	1.42	0.96	1.44	1.46	1.40	1.40	1.40
	SHORE HARDNESS		D 80	D 80	D 80	D 70	D 85	D 85	D 90	D 80	D 85	D 85
	GLASS TRANSITION TEMPERATURE/T <sub>g</sub> (°C)		27	35	20	27	67	43	75	38	31	104
	CTE ABOVE T <sub>g</sub> (MM/MM°C)		130x10e-6	125x10e-6	133x10e-6	150x10e-6	119x10e-6	160x10e-6	135x10e-6	138x10e-6	111x10e-6	115x10e-5
	CTE BELOW T <sub>g</sub> (MM/MM°C)		44x10e-6	37.5x10e-6	44.9x10e-6	82.6x10e-6	36.0x10e-6	60.7x10e-6	39.7x10e-6	52.6x10e-6	49.2x10e-6	35x10e-6
	DIELECTRIC CONSTANT	0.1 kHz	4.43	4.25	4.61	4.2	4.87	4.30	3.91	3.58	4.11	4.28
		1.0 kHz	4.37	4.20	4.37	4.0	4.83	4.22	3.88	3.52	3.97	4.18
		10.0 kHz	4.31	4.16	4.20	3.8	4.75	4.14	3.84	3.46	3.87	4.06
		100.0 kHz	4.24	4.10	4.05	3.7	4.64	4.03	3.79	3.39	3.77	3.92
TYPICAL ELECTRICAL PROPERTIES	DISSIPATION FACTOR	0.1 kHz	0.008	0.010	0.040	0.08	0.003	0.01	0.01	0.01	0.02	0.01
		1.0 kHz	0.008	0.011	0.027	0.04	0.007	0.01	0.01	0.01	0.02	0.02
		10.0 kHz	0.010	0.012	0.026	0.03	0.011	0.02	0.01	0.01	0.02	0.02
		100.0 kHz	0.014	0.013	0.023	0.03	0.014	0.02	0.01	0.02	0.02	0.02
	INSULATION RESISTANCE (OHMS)		1.14x10e+13	2.67x10e+13	1.61x10e+12	7.5x10e+111	5.19x10e+13	5.72x10e+13	4.09x10e+13	1.23x10e+14	4.57x10e+13	2.15x10e+13
	VOLUME RESISTIVITY (OHMS/CM)		6.03x10e+14	2.53x10e+15	1.02x10e+14	1.5x10e+14	2.69x10e+15	4.03x10e+15	2.61x10e+15	7.41x10e+15	2.98x10e+15	1.37x10e+15
	DIELECTRIC STRENGTH (VOLTS/MIL)		365	385	365	410	355	375	355	385	395	365
	FLAMMABILITY RATING UL FILE NO. E257711		N/A	N/A	N/A	UL 94B @ 1/16 in.	N/A	N/A	N/A	N/A	N/A	N/A
	INSULATION SYSTEM UL FILE NO. E257711		N/A	N/A	N/A	UL 1446	N/A	N/A	N/A	N/A	N/A	N/A

SYSTEM CHARACTERISTICS			LOCTITE® 3142™ HYSOL® EPOXY SYSTEM					LOCTITE® 3145™ HYSOL® EPOXY SYSTEM				
			3142™/3160™	3142™/3162™	3142™/3163™	3142™/3164™	3142™/3165™	3145™/3160™	3145™/3162™	3145™/3163™	3145™/3164™	3145™/3165™
TYPICAL UNCURED PROPERTIES	VISCOSITY (cP)	Resin	120,000 to 200,000	120,000 to 200,000	120,000 to 200,000	120,000 to 200,000	120,000 to 200,000	32,760	32,760	32,760	32,760	32,760
		Hardener	180	120	450	105	55	180	120	450	105	55
		Mixed	7,500	6,000	7,000	8,000	18,000	5,560	7,150	5,315	5,790	13,355
	WORKING TIME	77°F (25°C)	1.5 to 2 hrs. @ 400 g	5 to 10 min. @ 200 g	2 hrs. @ 400 g	25 min. @ 400 g	80 min. @ 400 g	2.5 to 4 hrs. @ 200 g	15 to 30 min. @ 200 g	3 to 3.5 hrs. @ 200 g	35 to 45 min. @ 200 g	2.5 to 3 hrs. @ 400 g
	GEL TIME	77°F (25°C)	3.5 to 4 hrs. @ 400 g	5 to 30 min. @ 200 g	>3 hrs. @ 400 g	50 min. @ 400 g	2.5 hrs. @ 400 g	6 to 8 hrs. @ 200 g	35 to 45 min. @ 200 g	6 to 7 hrs. @ 200 g	75 to 90 min. @ 200 g	5 hrs. @ 200 g
	CURE CYCLE	Normal 77°F (25°C)	24 hrs.	24 hrs.	48 hrs.	24 hrs.	24 hrs. @ 77°F + 4 hrs. @ 200°F	24 hrs.	24 hrs.	24 hrs.	24 hrs.	24 hrs. @ 77°F + 4 hrs. @ 200°F
		Alternate 150°F (66°C)	4 hrs.	2 hrs.	4 hrs.	2 hrs.	4 hrs. @ + 200°F	2 hrs.	2 hrs.	4 hrs.	2 hrs.	4 hrs. @ + 200°F
	MIX RATIO	By Weight (R:H)	100:10.7	100:9	100:10.9	100:14.3	100:4.1	100:15	100:13	100:15.5	100:20	100:6
		By Volume (R:H)	3.8:1	4.5:1	3.6:1	2.8:1	9.7:1	4:1	4.5:1	3.7:1	2.9:1	9.7:1
	COLOR	Resin	Black	Black	Black	Black	Black	Black	Black	Black	Black	Black
		Hardener	Clear	Clear	Amber	Amber	Clear	Clear	Clear	Clear	Clear	Clear
		Mixed	Black	Black	Black	Black	Black	Black	Black	Black	Black	Black
	SPECIFIC GRAVITY	Resin	2.40	2.40	2.40	2.40	2.40	1.67	1.67	1.67	1.67	1.67
		Hardener	1.00	0.99	0.96	0.97	0.96	1.00	0.99	0.96	0.97	0.96
		Mixed	1.54	1.54	1.53	1.50	1.62	1.51	1.54	1.49	1.49	1.58
TYPICAL CURED PROPERTIES	SHORE HARDNESS		D 90	D 90	D 90	D 85	D 90	D 80	D 84	D 80	D 75	D 88
	GLASS TRANSITION TEMPERATURE/T <sub>g</sub> (°C)		26	42	30	29	84	28	42	38	32	53
	CTE ABOVE T <sub>g</sub> (MM/MM°C)		104x10e-6	97.2x10e-6	96.1x10e-6	106x10e-6	87.7x10e-6	1.22x10e-6	128x10e-6	130x10e-6	122x10e-6	111x10e-6
	CTE BELOW T <sub>g</sub> (MM/MM°C)		29.2x10e-6	28.2x10e-6	33.5x10e-6	51.9x10e-6	26.9x10e-6	39.2x10e-6	42.6x10e-6	49.0x10e-6	59.4x10e-6	40.6x10e-6
	THERMAL CONDUCTIVITY	Watts/Meter°K	0.862/±0.010	0.953/±0.014	0.873/±0.017	0.801/±0.013	1.126/±0.017	0.7935	0.8068	0.8119	0.7324	1.0341
	DIELECTRIC CONSTANT	0.1 kHz	5.77	4.87	5.28	5.51	5.65	4.08	3.81	4.27	4.19	4.43
		1.0 kHz	5.69	4.83	5.20	5.35	5.57	4.28	3.85	4.36	4.46	4.45
		10.0 kHz	5.62	4.78	5.12	5.21	5.46	4.15	3.74	4.11	4.22	4.28
		100.0 kHz	5.52	4.72	5.02	5.06	5.34	4.00	3.63	3.90	3.99	4.11
TYPICAL ELECTRICAL PROPERTIES	DISSIPATION FACTOR	0.1 kHz	0.00	0.01	0.01	0.02	0.01	0.027	0.028	0.033	0.036	0.045
		1.0 kHz	0.001	0.01	0.01	0.02	0.01	0.031	0.025	0.046	0.042	0.036
		10.0 kHz	0.01	0.01	0.01	0.02	0.01	0.025	0.021	0.037	0.037	0.027
		100.0 kHz	0.01	0.01	0.01	0.02	0.01	0.023	0.017	0.031	0.034	0.024
	INSULATION RESISTANCE (OHMS)		4.61x10e+13	5.31x10e+13	3.65x10e+13	2.75x10e+12	4.09x10e+13	N/A	N/A	N/A	N/A	N/A
	VOLUME RESISTIVITY (OHMS/CM)		3.00x10e+15	3.47x10e+15	2.55x10e+15	1.65x10e+14	2.61x10e+15	1.10e+14	8.4e+14	2.1e+14	2.5e+13	7.3e+14
	DIELECTRIC STRENGTH (VOLTS/MIL)		360	345	355	345	335	595	693	748	695	794
	FLAMMABILITY RATING UL FILE NO. E257711		N/A	N/A	N/A	N/A	N/A	N/A	UL 94V-0 @ 1/8 in.	N/A	N/A	UL 94V-0 @ 1/8 in.

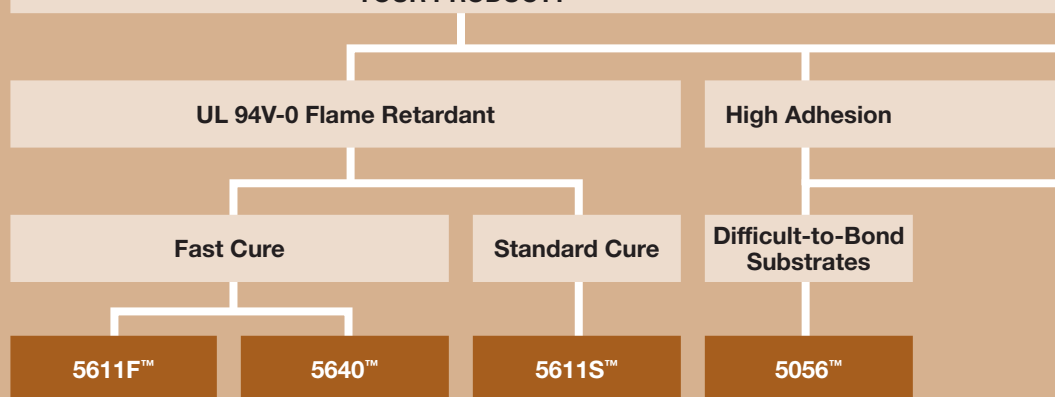
# Silicones

## Your Application

- Single-component, tough, protective
- Seal components against moisture, solvents and environmental conditions
- Cure in as little as 30 seconds to depths of 0.150 in. when exposed to UV light or visible light

## Solution

### WHAT IS THE MOST IMPORTANT ASPECT WHEN CHOOSING YOUR PRODUCT?



Key Feature	Flame Retardant (UL 94V-0 Rating)	Flame Retardant (UL 94V-0 Rating)	Flame Retardant (UL 94V-0 Rating)	ISO 10993 Compliant
Color	Grey	Grey	Grey	Clear/Yellowish Tint
Viscosity, cP (Resin/Hardener)	5,000/5,000	10,000/1,000	5,000/5,000	2,200

## Product Description

### LOCTITE® 5611F™ Silicone Potting Compound

#### *Self-Leveling, Noncorrosive, Flame Retardant*

Two-part, flame retardant (UL 94V-0) silicone. Products vary in cure speed and open times from fast (F) to standard (S) to match particular end-use applications. Grey in color.

P/N	Package Size
1385991	490 ml dual cartridge
1387908	4.5 gallon pail, part A
1387706	4.5 gallon pail, part B
1386373	575 lb. drum, part A
1432213	440 lb. drum, part B

### LOCTITE® 5640™ Silicone Potting Compound

#### *Self-Leveling, Noncorrosive, Flame Retardant*

Two-part, self-leveling with a V-0 rating and an improved adhesion to plastics. Grey in color.

#### **UL Listed.**

P/N	Package Size
1738359	490 ml dual cartridge
1738366	55 gallon drum, part A
1738365	5 gallon pail, part B

### LOCTITE® 5611S™ Silicone Potting Compound

#### *Self-Leveling, Noncorrosive, Flame Retardant*

Two-part, flame retardant (UL 94V-0) silicone. Products vary in cure speed and open times from fast (F) to standard (S) to match particular end-use applications. Grey in color.

P/N	Package Size
1386378	490 ml dual cartridge
1387908	4.5 gallon pail, part A
1388496	4.5 gallon pail, part B
1386373	575 lb. drum, part A
1387212	440 lb. drum, part B

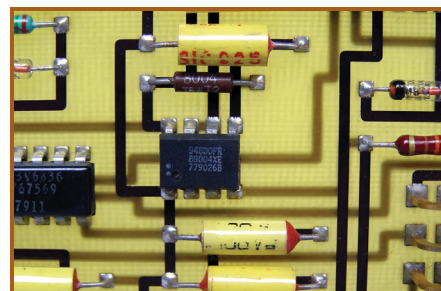
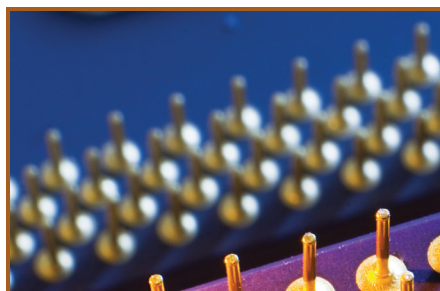
### LOCTITE® 5056™ Silicone Adhesive Sealant

#### *Self-Leveling/High Adhesion*

A UV or visible light curing, noncorrosive silicone with very high bond strength. Ideal for high speed adhesion and sealing applications. High adhesion for difficult-to-bond substrates.

P/N	Package Size
1214249	25 ml syringe
1214250	1 liter bottle
1214248*	15 liter pail

\* Made-to-order item.



		Self-Leveling		Ultra-Clear		
		Deep Potting	Flowable	Noncorrosive	Soft Gel	Tack-Free
		5031™	5055™	5240™	5625™	5623™
		5620™				
		Low Viscosity, Self-Leveling	Flowable	ISO 10993 Compliant	Fast Cure, Ultra Clear	Tack-Free
		Clear/Yellowish Tint	Clear/Yellowish Tint	Clear/Yellow to Green Tint	Clear	Clear
		5,500	525	18,000	Mixed: 1,500	Mixed: 700
						Mixed: 200

**LOCTITE® 5031™**  
**Nuva-Sil® Silicone**  
**Potting Compound**  
*High Adhesion/Visible Light*

A low viscosity, self-leveling, UV or visible light curing silicone for high speed deep potting, coating and sealing applications. Provides high adhesion for difficult-to-bond substrates.

P/N	Package Size
40086	300 ml cartridge
40087	40 lb. pail

**LOCTITE® 5055™**  
**Silicone Adhesive Sealant**  
*Self-Leveling/Flowable*

A UV or visible light curing, noncorrosive silicone for high speed coating, potting adhesion, or sealing applications. High adhesion for difficult-to-bond substrates.

P/N	Package Size
1212167	25 ml syringe
1214246	1 liter bottle
1214247*	15 liter pail

**LOCTITE® 5240™**  
**Nuva-Sil® Medical Device**  
**Sealant**  
*Self-Leveling/Noncorrosive*

A UV or visible light and moisture curing, noncorrosive silicone ideal for high speed adhesion and sealing applications. High adhesion for difficult-to-bond substrates.

P/N	Package Size
1010341	30 ml syringe
1010320	300 ml cartridge
1010343*	40 lb. pail

**LOCTITE® 5625™ Silicone**  
**Potting Compound**  
*Ultra-Clear/Tack-Free*

Two-part, ultra-clear, soft, noncorrosive silicone gel. Transparent in color. Very soft, re-enterable gel. Room temperature cure or accelerated heat cure.

P/N	Package Size
1257475	400 ml dual cartridge
1257616	40 lb. pail, part A
1257613	40 lb. pail, part B
1257617	400 lb. drum, part A
1257615	400 lb. drum, part B

**LOCTITE® 5623™ Silicone**  
**Potting Compound**  
*Ultra-Clear/Soft Gel*

Two-part, ultra-clear, tack-free, noncorrosive silicone gel. Transparent in color. Tough gel. Room temperature cure or accelerated heat cure.

P/N	Package Size
1259300	400 ml dual cartridge
1257611	40 lb. pail, part A
1257607	40 lb. pail, part B
1257612	400 lb. drum, part A
1257609	400 lb. drum, part B

**LOCTITE® 5620™ Silicone**  
**Potting Compound**  
*Ultra-Clear/Fast Cure*

Two-part, ultra-clear, fast cure, noncorrosive silicone. Transparent in color. Ideal for sealant, or potting applications that require a transparent silicone. Fast room temperature cure.

P/N	Package Size
1257478	400 ml dual cartridge
1257595	40 lb. pail, part A
1257597	40 lb. pail, part B
1257594	400 lb. drum, part A
1257596	400 lb. drum, part B



# Silicones

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## LOCTITE® Silicone Potting Compound Properties Chart

LOCTITE® PRODUCT	ITEM NUMBER	PACKAGE TYPE & SIZE	CURE SCHEDULE (Cure/Alt. Cure)	VISCOSITY (cP)	GEL TIME	SHORE HARDNESS	AGENCY APPROVALS
<b>5031™</b> <b>NUVA-SIL®</b>	40086 40087	300 ml cartridge 40 lb. pail	UV/visible light/moisture 60 seconds @ 40 mW/cm <sup>2</sup>	5,500	Seconds	A 34	N/A
<b>5040™</b>	40405 40404	85 g tube 300 ml cartridge	Moisture 24 hours @ 77°F (25°C)	35,000	<3 hours (skin over)	A 30	MIL-A-46146B
<b>5055™</b>	1212167 1214246 1214247*	25 ml syringe 1 liter bottle 15 liter pail	60 seconds @ 70 mW/cm <sup>2</sup>	525	Seconds	A 55	ISO 10993 Compliant
<b>5056™</b>	1214249 1214250 1214248*	25 ml syringe 1 liter bottle 15 liter pail	60 seconds @ 70 mW/cm <sup>2</sup>	2,200	Seconds	A 43	ISO 10993 Compliant
<b>5091™</b> <b>NUVA-SIL®</b>	17412	300 ml cartridge	UV/moisture 60 seconds @ 40 mW/cm <sup>2</sup>	5,500	Seconds	A 34	UL Classified for U.S.
<b>5240™</b> <b>NUVA-SIL®</b>	1010341 1010320 1010343*	30 ml syringe 300 ml cartridge 40 lb. pail	60 seconds @ 70 mW/cm <sup>2</sup>	18,000	Seconds	A 45	ISO 10993 Compliant
<b>5611F™</b>	1385991 1387908 1387706 1386373 1432213	490 ml dual cartridge 4.5 gallon pail, part A 4.5 gallon pail, part B 575 lb. drum, part A 440 lb. drum, part B	Two-Part 10:1 A:B by volume 11 minutes tack-free	Part A - 5,000 Part B - 5,000	19 minutes	A 55	UL 94V-0
<b>5611S™</b>	1386378 1387908 1388496 1386373 1387212	490 ml dual cartridge 4.5 gallon pail, part A 4.5 gallon pail, part B 575 lb. drum, part A 440 lb. drum, part B	Two-Part 10:1 A:B by volume 38 minutes tack-free	Part A - 5,000 Part B - 5,000	73 minutes	A 55	UL 94V-0
<b>5620™</b>	1257478 1257595 1257597 1257594 1257596	400 ml dual cartridge 40 lb. pail, part A 40 lb. pail, part B 400 lb. drum, part A 400 lb. drum, part B	Two-Part 30 minutes @ 77°F (25°C)	Part A - 220 Part B - 190 Mixed - 200	20 minutes**	A 35	N/A
<b>5623™</b>	1259300 1257611 1257607 1257612 1257609	400 ml dual cartridge 40 lb. pail, part A 40 lb. pail, part B 400 lb. drum, part A 400 lb. drum, part B	Two-Part 1 hour @ 212°F (100°C) 24 hours @ 77°F (25°C)	Part A - 700 Part B - 700 Mixed - 700	120 minutes**	00 40	N/A
<b>5625™</b>	1257475 1257616 1257613 1257617 1257615	400 ml dual cartridge 40 lb. pail, part A 40 lb. pail, part B 400 lb. drum, part A 400 lb. drum, part B	Two-Part 1 hour @ 212°F (100°C) 24 hours @ 77°F (25°C)	Part A - 1,000 Part B - 2,000 Mixed - 1,500	100 minutes**	00 2	N/A
<b>5640™</b>	1738359 1738366 1738365	490 ml dual cartridge 55 gallon drum, part A 5 gallon pail, part B	Two-Part 10:1 A:B by volume 38 minutes tack-free	Part A - 10,000 Part B - 1,000	5 minutes	A 30	UL 94-0

ITEMS IN RED = Source's PICK or NEW

\* Made-to-order item.





\*\* Pot life.



# Silicone Equipment

## YOUR EQUIPMENT Source

For more details, see the **LOCTITE® Equipment Sourcebook, LT-3669**, or visit us on the web for additional information, diagrams, products and our full line of equipment at [www.equipment.loctite.com](http://www.equipment.loctite.com).



LOCTITE® PRODUCT		ITEM NUMBER	PRESSURE REGULATION	USED TO DISPENSE	PACKAGE TYPE & SIZES	VISCOSITY RANGE	LOW LEVEL SENSING	CONSUMABLES – DISPENSE ACCESSORIES	
CARTRIDGE DISPENSING	PNEUMATIC CARTRIDGE DISPENSING								
		300 ML PNEUMATIC CARTRIDGE DISPENSING RETAINER	98319A	0 to 60 psi	Gel Cyanoacrylates, Anaerobic Gasketing, Light Cure/Acrylics, Silicones	300 ml cartridges	Low to Medium	Pneumatic	Cartridge Accessories – Page 177
		HD10 300 ML PNEUMATIC CARTRIDGE DISPENSER	1714379	0 to 60 psi	Gel Cyanoacrylates, Anaerobic Gasketing, Light Cure Acrylics, Silicones	300 ml cartridges 250 ml tubes	Medium to High	No	
		300 ML CARTRIDGE PUSHER	98022	0 to 50 psi	Gel Cyanoacrylates, Anaerobic Gasketing, Light Cure/Acrylics, Low Viscosity Silicones	300 ml cartridges 250 ml tubes	Medium	Yes	
		HIGH PRESSURE 300 ML BENCHTOP CARTRIDGE DISPENSER	1046901	0 to 725 psi	Silicone, Polyurethane, MS Polymer Adhesives	290 ml cartridges 300 ml cartridges 310 ml cartridges	10,000 to 1,000,000	Yes	Use with High Pressure Dispense Valve (sold separately) – see below

LOCTITE® PRODUCT		ITEM NUMBER	TYPE	VISCOSITY RANGE	DISPENSE PATTERNS	USED TO DISPENSE	STROKE ADJUSTMENT	SUCK-BACK	CONSUMABLES – DISPENSE ACCESSORIES
VALVES & PUMPS	HIGH VISCOSITY FLUID & PASTE VALVES								
		VA 25 DISPENSE VALVE – 50 BAR	High Viscosity Fluid and Paste Valves	10,000 to 1,000,000 cP	Drop, Bead	Silicones, MS Polymers, Urethanes	Yes	Yes	Dispense Tips and Accessories – Pages 176-177
		HIGH PRESSURE DISPENSE VALVE – 150 BAR		500,000 to 2,000,000 cP			Yes	No	

ITEMS IN RED = Source's PICK or NEW

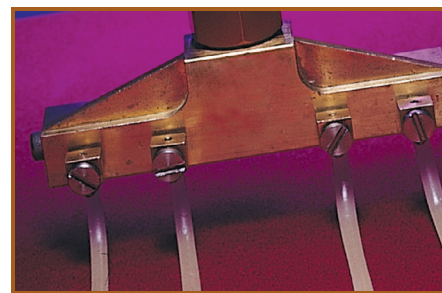
Your Source for Motion Control Robot Dispense Systems. See page 171.

**EQUIPMENT** – Henkel is a full-service supplier of LOCTITE® branded equipment and offers a wide variety of equipment services to its customers. **For more LOCTITE® branded equipment, go to page 165.**

Can't find what you're looking for? Visit [www.equipment.loctite.com](http://www.equipment.loctite.com) or call 1-800-LOCTITE (562-8483).

**STRAIGHT FROM The Source**

# Hot Melts

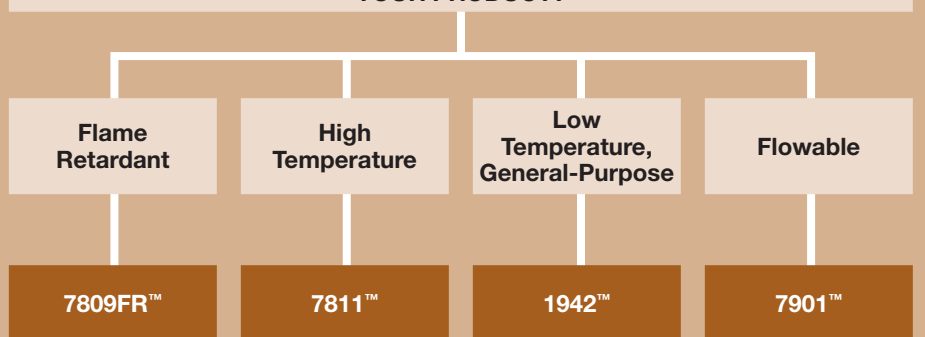


## Your Application

- Well-suited for fast, deep potting applications requiring large gap fills in high speed manufacturing environments
- Used for potting and encapsulating in the electronics industry

## Solution

### WHAT IS THE MOST IMPORTANT ASPECT WHEN CHOOSING YOUR PRODUCT?



	Color	Amber	Amber	Tan	Amber
Viscosity (cP) at Dispense Temperature		7,000	4,250 to 6,400	5,000	750
Open Time (sec.)		35	35	30	35
Temperature Resistance		240°F	266°F	142°F	300°F

## Product Description

### LOCTITE® 7809FR™ Hysol® Hot Melt Adhesive *Fire Retardant*

Modified with fire retardant materials. It has a UL 94V-0 flammability rating.

P/N	Package Size
83675	Superstick 10 in. 32 lb. carton
83676	Polyshot 25 lb. pail

### LOCTITE® 7811™ Hysol® Hot Melt Adhesive *High Temperature*

A high performance polyamide with exceptional high temperature resistance and impact resistance at low temperatures.

P/N	Package Size
83340	Polyshot 25 lb. pail
83338	40 lb. carton pellets

### LOCTITE® 1942™ Hysol® Hot Melt Adhesive *General-Purpose*

Medium setting, general-purpose hot melt adhesive. Excellent adhesion to wood and many plastics. Not recommended for high temperature potting applications.

P/N	Package Size
83267	40 lb. carton pellets
83269	Maxistick 35 lb. carton
83274	Superstick 10 in. 25 lb. carton
83277	Polyshot 35 lb. carton

### LOCTITE® 7901™ Hysol® Hot Melt Adhesive *Polyamide*

Low viscosity polyamide used extensively for potting and encapsulating.

P/N	Package Size
83342	40 lb. carton pellets


**LOCTITE® Hysol® Hot Melt Adhesive Properties Chart**

LOCTITE® PRODUCT											
ITEM NUMBER											
PACKAGE TYPE & SIZE											
COLOR											
VISCOSITY (cP) AT DISPENSE TEMPERATURE											
TENSILE STRENGTH (psi)											
OPEN TIME											
TEMPERATURE RESISTANCE											
% ELONGATION											
SHORE HARDNESS											
AGENCY APPROVALS											
LOCTITE® HYSOL® HOT MELT ADHESIVES	1942™ HYSOL®	83267 83269 83274 83277	40 lb. carton pellets Maxistick 35 lb. carton Superstick 10 in. 25 lb. carton Polyshot 35 lb. carton	Tan	5,000	250	30 seconds	142°F	500	N/A	FDA CFR175.105
	7809FR™ HYSOL®	83675 83676	Superstick 10 in. 32 lb. carton Polyshot 25 lb. pail	Amber	7,000	363	35 seconds	240°F	373	A 85	UL Classified for U.S.
	7811™ HYSOL®	83340 83338	Polyshot 25 lb. pail 40 lb. carton pellets	Amber	4,250 6,400	400	35 seconds	266°F	1,200	N/A	N/A
	7901™ HYSOL®	83342	40 lb. carton pellets	Amber	750	260	35 seconds	300°F	80	A 84	N/A





















You can find more LOCTITE® Hot Melt Adhesives in the bonding section on [pages 13-16](#).

Please see [pages 109-110](#) for LOCTITE® Hot Melt applicators.

**ADDITIONAL  
RESOURCES**





LOCTITE® PRODUCT	ITEM NUMBER	DESCRIPTION	USED WITH
	1611450	Replacement Nozzle/Check Valve	1597635
	419115 (SINGLE PACK)	Adapter/Check Valves for Nozzles	98035, 98036, 98040
	916050 (5 PACK)		916282
	ANZ023N01	Standard Nozzle Adapter with Check Valve and Jam Nut	98033, 98034
	985225 (5 PACK)	1-Hole Nozzle 0.08" diameter cone tip (5 pack)	98033, 98034, 98035, 98036, 98040
	985110	2-Hole Nozzle 0.06" diameter x 0.39" spacing	98033, 98034, 98035, 98036, 98040, 98544, 98545
	985111	3-Hole Nozzle 0.06" diameter x 0.20" spacing	98033, 98034, 98035, 98036, 98040, 98544, 98545
	985112	Diagonal Extension Nozzle Tip = 0.14" diameter x 1.23" long	98033, 98034, 98035, 98036, 98040, 98544, 98545
	985113	Needle Extension Nozzle Tip = 0.05" diameter x 1.32" long	98033, 98034, 98035, 98036, 98040, 98544, 98545
	985114	Spreader Extension Nozzle Tip = (0.09" x 0.25") x 1.32" long	98033, 98034, 98035, 98036, 98040, 98544, 98545
	985115	L-Nozzle 0.06" diameter x 0.85" offset	98033, 98034, 98035, 98036, 98040, 98544, 98545
	985122	Standard Medium Spray Nozzle 1.25" to 5" diameter pattern	98037, 98041
	985211	Narrow Spray Nozzle 0.05" to 1.25" diameter pattern	98037, 98041
	985216	Ultra-Wide Spray Nozzle 1.5" to 6.0" diameter pattern	98037, 98041
	984261	Standard Adapter for 300 ml Cartridges	98011
	984262	Standard 1-Hole Nozzle 0.098" diameter cone tip, with integral check valve (includes protective cap)	98011
	984263	Adapter/Check Valve for Specialty Nozzles	98011
	984264	Needle Jet Nozzle Tip = 0.051" diameter x 1.26" long (requires 984263 adapter)	98011
	984268	3-Hole Nozzle 0.06" diameter x 0.20" spacing (requires 984263 adapter)	98011
	984272	Injection Needle Nozzle with Integral Check Valve Tip = 0.059" diameter x 0.197" long	98011
	985397	Air Line Filter, Regulator, 5 Micron Filter Gauge 0 to 150 psi	All Pneumatic Applicators

## HOT MELT NOZZLES &amp; ACCESSORIES

# Low Pressure Molding

## Your Application

- Low-pressure, high-speed molding with adhesives for fragile and delicate components
- Short cycle times and simple single-step process
- Encapsulation of components provides complete sealing and subsequent environmental resistance.

## WHAT TYPE OF MOLDING MATERIAL DO YOU NEED?

### High Rigidity

### Highest Hardness

Good Adhesion

Amber

Black

Exposure to Sunlight

PA 7838™  
BLACK

PA 7841™

PA 7846™  
BLACK

PA 7848™  
BLACK

## Solution

Color	Black	Amber	Black	Black
Hardness (Shore A)	90A	92A	92A	93A
Maximum Working Temperature (°C)	130	130	130	130
Viscosity at 210°C (cP)	3500	7000	7000	7300

## Product Description

### TECHNOMELT® PA 7838™ BLACK

Moldable black polyamide for higher temperature applications, with service temperatures up to 130°C (266°F).

P/N Package Size  
1762953 44 lb. bag

### TECHNOMELT® PA 7841™

Moldable amber polyamide that can be used where high strength and hardness are needed, such as with computer connectors.

P/N Package Size  
1762906 44 lb. bag

### TECHNOMELT® PA 7846™ BLACK

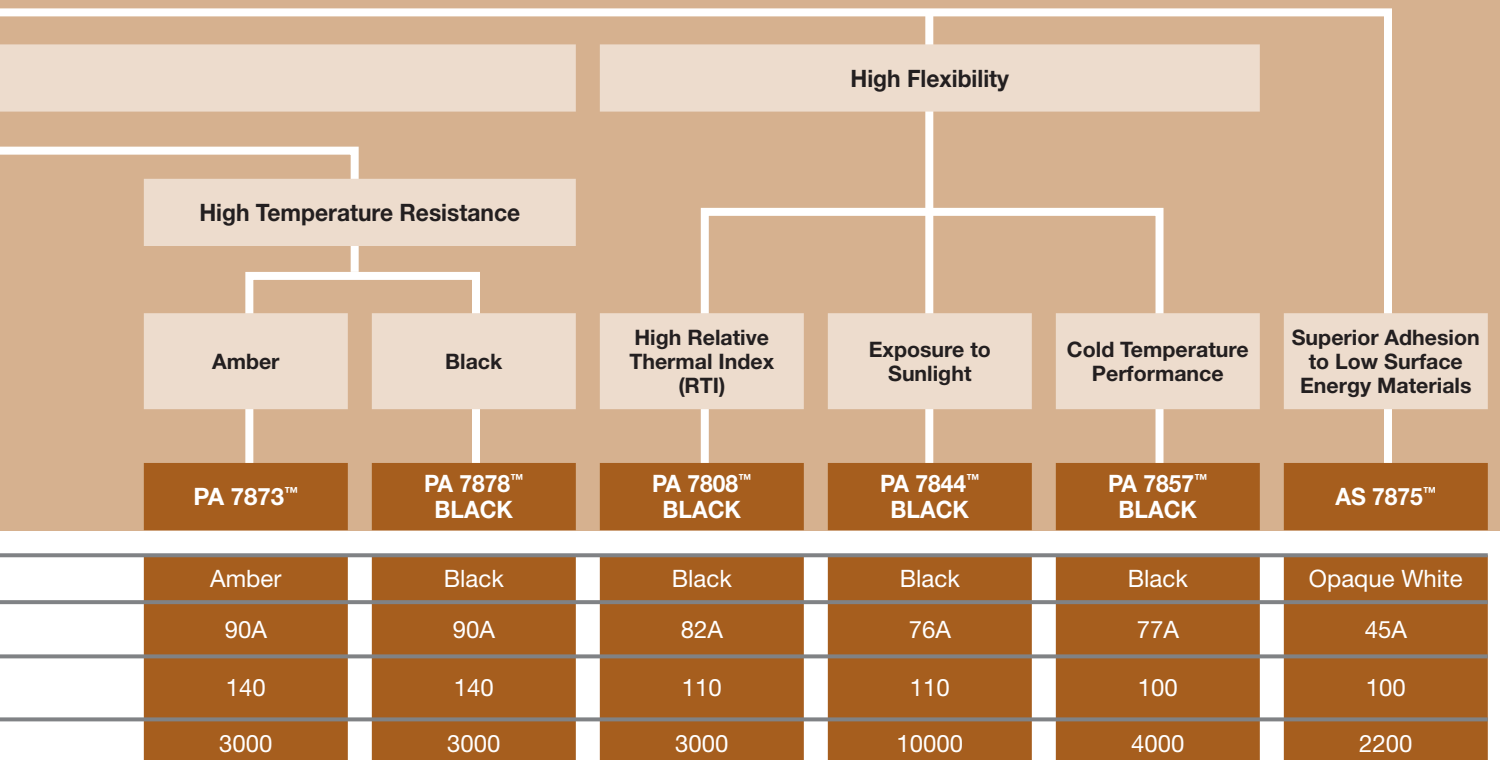
Moldable black polyamide that can be used where high strength and hardness are needed, such as with computer connectors.

P/N Package Size  
1764113 44 lb. bag

### TECHNOMELT® PA 7848™ BLACK

Moldable black polyamide with improved UV stability that is suitable for outdoor applications.

P/N Package Size  
1764108 44 lb. bag



#### TECHNOMELT® PA 7873™

Moldable amber polyamide with good adhesion for higher temperature applications up to 140°C (284°F).

P/N            Package Size  
1763724 44 lb. bag

#### TECHNOMELT® PA 7878™ BLACK

Moldable black polyamide with good adhesion for higher temperature applications up to 140°C (284°F).

P/N            Package Size  
1762904 44 lb. bag

#### TECHNOMELT® PA 7808™ BLACK

Moldable black polyamide with excellent adhesion to tough substrates and superior flexibility. This product is ideal for strain relief on cables and wires and for the encapsulation of heat-producing components in electrical devices. Has a UL RTI of 95°C (203°F).

P/N            Package Size  
1762910 44 lb. bag

#### TECHNOMELT® PA 7844™ BLACK

Moldable black polyamide with improved UV stability that is suitable for outdoor applications. Enhanced adhesion to low surface energy plastics compared to other polyamides.

P/N            Package Size  
1925259 40 lb. bag

#### TECHNOMELT® PA 7857™ BLACK

Moldable black polyamide that can be used where excellent adhesion and cold temperature flexibility are important.

P/N            Package Size  
1762909 44 lb. bag

#### TECHNOMELT® AS 7875™

Moldable polyolefin hot melt for applications demanding moisture and solvent resistance. It exhibits excellent adhesion to low surface energy plastics.

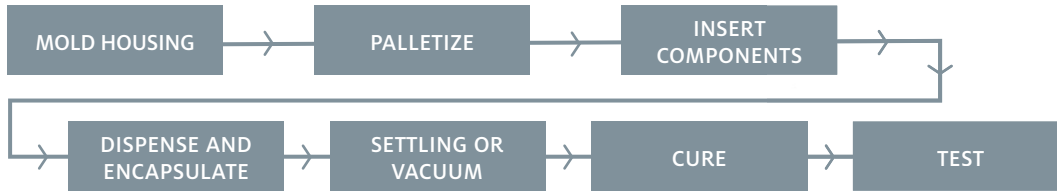
P/N            Package Size  
1762907 55 lb. bag



# Low Pressure Molding

## Process

### Traditional Potting Process Flow



### Low Pressure Process Flow



## Key Benefits

### Design

- Additive design allows for alternative solutions (simplified process vs. traditional technologies)
- Functional design removes process steps
- Improved look and image

### Process

- Reduces total cost of ownership (TCOO)
- Increased throughput
- Low capital equipment costs and reduced footprint
- Low viscosity materials allow for low injection pressures

### Products

- Adhesion to multiple surfaces
- Complete watertight encapsulation
- Safe, 1-component, UL 94-V0 approved
- High temperature resistance
- Compliant materials suitable for sensitive electrical and telecommunication components
- Less handling and shorter process
- No cure process required

### Sustainability

- Zero waste
- All excess material and scrap are recyclable
- Natural ingredients



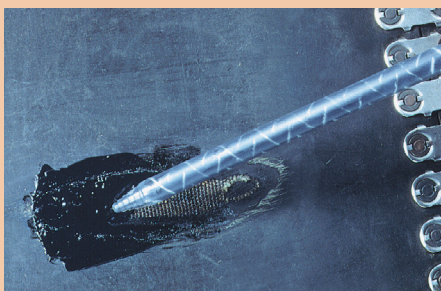
Through the combination of Product, Process and Design, Low Pressure Molding with **TECHNOMELT®** delivers customers an advanced and environmentally sustainable solution to component protection.

## TECHNOMELT® Low Pressure Molding Properties Chart

TECHNOMELT® PRODUCT	TYPE	ITEM #	COLOR	HARDNESS (SHORE A)	TENSILE STRENGTH (PSI)	% ELONGATION	WORKING TEMPERATURE RANGE	AGENCY LISTING
PA 7808™	Polyamide	1762932	Amber	82A	520	600	-40°C to 110°C	UL 94V0, 95°C RTI
PA 7808™ BLACK	Polyamide	1762910	Black	82A	520	450	-40°C to 110°C	UL 94V0, 95°C RTI
PA 7833™	Polyamide	1762931	Amber	90A	750	300	-40°C to 130°C	UL 94V0
PA 7838™ BLACK	Polyamide	1762953	Black	90A	750	300	-40°C to 130°C	UL 94V0
PA 7841™	Polyamide	1762906	Amber	92A	1310	650	-10°C to 130°C	—
PA 7846™ BLACK	Polyamide	1764113	Black	92A	1310	650	-40°C to 130°C	UL 94V0
PA 7848™ BLACK	Polyamide	1764108	Black	93A	1310	550	-40°C to 130°C	UL 94V2, f2 rating for outdoor weatherability
PA 7852™	Polyamide	1762908	Amber	77A	460	400	-40°C to 100°C	UL 94V0
PA 7857™ BLACK	Polyamide	1762909	Black	77A	390	350	-40°C to 100°C	UL 94V0
PA 7873™	Polyamide	1763724	Amber	90A	800	400	-40°C to 140°C	UL 94V0
PA 7878™ BLACK	Polyamide	1762904	Black	90A	800	400	-40°C to 140°C	UL 94V0
PA 7844™ BLACK	Polyamide	1925259	Black	76A	1000	700	-20°C to 110°C	—
PA 649™ BLACK	Polyamide	1860722	Black	88A	580	250	-40°C to 100°C	—
AS 7875™	Polyolefin	1762907	Opaque White	45A	120	400	-30°C to 100°C	—



# Repairing, Rebuilding & Restoring



## 115 REPAIRING, REBUILDING & RESTORING

117	Belt Repairs & Urethanes
119	Maintenance & Repair Epoxies

### WHY USE LOCTITE® REPAIRING, REBUILDING AND RESTORING PRODUCTS?

The LOCTITE® Fixmaster® products are designed to optimize performance on various substrates. Substrate is the most important factor when choosing a repair, rebuild or restoring product. The correct product for each substrate will make a significant impact on the integrity of the repair. We offer solutions for permanent as well as temporary fixes, providing proven savings for processes and applications.

### TRADITIONAL METHODS VS. LOCTITE® MODERN SOLUTIONS

Traditional methods of repair, such as part replacement and custom manufacturing, are high cost solutions compared with using LOCTITE® Fixmaster® Repairing, Rebuilding and Restoring products. You can find a quick remedy and return parts to service with little interruption and downtime to your process.

### KEY BENEFITS OF LOCTITE® REPAIRING, REBUILDING AND RESTORING PRODUCTS:

- Cost savings
- Minimal down time
- Improved safety
- Epoxies can be drilled and tapped after cure
- Available in varying viscosities and kneadable form
- Available in colors to match varying metals

### WHAT IS THE PROPER SURFACE PREPARATION FOR REPAIR EPOXIES?

A properly prepared surface is one that has been cleaned, dried and abraded. Substrates should be free from contamination, including oils, grease, dust, etc. It is also important that a surface is dry\* before working with a repair epoxy because moisture on the surface can interfere with the curing process. The final step is to abrade the surface to provide an increased surface area for bonding. When working with metals, the surface should be abraded to a near-white metal finish, which also helps to ensure that all surface corrosion is removed.

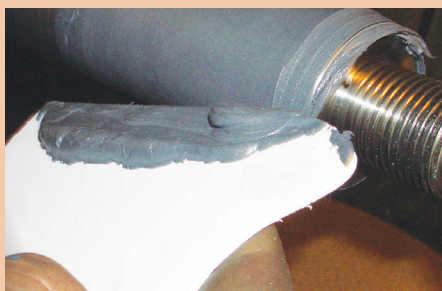
### APPLICATIONS:

- Pump
- Gearbox
- Concrete Repair
- Conveyor Systems
- Shaft Repair

### INDUSTRIES:

- Mining
- Wastewater
- Power Generation
- Food Processing
- Pulp and Paper
- Beverage

\* LOCTITE® Fixmaster® Wet Surface Repair Putty and LOCTITE® Fixmaster® Underwater Repair Epoxy have been specially formulated to cure in wet or underwater applications.



## Repairing, Rebuilding & Restoring

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Repairing, Rebuilding & Restoring

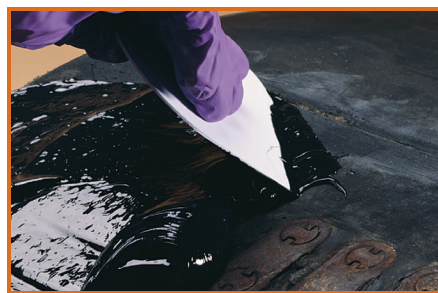


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**STRAIGHT FROM** *The Source*



# Belt Repairs & Urethanes



## Your Application

### Belt Repairs:

- Provide durable, tough, and flexible repairs of conveyor belts and other damaged rubber equipment quickly and easily

### Urethanes:

- Can be troweled, cast or brush-applied to rebuild or protect critical operating equipment
- Provide protection from impact, abrasion and corrosion
- Nonshrinking and unaffected by oil, grease and water
- Maximum adhesion and product reliability ensured by use of recommended accessories

## Solution

### CONVEYOR BELT REPAIR

#### Is this a temporary or a long-term repair?

#### Short-Term

#### Long-Term

#### Do you require a fast return to service or a long working time?

#### Fast Return to Service

#### Longer Working Time

**Fixmaster®  
Instant Belt Repair**

**Fixmaster®  
Rapid Rubber Repair  
Urethane**

**Fixmaster®  
Flex™ Conveyor Belt  
Repair Kit**

Color	Amber	Black	Black
Working Time	N/A	1 min.	10 min.
Tensile Strength	400 psi	1,300 psi	1,500 psi
Functional Cure	30 min.	2 hrs.	8 hrs.

## Product Description

### Fixmaster® Rapid Rubber Repair Dispenser

Handheld, manually operated dispenser designed specifically for use with LOCTITE® Fixmaster® Rapid Rubber Repair.

#### Description:

- Two-part adhesives
- 400 ml cartridges
- Medium- to high-viscosity range

**Item #** 1372751 Universal Fixmaster® Dispenser  
243335 Rapid Rubber Nozzle



ADDITIONAL RESOURCES

### LOCTITE® Fixmaster® Instant Belt Repair

A single-component, heat-curing material for fast, temporary belt repairs. Requires no priming. Equipment can be operated in 30 minutes.

**P/N Package Size**  
37719 1 lb. bottle

### LOCTITE® Fixmaster® Rapid Rubber Repair Urethane

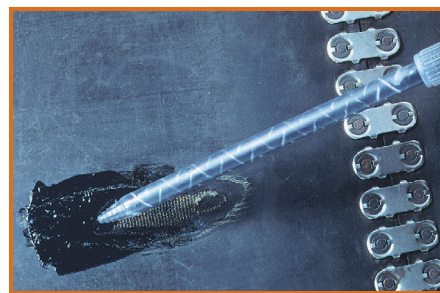
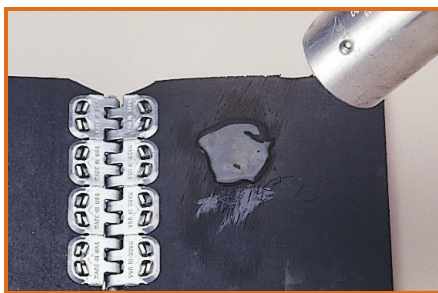
Our premium quality belt repair product is designed to repair conveyor belts and other damaged rubber equipment quickly and easily. Repairs will have the same durability and flexibility as the belt. The 400 ml cartridge requires the use of a LOCTITE® Rapid Rubber Repair Dispenser (part number 1372751).

**P/N Package Size**  
96677 400 ml kit  
96675 400 ml cartridge  
96676 150 ml coaxial cartridge

### LOCTITE® Fixmaster® Flex™ Conveyor Belt Repair Kit

Makes long-lasting belt repairs. Recommended for applications where speed of application is not critical. Cures in 8-12 hours. Kit includes resin, hardener, cleaner, etching agent, brushes and plastic trowels.

**P/N Package Size**  
98693 1 lb. kit



## LOCTITE® Fixmaster® Belt Repair & Urethane Applications Chart

LOCTITE® PRODUCT	CASTING MOLDS, FIXTURES, PARTS	CONVEYOR BELT REPAIR (LONG-TERM)	CONVEYOR BELT REPAIR (TEMPORARY)	COATING IMPELLERS, FEEDER BOWLS	CHUTES, HOPPERS, DEFLECTION PLATES	REBUILDING RUBBER PARTS	LINING PUMPS	FORMING EXPANSION JOINTS
FIXMASTER® RAPID RUBBER REPAIR		▲					△	△
FIXMASTER® FLEX™ CONVEYOR BELT REPAIR KIT		△						
FIXMASTER® INSTANT BELT REPAIR			▲					
FIXMASTER® FLEX 80™ PUTTY	△				▲	▲	▲	
FIXMASTER® FLEX 80™ LIQUID	▲			△				▲

△ Good Choice    ▲ Preferred Choice

## LOCTITE® Belt Repair & Urethane Properties Chart

	LOCTITE® PRODUCT	ITEM NUMBER	PACKAGE TYPE & SIZE	COLOR	COVERAGE (IN. <sup>2</sup> AT 1/4 IN. THICKNESS)	MAXIMUM OPERATING TEMPERATURE (°F)	ADHESIVE TENSILE STRENGTH (psi)	% ELONGATION	SHORE HARDNESS	WORKING TIME (MINUTES)	FUNCTIONAL CURE (HOURS)	MIX RATIO BY VOLUME (RESIN: HARDENER)	MIX RATIO BY WEIGHT (RESIN: HARDENER)	AGENCY APPROVALS
BELT REPAIR	FIXMASTER® RAPID RUBBER REPAIR URETHANE	96677 96675 96676	400 ml kit 400 ml cartridge 150 ml coaxial cartridge	Black	188 188 33	180	1,300	360	A 82	1	2	1:1	N/A	N/A
	FIXMASTER® FLEX™ CONVEYOR BELT REPAIR KIT	98693	1 lb. kit	Black	94	180	1,500	350	A 87	10	8	100:40	72:28	N/A
	FIXMASTER® INSTANT BELT REPAIR	37719	1 lb. bottle	Yellow	115	150	400	650	A 65	N/A	30 min.	N/A	N/A	N/A
GENERAL REPAIR	FIXMASTER® FLEX 80™ PUTTY	97423 97422	1 lb. kit 6 lb. kit	Black	94 564	180	1,500	350	A 87	10	8	100:40	72:28	ABS
	FIXMASTER® FLEX 80™ LIQUID	97413 97412	1 lb. kit 6 lb. kit	Black	27 in. <sup>3</sup> 162 in. <sup>3</sup>	180	1,800	350	A 87	20	8	100:13.3	77:23	N/A
	MR 5898™	1878840 1878379	2 gallon pail 1 gallon pail	White	N/A	250	N/A	N/A	N/A	1	24 to 48	1:1	1:0.924	N/A

Properties based on mixing a 1 lb. unit at 77°F, seven days' cure.

## LOCTITE® Belt Repair Accessories Chart

	LOCTITE® PRODUCT		ITEM NUMBER	PACKAGE DESCRIPTION	COVERAGE	COLOR
BELT REPAIR ACCESSORIES	ETCHING AGENT	Enhances bonds to rubber	99626	3 fl. oz. bottle	190 in <sup>2</sup> or approximately 1 can of each product for 2 lbs. of urethane	Clear
	FLEX™ CLEANER	Cleans and primes surfaces	39636	4 fl. oz. can	N/A	Clear
	FIXMASTER® RAPID RUBBER REPAIR	Dispenser	1372751	Required for use with 400 ml cartridge of LOCTITE® Fixmaster® Rapid Rubber Repair. (Item Number 1372751 is not included in the 96677 kit and must be ordered separately.)		
	FIXMASTER® RAPID RUBBER REPAIR	Static mixers	243335 874905	Packaged 6/bag – for mixing and dispensing LOCTITE® Fixmaster® Rapid Rubber Repair in a 400 ml cartridge. Packaged 10/pack – for mixing and dispensing LOCTITE® Fixmaster® Rapid Rubber Repair in a 150 ml coaxial cartridge.		

Need additional mix nozzles for LOCTITE® Fixmaster® Rapid Rubber Repair Dispenser?

- Order Item Number 39633 (6 pk.). Fits 400 ml cartridge.
- Order Item Number 98667 (10 pk.). Fits 150 ml cartridge.

DISPENSE NOZZLES

# Maintenance & Repair Epoxies



## Your Application

- High compressive strength
- Choice of mild steel aluminum or nonmetallic fillers
- Can be machined, drilled or tapped after cure
- Excellent resistance to aggressive chemicals

## REPAIR OR REBUILD DAMAGED PARTS

### What material are you filling?

#### Mild Steel

#### Pourable

#### Putty

#### Kneadable Stick

#### High Performance Chemical Resistance

## Solution

**Fixmaster® Steel Liquid**

**Fixmaster® Steel Putty**

**Fixmaster® Fast Set Steel Putty**

**Fixmaster® Metal Magic Steel™**

**Fixmaster® Superior Metal**

Color	Grey	Grey	Grey	Dark Grey	Grey
Maximum Temperature	225°F (107°C)	225°F (107°C)	200°F (93°C)	250°F (121°C)	250°F (121°C)
Working Time*	25 min.	30 min.	3 min.	3 min.	20 min.
Cure Time*	6 hrs.	6 hrs.	10 min.	10 min.	6 hrs.
Compressive Strength	13,500 psi	11,100 psi	10,800 psi	12,000 psi	18,000 psi

## Product Description

### LOCTITE® Fixmaster® Steel Liquid

High steel content. Pourable liquid filler used for making fixtures and molding.

**ABS Approved.**

P/N	Package Size
97483	1 lb. kit
97484	4 lb. kit

### LOCTITE® Fixmaster® Steel Putty

High steel content putty. Recommended for repairing and rebuilding worn steel components, such as bearing and fan housings.

**ABS Approved.**

P/N	Package Size
99913	1 lb. kit
99914	4 lb. kit
99912	25 lb. kit

### LOCTITE® Fixmaster® Fast Set Steel Putty

A fast curing version of steel putty. Recommended for repairing pipes and other emergency repairs.

**ABS Approved.**

P/N	Package Size
39917	1 lb. kit

### LOCTITE® Fixmaster® Metal Magic Steel™

Kneadable, two-part paste. Working time is 3 minutes – sets in 10 minutes. Adheres to damp surfaces. Can be drilled, filed and painted. Ideal for emergency sealing of leaking tanks and pipes. Smooths welds, repairs small cracks in castings and fills oversized bolt holes.

**NSF/ANSI 61 Certified.**

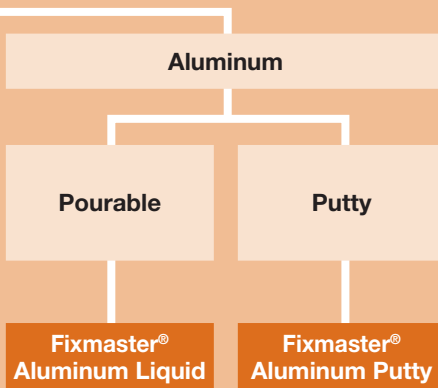
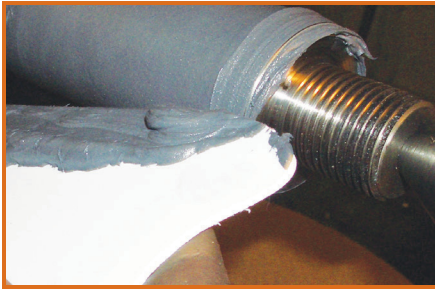
P/N	Package Size
98853	4 oz. stick

### LOCTITE® Fixmaster® Superior Metal

Formulated with fine alloy particles for high compressive strength and chemical resistance. Recommended for use on all metals. Outstanding compressive strength, chemical resistance, non-rusting.

P/N	Package Size
97473	1 lb. kit
40900	4 kg kit

\* At 77°F (25°C).



Light Grey	Light Grey
200°F (93°C)	200°F (93°C)
20 min.	20 min.
6 hrs.	6 hrs.
17,000 psi	11,300 psi

#### LOCTITE® Fixmaster® Aluminum Liquid

Fluid, self-leveling aluminum liquid. Can be poured into molds and cavities. Recommended for casting aluminum replacement parts and for making molds.

**ABS Approved.**

**P/N**    **Package Size**  
97453    1 lb. kit

#### LOCTITE® Fixmaster® Aluminum Putty

General-purpose, aluminum putty for repair of all aluminum alloy components.

**ABS Approved.**

**P/N**    **Package Size**  
97463    1 lb. kit

### Your Source for **SUPERIOR METAL** LOCTITE® Fixmaster® Superior Metal 6-Step Process



**STEP 1:**  
Clean completely.



**STEP 2:**  
Gather product.



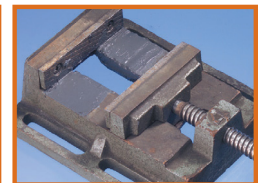
**STEP 3:**  
Prepare product.



**STEP 4:**  
Mix completely.



**STEP 5:**  
Apply.



**STEP 6:**  
Set.

#### VISCOSITY AND WORKING TIME

- The working time of an epoxy is the time required for the viscosity to double. Once the viscosity has doubled, epoxies are generally very hard to work with, so jobs should be completed before this time.
- Increasing the temperature of the product or substrate can increase the cure speed of an epoxy and initially reduce the viscosity.

**HELPFUL HINTS**



# Maintenance & Repair Epoxies



## LOCTITE® Fixmaster® Maintenance & Repair Epoxy Properties Chart

	LOCTITE® PRODUCT	ITEM NUMBER	PACKAGE TYPE & SIZE	COLOR	COVERAGE	MAXIMUM TEMPERATURE† (°F)	COMPRESSIVE STRENGTH† (psi)	TENSILE STRENGTH† (psi)	SHORE HARDNESS	WORKING TIME	FUNCTIONAL CURE	MIX RATIO BY VOLUME	MIX RATIO BY WEIGHT	AGENCY APPROVALS
EPOXY STICKS	FIXMASTER® METAL MAGIC STEEL™*	98853	4 oz. stick	Grey	16 in. <sup>2**</sup>	250	12,000	2,500	D 80	3 minutes	10 minutes	N/A	N/A	NSF 61
	FIXMASTER® CONCRETE REPAIR EPOXY	39366	4 oz. stick	Grey	16 in. <sup>2**</sup>	250	12,000	2,500	D 80	4 to 7 minutes	10 minutes	N/A	N/A	N/A
	FIXMASTER® UNDERWATER REPAIR EPOXY§	82093	4 oz. stick	White	16 in. <sup>2**</sup>	300	12,000	900	D 70	15 minutes	30 minutes	N/A	N/A	CFIA Listed
POURABLE	FIXMASTER® STEEL LIQUID*	97483 97484	1 lb. kit 4 lb. kit	Grey	13 in. <sup>3</sup> 52 in. <sup>3</sup>	225	13,500	6,000	D 86	25 minutes	6 hours	4:1	9.5:1	ABS, CFIA Listed, NEHC, NAVSEA
	FIXMASTER® ALUMINUM LIQUID*	97453	1 lb. kit	Aluminum	17 in. <sup>3</sup>	200	17,000	6,000	D 85	20 minutes	6 hours	5:1	9:1	ABS, CFIA Listed, NEHC, NAVSEA
TROWELABLE	FIXMASTER® SUPERIOR METAL*	97473 40900	1 lb. kit 4 kg kit	Dark Grey	0.25 ft. <sup>2**</sup> 2.2 ft. <sup>2**</sup>	250	18,000	5,500	D 90	20 minutes	6 hours	4:1	7.25:1	CFIA Listed
	FIXMASTER® STEEL PUTTY*	99913 99914 99912	1 lb. kit 4 lb. kit 25 lb. kit	Grey	0.3 ft. <sup>2**</sup> 1.2 ft. <sup>2**</sup> 7.5 ft. <sup>2**</sup>	225	11,100	4,900	D 85	30 minutes	6 hours	2.5:1	6.25:1	ABS, CFIA Listed, NEHC, NAVSEA
	FIXMASTER® ALUMINUM PUTTY*	97463	1 lb. kit	Aluminum	0.5 ft. <sup>2**</sup>	200	11,300	4,000	D 87	20 minutes	6 hours	4:1	6.3:1	ABS, CFIA Listed, NEHC, NAVSEA
	FIXMASTER® STAINLESS STEEL PUTTY*	97443	1 lb. kit	Grey	0.25 ft. <sup>2**</sup>	225	12,000	4,600	D 85	20 minutes	6 hours	4:1	9:1	ABS, CFIA Listed, NEHC, NAVSEA
	FIXMASTER® FAST SET STEEL PUTTY*	39917	1 lb. kit	Grey	0.4 ft. <sup>2**</sup>	200	10,800	4,600	D 80	3 minutes	10 minutes	1:1	1.8:1	ABS, CFIA Listed, NEHC, NAVSEA

	LOCTITE® PRODUCT	ITEM NUMBER	PACKAGE TYPE & SIZE	COLOR (CURED)	MAXIMUM TEMPERATURE† (°F)	TENSILE STRENGTH† (psi)	WORK LIFE	FIXTURE TIME†	FULL CURE (HOURS)	AGENCY APPROVALS
HIGH PERFORMANCE	FIXMASTER® FAST SET STEEL EPOXY*	96604	50 ml cartridge	Grey	200	2,600	3 minutes	6 to 8 minutes	7	CFIA Listed
	FIXMASTER® WEAR RESISTANT PUTTY*	98742 98743	1 lb. kit 3 lb. kit	Grey	225	1,450	30 minutes	1 hour	6	ABS, CFIA Listed, NEHC, NAVSEA
SPECIALTY PRODUCTS	FIXMASTER® 2000° PUTTY*	95724	8 oz. can	Grey	2000	675	30 minutes	1 hour	7	N/A
	FIXMASTER® FAST CURE EPOXY MIXER CUPS	21425 21426	10 – 0.12 fl. oz. cups 10 – 1 oz. cups	Grey	180	2,000	5 minutes	10 minutes	12	N/A
	FIXMASTER® FAST CURE POXY PAK™	1324007	1 oz. oval syringe	Translucent	300	2,300	1 minute	5 minutes	1	ABS, CFIA Listed
APPLICATORS	MANUAL CARTRIDGE APPLICATOR	98472	Required for use with Loctite® Fixmaster® 50 ml cartridges. (Item No. 98455 is also required and must be ordered separately.) For more information on spare parts, nozzles and accessories, please visit <a href="http://www.equipment.loctite.com">www.equipment.loctite.com</a> .							
	STATIC MIX NOZZLES	98455	Packaged 10/bag – for mixing and dispensing Loctite® Fixmaster® 50 ml cartridges. For more information on spare parts, nozzles and accessories, please visit <a href="http://www.equipment.loctite.com">www.equipment.loctite.com</a> .							

ITEMS IN RED = Source's PICK or NEW

\* Properties are based on mixing 1 lb. mass at 77°F, seven days' cure.

\*\* At 1/4 in. thickness.

† Ultimate cure.

‡ Time to reach handling strength.

§ Properties based on ultimate cure. Epoxy properties based on mixing 20 g mass at 77°F.



## LOCTITE® Fixmaster® Maintenance & Repair Epoxy Applications Chart

LOCTITE® PRODUCT		EMERGENCY METAL REPAIRS	CORROSION PROTECTION	REPAIRING PIPES & TANKS	REBUILDING SHAFTS, KEYWAYS & BEARINGS	REPAIRING THREADED PARTS	RESTORING TUBE SHEETS	PUMP REPAIR	REPAIRING ENGINE BLOCKS	FIXTURES & PROTOTYPES	REBUILDING IMPELLERS & VALVES	REPAIRING ALUMINUM PARTS	REPAIRING STAINLESS STEEL PARTS	FORMING MOLDS & FIXTURES	WET SURFACE REPAIRS
EPOXY STICKS	FIXMASTER® METAL MAGIC STEEL™	▲		△						▲				▲	△
	FIXMASTER® CONCRETE REPAIR EPOXY	△								△					■
	FIXMASTER® UNDERWATER REPAIR EPOXY	△		△											▲
POURABLE	FIXMASTER® STEEL LIQUID			▲		▲				△				▲	
	FIXMASTER® ALUMINUM LIQUID									▲		▲	△	▲	
TROWELABLE	FIXMASTER® SUPERIOR METAL		▲		▲	▲	▲	▲	▲		▲				
	FIXMASTER® STEEL PUTTY			▲					▲		△			▲	
	FIXMASTER® ALUMINUM PUTTY		△								▲	▲	△		
	FIXMASTER® STAINLESS STEEL PUTTY		△								▲	△	▲		
	FIXMASTER® FAST SET STEEL PUTTY	▲		▲					△						

ITEMS IN RED = Source's PICK or NEW

△ Good Choice

▲ Preferred Choice

■ Acceptable Choice

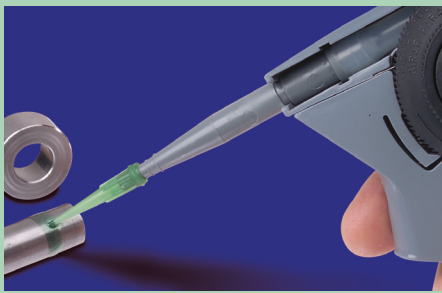
## LOCTITE® Fixmaster® Maintenance & Repair Epoxy Bonding Characteristics

LOCTITE® PRODUCT		GAP FILLING	FAST CURE TIME	FERROUS METAL REPAIR	TOUGHENED FORMULATION	SHOCK RESISTANT	WATER RESISTANT	PLASTIC BONDING	RUBBER BONDING	METAL BONDING	SANDABLE FINISH	PAINTABLE FINISH
HIGH PERFORMANCE	FIXMASTER® FAST SET STEEL EPOXY	△	▲	▲						△	▲	■
	FIXMASTER® WEAR RESISTANT PUTTY	▲			▲	▲	△					■
SPECIALTY PRODUCTS	FIXMASTER® 2000® PUTTY	▲		▲							■	■

△ Good Choice

▲ Preferred Choice

■ Acceptable Choice



# Retaining

123	RETAINING
125	Retaining Compounds
129	Retaining Compound Equipment

## WHY USE A LOCTITE® RETAINING COMPOUND?

LOCTITE® Retaining Compounds secure bearings, bushes and cylindrical parts into housings or onto shafts. They achieve maximum load transmission capability and uniform stress distribution and eliminate fretting corrosion. Applied as a liquid, they form 100% contact between mating metal surfaces, eliminating the need for expensive replacement parts, time consuming machining or the use of mechanical methods.

## LOCTITE® RETAINING COMPOUNDS FILL THE INNER SPACE BETWEEN COMPONENTS AND CURE TO FORM A STRONG PRECISION ASSEMBLY.

LOCTITE® Retaining Compounds are superior to conventional assembly methods, including:

- Pins, key/keyway assemblies: These have uneven distribution of mass, an imbalance that can lead to vibration at high speeds.
- Splines: They cause high stresses due to the “notch effect” that occurs. Splines can also result in high machining costs and backlash between drive and overrun.
- Clamp rings, press fits, shrink fits, and taper fits: They rely on friction alone to transmit torque; therefore, they are limited by material, surfaces and design. Close tolerances are needed to obtain specific load capacities, leading to higher production costs. Interference fitting creates stresses in the components that can lead to failure, particularly when combined with operational stresses.
- Welding and soldering: Only compatible metals can be joined, and the parts can be distorted by the high temperatures required. Heating of the material can lead to residual stresses and structural degradation and distortion. Disassembly can also be difficult or impossible.

## ADVANTAGES OF LOCTITE® RETAINING COMPOUNDS AS COMPARED TO CONVENTIONAL ASSEMBLY METHODS:

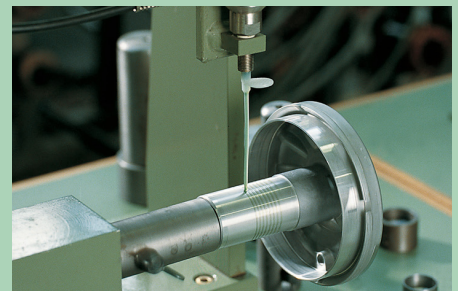
- High-strength products can carry high loads
- Fill all voids to prevent corrosion and fretting
- 100% contact – load and stress is distributed evenly over the joint

## ADVANTAGES OF LOCTITE® RETAINING COMPOUNDS IN COMBINATION WITH SHRINK FITS OR PRESS FITS:

- Higher load transmission and performance with existing design and geometry solutions
- Equal performance by lower interference/ lighter construction

Henkel Adhesive and Sealant Product Specialists are available to assist you with new product designs, or to help you re-engineer an existing application for improved performance and cost savings. They can also set up testing of your parts at the Henkel Customer Engineering Center. For application assistance, call 1-800-LOCTITE (562-8483); within Canada, call 1-800-263-5043; or, contact us through the web at [www.henkelna.com/loctite](http://www.henkelna.com/loctite).

**STRAIGHT FROM** *The Source*



# Retaining

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Retaining

LOCTITE® adhesive mounting of cylindrical parts has distinct advantages over mechanical assembly alone. Using LOCTITE® retaining compounds allows a manufacturer to use slip-fitted parts with relaxed machining tolerances. LOCTITE® retaining compounds can reduce the size and weight of an assembly, reduce the number of components needed, and ultimately save money by reducing the overall manufacturing cost.

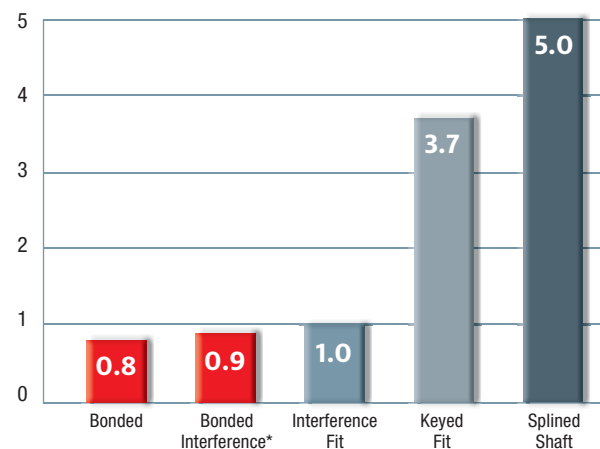
## COST BENEFITS

- Reduce or eliminate expensive machining operations
- Eliminate some surface finishing requirements
- Prolong equipment life through better fatigue and corrosion resistance
- Fill gaps so machining tolerances can be widened
- Help lower overall assembly and maintenance costs
- Simplify assemblies by reducing use of circlips, keys, dowels or threads
- Can eliminate the need for mechanical retainers
- Minimize machine downtime ensuring an earlier return to service

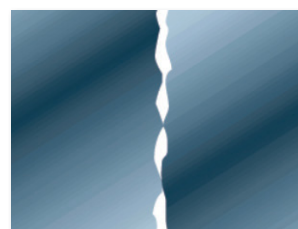
## PERFORMANCE BENEFITS

- Increase assembly reliability
- Produce more accurate, rigid assemblies
- Eliminate backlash in keys and splines
- Prevent small diameter shaft distortion
- Increase strength of heavy press fits
- Eliminate fretting corrosion
- Seal against environmental corrosion
- Eliminate high assembly stresses
- Reduce variations in load transmission
- Allow dissimilar materials to be assembled more easily

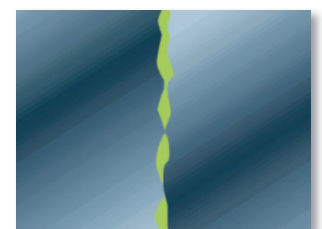
## RELATIVE PRODUCTION COSTS



Cost is always an essential part of the selection process. When LOCTITE® Retaining Compounds are used, considerable cost benefits result.



Typical interference fit has 30% metal-to-metal contact.



LOCTITE® Retaining Compounds fill air voids, resulting in unitized, more reliable assembly.

\* Bonded Interference takes advantage of wider tolerances and relaxed surface roughness.



# Retaining Compounds



## Your Application

- Increase the shear strength of cylindrical, non-threaded assemblies
- An industry standard for assembling press- and slip-fitted parts
- Fill the "inner space" between components and cure to form a strong precision assembly
- Formulated in a variety of viscosities, gap fills, flexibility and strength characteristics
- Can be applied with automated process equipment or dispensed manually

## IS THE ASSEMBLY BADLY WORN?

No – Gaps to 0.010 in. (0.25 mm)

## What Strength is Required?

High

## What Service Temperature is Required?

Up to 355°F (180°C)

Up to 450°F (230°C)

Gap 0.006 in.  
(0.15 mm)

Gap 0.010 in.  
(0.25 mm)

## Solution

**648™ Retaining Compound**

**638™ Retaining Compound**

**620™ Retaining Compound**

Strength Required	High	High	High
Shear Strength	3,900 psi	4,500 psi	3,800 psi
Clearance	Up to 0.006 in. (0.15 mm)	Up to 0.010 in. (0.25 mm)	Up to 0.008 in. (0.20 mm)
Temperature Resistance	355°F (180°C)	355°F (180°C)	450°F (230°C)
Cure Time (Setup/Full Strength)	3 min. / 24 hrs.	4 min. / 24 hrs.	60 min. / 24 hrs.
Recommended Activator	Not Required	Not Required	7088™, 7649™, 7471™

## Product Description

### LOCTITE® 648™ Retaining Compound

#### General Purpose/High Strength/Rapid Cure

Best performance for clearance or interference fit parts. Excellent performance for dynamic, axial and radial loads. Bonds through contaminants including oils, cutting and corrosion protection fluids. Cures on metals without an activator. Globally available product. **NSF/ANSI 61-Certified**

#### P/N Package Size

1844659 0.5 ml capsule  
1835922 10 ml bottle  
1835920 50 ml bottle  
1835918 250 ml bottle  
1835917 1 liter bottle

### LOCTITE® 638™ Retaining Compound

#### Slip Fit/High Strength

Recommended for slip fit parts with larger gaps. Excellent performance for dynamic, axial and radial loads. Bonds through contaminants including oils, cutting and corrosion protection fluids. Cures on metals without an activator. Globally available product. **NSF P1-Certified**

#### P/N Package Size

1835937 10 ml bottle  
1835936 50 ml bottle  
1835925 250 ml bottle  
1835924 1 liter bottle

### LOCTITE® 620™ Retaining Compound

#### Slip Fit/High Temperature

Recommended for high temperature retaining of parts with a clearance or interference fit, i.e., retaining bushings, bearings, seals, fans and liners. Requires heat cure to achieve temperature resistance.

#### ABS Approved.

#### P/N Package Size

62005 0.5 ml bottle  
62015 10 ml bottle  
62040 50 ml bottle  
62070 250 ml bottle  
62085 1 liter bottle



Yes – Gaps up to 0.020 in.  
(0.5 mm) with Activator

Medium

641™ Retaining  
Compound

660™ Retaining  
Compound

Medium

1,700 psi

Up to 0.006 in.  
(0.15 mm)

300°F (150°C)

20 min. / 24 hrs.

7088™, 7649™, 7471™

High

3,335 psi

Up to 0.020 in.  
(0.50 mm)

300°F (150°C)

20 min. / 24 hrs.

7088™, 7649™, 7471™

#### LOCTITE® 641™ Retaining Compound

A controlled-strength retaining compound that is ideal for cylindrical parts that require disassembly.  
**CFIA Approved.**

P/N	Package Size
28802	10 ml tube
21458	50 ml tube

#### LOCTITE® 660™ Retaining Compound

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

P/N	Package Size
66010	6 ml tube
66040	50 ml tube

## GET THE MOST FROM LOCTITE® RETAINING COMPOUNDS

From single repairs to daily production line use, these guidelines will help you maximize the benefits of using LOCTITE® Retaining Compounds:

**Surface Cleanliness:** Optimal performance is achieved when parts are clean and free of grease, oil, rust preventative or other contaminants. LOCTITE® ODC Free Cleaner & Degreaser is one of the recommended cleaners that will effectively remove contaminants without leaving a residue. LOCTITE® Retaining Compounds 638™, 648™ and 680™ are oil tolerant. They are robust enough to bond through contaminants including oils, and cutting and corrosion protecting fluids.

**Cure Process:** LOCTITE® Retaining Compounds have an anaerobic cure system. Anaerobic means it cures in the absence of air and in the presence of metal ions. This is why the resin remains liquid until it is confined between metal parts. Cure speed is usually faster on active metals than inactive metals because active have more metal ions.

Activators accelerate cure time. Activators are often used to assemble inactive metal parts, cold parts or for large gaps. Loctite® 648™, 638™ and 680™ are primerless, meaning they cure rapidly without activators for most applications.



INACTIVE METALS (PRIMERS RECOMMENDED)	
PLATED PARTS	SILVER
ANODIZED	GOLD
ALUMINUM (ALODINE®, IRIDITE™)	ZINC
TITANIUM	PURE ALUMINUM†
STAINLESS STEEL	CADMIUM
GALVANIZED STEEL	MAGNESIUM
MAGNETITE STEEL	NATURAL OR CHEMICAL BLACK OXIDE
INCONEL™	
NICKEL	
ACTIVE METALS (PRIMERS OPTIONAL)	
IRON	BRONZE
PLAIN STEEL	MANGANESE
COPPER	MONEL™
BRASS	KOVAR™

**Application Process:** Use an application method that ensures the bond-line is filled. Excess material should be avoided because it could migrate. Several proven methods to control the amount applied, ranging from manual to automated:

- Roll bearing on a synthetic sponge saturated with LOCTITE® Retaining Compound to apply a consistent thin film.
- Manually apply LOCTITE® Retaining Compound with a LOCTITE® Hand Pump. Each squeeze of the trigger dispenses a metered amount of adhesive to the parts prior to assembly.
- Use the LOCTITE® Semiautomatic applicator to dispense a metered amount of adhesive to a predefined dispoint point.
- Use the LOCTITE® RotoSpray™ applicator to automatically dispense a precise band of adhesive to the bore of a circular component.

*The LOCTITE® RotoSpray™ applicator automatically dispenses a perfect bead of retaining compound within the bore of circular components.*

† Pure aluminum is an inactive metal. Alloys of aluminum containing copper are considered active metals.

# Retaining Compounds



**LOCTITE® Retaining Compound Properties Chart**

	LOCTITE® PRODUCT	ITEM NUMBER	PACKAGE TYPE & SIZE	TYPICAL USE	COLOR	MAXIMUM GAP FILL (DIAMETER-INCHES)	VISCOSITY (cP)	SHEAR STRENGTH STEEL/STEEL* (psi)	TEMPERATURE RANGE	CURE SPEED*	RECOMMENDED PRIMER	AGENCY APPROVALS
CLOSE-FITTING PARTS	<b>603™</b> 	21440 21441 21442	10 ml bottle 50 ml bottle 250 ml bottle	For close-fitting parts with light contamination	Green	0.005 in.	125	3,770	-65°F to 300°F (-54°C to 149°C)	Fixture – 10 min. Full – 24 hrs.	7088™, 7649™ or 7471™	N/A
	<b>609™</b>	60905 60921 60931 60941 60943	0.5 ml capsule 10 ml bottle 50 ml bottle 250 ml bottle 1 liter bottle	Augments press fit parts	Green	0.006 in. (0.15 mm)	125	2,300 (minimum)	-65°F to 300°F (-54°C to 150°C)	Fixture – 10 min. Full – 24 hrs.	7088™, 7649™ or 7471™	MIL-R-46082B for existing designs, ASTM D-5363**, CFIA
	<b>648™</b> 	1844659 1835922 1835920 1835918 1835917	0.5 ml capsule 10 ml bottle 50 ml bottle 250 ml bottle 1 liter bottle	High strength, primerless, oil tolerant, general purpose	Green	0.006 in. (0.15 mm)	500	3,900	-65°F to 355°F (-54°C to 180°C)	Fixture – 3 min. Full – 24 hrs.	Not required	NSF/ANSI 61, CFIA
LOOSE-FITTING PARTS	<b>638™</b> 	1835937 1835936 1835925 1835924	10 ml bottle 50 ml bottle 250 ml bottle 1 liter bottle	High strength, primerless, oil tolerant, for slip-fitted parts	Green	0.010 in. (0.25 mm)	2,500	4,500	-65°F to 355°F (-54°C to 180°C)	Fixture – 4 min. Full – 24 hrs.	Not required	NSF P1, CFIA
	<b>680™</b>	1835212 1835205 1835201 1835196 1835206	0.5 ml capsule 10 ml bottle 50 ml bottle 250 ml bottle 1 liter bottle	High strength, primerless, oil tolerant, for slip-fitted parts	Green	0.015 in. 0.38 mm	1,250	4,000	-65°F to 355°F (-54°C to 180°C)	Fixture – 4 min. Full – 24 hrs.	Not required	NSF/ANSI 61, ABS, CFIA
HIGH TEMPERATURE	<b>620™</b> 	62005 62015 62040 62070 62085	0.5 ml capsule 10 ml bottle 50 ml bottle 250 ml bottle 1 liter bottle	For high temperature applications	Green	0.008 in. 0.2 mm	8,500	3,800	-65°F to 450°F (-54°C to 230°C)	Fixture – 1 hr. Full – 24 hrs.	7088™, 7649™ or 7471™	CFIA, ABS
MEDIUM STRENGTH	<b>641™</b> 	28802 21458	10 ml bottle 50 ml bottle	Medium strength for easier disassembly	Yellow	0.008 in. 0.2 mm	525/1,950 Thixotropic	1,700	-65°F to 300°F (-54°C to 150°C)	Fixture – 20 min. Full – 24 hrs.	7088™, 7649™ or 7471™	CFIA
MACHINERY REPAIR	<b>660™</b> 	66010 66040	6 ml tube 50 ml tube	For repair of worn machinery parts	Silver	0.020 in. 0.5 mm	250,000/ 1,500,000 Thixotropic	3,335	-65°F to 300°F (-54°C to 150°C)	Fixture – 20 min. Full – 24 hrs.	7088™, 7649™ or 7471™	CFIA
SLOW OR UV CURE	<b>232™</b>	18607 27863	1 liter bottle 250 ml bottle	Slow cure for heavy press fit	Brown	0.015 in. 0.38 mm	5,000	1,350* (2 hrs. heat cure)	-65°F to 300°F (-54°C to 150°C)	Fixture – 1 hr. Full – 24 hrs.	7088™, 7649™ or 7471™	N/A
	<b>640™</b>	135520 135521 209764	50 ml bottle 250 ml bottle 1 liter bottle	Slow cure for long assembly time	Green	0.004 in. 0.1 mm	600	3,200	-65°F to 350°F (-54°C to 175°C)	Fixture – 1 hr. Full – 24 hrs.	7649™ or 7471™	MIL-R-46082B, ASTM D-5363
	<b>661™</b>	234921 234925	250 ml bottle 1 liter bottle	UV light cures exposed adhesive	Yellow	0.006 in. 0.15 mm	500	2,175	-65°F to 350°F (-54°C to 175°C)	Fixture – 4 min. Full – 24 hrs.	7649™ or 7471™	N/A

**ITEMS IN RED = Source's PICK or NEW**



\* Varies with substrates.

\*\* For new designs.

 = Indicates Worldwide Availability



## LOCTITE® Activators Chart

	LOCTITE® PRODUCT	ITEM	PACKAGE TYPE & SIZE	COLOR	VISCOSITY (cP)	BASE	ON-PART LIFE	DRY TIME	APPLICATION	AGENCY APPROVALS
ACTIVATORS	7088™ PRIMER	1069258	17 g stick	Teal	Semisolid	No solvent	30 days	None	Anaerobics	CFIA Listed
	7090™ PRIMER	19368 12695	1 fl. oz. bottle 1 liter bottle	Dark Blue	17.5	No solvent	1 hour	None	Anaerobics	N/A
	7471™ PRIMER I™ 	19267 22477 19268	1.75 fl. oz. bottle 4.5 oz. net wt. aerosol can 1 gallon can	Amber	2	Acetone/ Isopropanol	7 days	30 to 70 seconds	Anaerobics	MIL-S-22473E for existing designs, ASTM D-5363 for new designs, CFIA Listed
	7649™ PRIMER N™ 	19269 21347 21348 19266	1.75 fl. oz. glass bottle 25 g net wt. aerosol can 4.5 oz. net wt. aerosol can 1 gallon can	Clear/ Green	2	Acetone	30 days	30 to 70 seconds	Anaerobics	MIL-S-22473E for existing designs, ASTM D-5363 for new designs, NSF/ANSI 61, NSF P1, CFIA Listed

 = Indicates Worldwide Availability

## LOCTITE® Cleaner & Degreaser Chart

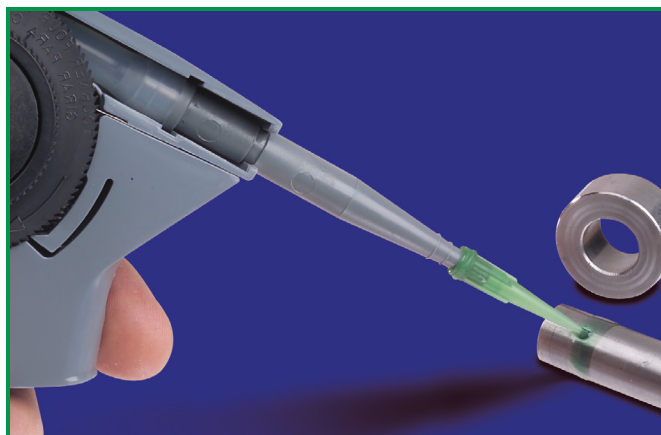
	LOCTITE® PRODUCT	ITEM	PACKAGE TYPE & SIZE	DRYING TIME	RESIDUE/TINSABILITY	ODOR	AGENCY APPROVALS
	ODC-FREE CLEANER & DEGREASER	22355 20162	15 oz. net wt. aerosol 16 fl. oz. pump spray	Equivalent to the evaporation rate of water. Wiping or blowers will accelerate dry time.	No rinse and no residue	Mild Citrus	NSF K1








# Retaining Compound Equipment



## YOUR EQUIPMENT Source

For more details, see the **LOCTITE® Equipment Sourcebook, LT-3669**, or visit us on the web for additional information, diagrams, products and our full line of equipment at [www.equipment.loctite.com](http://www.equipment.loctite.com).





SEMI/FULLY AUTOMATIC



LOCTITE® PRODUCT		ITEM NUMBER	PRESSURE REGULATION	USED TO DISPENSE		PACKAGE TYPES & SIZES	VISCOSITY RANGE	LOW LEVEL SENSING	CONSUMABLES – DISPENSE ACCESSORIES
PRECISION BORE COATING APPLICATOR									
	LOCTITE® DUAL CHANNEL AUTOMATIC CONTROLLER	97152	1 to 100 psi Viscosity 0 to 3,000 cP	Gel Adhesives, Instant Adhesives, Light Cure/Acrylics, Retaining Compounds, Threadlockers		Depends on Reservoir	Medium to High	Yes	Dispense Tips and Accessories – Pages 176-177
		ITEM NUMBER	TYPE	VISCOSITY RANGE	DISPENSE PATTERN	USED TO DISPENSE	STROKE ADJUSTMENT	SUCK-BACK	CONSUMABLES – DISPENSE ACCESSORIES
	LOCTITE® POSITIVE DISPLACEMENT PUMP	983330	Positive Displacement	Low to Medium	Drop	Anaerobic Adhesives	Yes	No	Dispense Tips and Accessories – Pages 176-177
	LOCTITE® ROTOSPRAY™ APPLICATOR	97115	Electric	Low to Medium	Bead	Anaerobic Adhesives	N/A	N/A	Dispense Tips and Accessories – Pages 176-177
DUAL CHANNEL DISPENSING		ITEM NUMBER	PRESSURE REGULATION	USED TO DISPENSE		PACKAGE TYPES & SIZES	VISCOSITY RANGE	LOW LEVEL SENSING	CONSUMABLES – DISPENSE ACCESSORIES
	INTEGRATED SEMI-AUTOMATIC DISPENSER	1390322	0 to 15 psi Viscosity >3,000 cP	Gel Adhesives, Instant Adhesives, Light Cure/Acrylics, Retaining Compounds, Threadlockers		250 ml bottle 1 lb. bottle 1 liter bottle 2 kg bottle 200 g squeeze tube	Low to Medium	Yes	Dispense Tips and Accessories – Pages 176-177
		1390321	0 to 100 psi Viscosity 0 to 3,000 cP				Medium to High	Yes	
		ITEM NUMBER	TYPE	VISCOSITY RANGE	DISPENSE PATTERNS	USED TO DISPENSE	STROKE ADJUSTMENT	SUCK-BACK	CONSUMABLES – DISPENSE ACCESSORIES
	LOCTITE® CYANOACRYLATE DISPENSE VALVE	98013	High Performance Diaphragm	Low to Medium	Drop, Dot, Bead	Instant Adhesives, Retaining Compounds, Threadlockers	Yes	No	Dispense Tips and Accessories – Pages 176-177






LOCTITE® PRODUCT		ITEM NUMBER	PRESSURE REGULATION	USED TO DISPENSE	PACKAGE TYPES & SIZES	VISCOSITY RANGE	LOW LEVEL SENSING	CONSUMABLES – DISPENSE ACCESSORIES	
HANDHELD	RESERVOIRS								
		BOND-A-MATIC® 3000 RESERVOIR	982720	0 to 15 psi	Gel Adhesives, Instant Adhesives, Light Cure/Acrylics, Retaining Compounds, Threadlockers	250 ml bottle 1 lb. bottle 1 liter bottle 2 kg bottle 200 g squeeze tube	Low to Medium	Yes	Dispense Tips and Accessories – Pages 176-177
			982726					No	
			982723	0 to 100 psi			Medium to High	Yes	
			982727					No	
	BOTTLE DISPENSING								
			ITEM NUMBER	USED TO DIPENSE	PACKAGE TYPES & SIZES	VISCOSITY RANGE	TYPE	CONSUMABLES – DISPENSE ACCESSORIES	
		50 ML AND 250 ML HAND PUMPS	98414 97001	Retaining Compounds, Threadlockers	50 ml bottle 250 ml bottle	Low to Medium	Manual	Dispense Tips and Accessories – Pages 176-177	




ITEMS IN RED = Source's PICK or NEW

Your Source for Motion Control Robot Dispense Systems. See page 171.

LOCTITE® PRODUCT		ITEM NUMBER	PRESSURE REGULATION	USED TO DISPENSE		PACKAGE TYPES & SIZES	VISCOSITY RANGE	LOW LEVEL SENSING	CONSUMABLES – DISPENSE ACCESSORIES
EQUIPMENT FOR PRIMERS		1406023	0 to 100 psi	Primers, Accelerators, Activators		250 ml bottle 1 lb. bottle 1 liter bottle 2 kg bottle 200 g squeeze tube	Low	No	Use with LOCTITE® Spray Valve 98520
		98520	Spray Valve	Low	Spray	Primers, Accelerators, Activators	Yes	No	989268 – 0.014 in. Nozzle Kit 989269 – 0.028 in. Nozzle Kit

LOCTITE® PRODUCT		ITEM NUMBER	DISPENSE PATTERNS	USED TO DISPENSE	PACKAGE TYPES & SIZES	VISCOSITY RANGE	VACUUM SUCK-BACK	CONSUMABLES – DISPENSE ACCESSORIES
DISPENSE SYSTEMS	VOLUMETRIC BOTTLE DISPENSING							
		98548	Dot, Drop, Bead	Instant Adhesives, Light Cure/Acrylics, Retaining Compounds, Threadlockers	Any Bottle	0 to 5,000 cP	Programmable	Dispense Tips & Accessories – Pages 176-177
	COMPLETE PRESSURE-TIME BOTTLE DISPENSE SYSTEM							
	BOND-A-MATIC® 3000 DISPENSER 0-15 psi	982719	Dot, Drop, Bead	Gel Adhesives, Instant Adhesives, Light Cure/Acrylics, Retaining Compounds, Threadlockers	250 ml bottle 1 lb. bottle 1 liter bottle 2 kg bottle 200 g squeeze tube	Low	N/A	Dispense Tips & Accessories – Pages 176-177
	BOND-A-MATIC® 3000 DISPENSER 0-100 psi	982722				Medium to High		

LOCTITE® PRODUCT		ITEM NUMBER	TYPE	VISCOSITY RANGE	DISPENSE PATTERNS	USED TO DISPENSE	STROKE ADJUSTMENT	ACTUATION	CONSUMABLES – DISPENSE ACCESSORIES	
HANDHELD VALVES	GENERAL-PURPOSE APPLICATORS									
		LV HAND-HELD APPLICATOR	97130	Pneumatic	Low	Drop, Dot, Bead	Instant Adhesives, Retaining Compounds, Threadlockers	Yes	Foot	Dispense Tips & Accessories – Pages 176-177
	GENERAL-PURPOSE APPLICATORS									
		MANUAL HAND-HELD APPLICATOR	97111	Manual	Low to Medium	Drop, Dot, Bead	Light Cure/Acrylics, Retaining Compounds, Threadlockers	Yes	Finger	Dispense Tips & Accessories – Pages 176-177
		PNEUMATIC HAND-HELD APPLICATOR	97112	Pneumatic	Low to Medium	Drop, Dot, Bead	Light Cure/Acrylics, Retaining Compounds, Threadlockers	Yes	Foot	
		PNEUMATIC HAND-HELD APPLICATOR	97116	Pneumatic	Low to Medium	Drop, Dot, Bead	Light Cure/Acrylics, Retaining Compounds, Threadlockers	Yes	Finger	
	GENERAL-PURPOSE APPLICATORS									
		VARI-DROP™ APPLICATORS	97131 97132	Pinch Tube	Low to Medium	Drop, Dot, Bead	Instant Adhesives, Retaining Compounds, Threadlockers	Yes	Finger	Dispense Tips & Accessories – Pages 176-177

LOCTITE® PRODUCT		ITEM NUMBER	TYPE	VISCOSITY RANGE	DISPENSE PATTERNS	USED TO DISPENSE	STROKE ADJUSTMENT	SUCK-BACK	CONSUMABLES – DISPENSE ACCESSORIES	
VALVES & PUMPS	HIGH PERFORMANCE DIAPHRAGM VALVES									
		LIGHT CURE DISPENSE VALVE	98009	High Performance Diaphragm	Low to Medium	Drop, Dot, Bead	Instant Adhesives, Retaining Compounds, Threadlockers	Yes	No	Dispense Tips and Accessories – Pages 176-177
	GENERAL DUTY DIAPHRAGM VALVES									
		DIAPHRAGM VALVE	97135	General Duty Diaphragm	0 to 2,500 cP	Drop, Dot, Bead	Light Cure/Acrylics, Instant Adhesives, Retaining Compounds, Threadlockers	No	No	Dispense Tips and Accessories – Pages 176-177
		97136	2,500 to 5,000 cP							
	HIGH VISCOSITY FLUID AND PASTE VALVES									
	POPPET VALVE	986300	High Viscosity Fluid and Paste	Medium to High	Drop, Bead	Anaerobic Gasketing, Retaining Compounds, Threadlockers	Yes	Yes	Dispense Tips and Accessories – Pages 176-177	



## Surface Cleaning

131	<b>SURFACE PREPARATION</b>
132	Cleaners & Degreasers

### WHY USE LOCTITE® SURFACE PREPARATION PRODUCTS?

LOCTITE® Surface Preparation products are available in both aqueous and solvent formulations. They are engineered to ensure superior cleaning and maximize performance of LOCTITE® adhesives and sealants.

### WHAT CONSIDERATIONS ARE IMPORTANT WHEN CHOOSING A SURFACE PREPARATION PRODUCT?

- Cleaners and Degreasers: The major factors to consider are dry time, residue, odor and substrate compatibility.
- Accelerators: Used to increase cure speed and gap filling capabilities of cyanoacrylate adhesives.
- Activators: Specifically engineered curing agents for structural adhesives.
- LOCTITE® Primers: Used to ensure cure on inactive surfaces and speed the cure of machinery adhesives.

### KEY BENEFITS OF USING LOCTITE® SURFACE PREPARATION PRODUCTS:

- Clean and degrease work surfaces, parts and hands
- Increase cure speed
- Increase gap fill
- Ensure full cure on inactive surfaces
- Available in ozone safe (non-chlorofluorocarbons), solvent-based and solventless formulations

Henkel Adhesive and Sealant Product Specialists are available to assist you with new product designs, or to help you re-engineer an existing application for improved performance and cost savings. They can also set up testing of your parts at the Henkel Customer Engineering Center. For application assistance, call **1-800-LOCTITE (562-8483)**; within Canada, call 1-800-263-5043; or, contact us through the web at [www.henkelna.com/loctite](http://www.henkelna.com/loctite).

**STRAIGHT FROM** *The Source*

# Cleaners & Degreasers



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Cleaners & Degreasers

## Your Application

- Cleaners and degreasers include both aqueous and solvent-based products
- All are free of Class I ozone-depleting chemicals (ODCs)

## CLEANERS

Hand Cleaner

Large Surfaces

Parts Degreaser

Do you require a biodegradable product?

No

Yes

Industrial Hand Wipes

Natural Blue® Biodegradable Cleaner & Degreaser

ODC-Free Cleaner & Degreaser

Pro Strength Parts Cleaner

## Solution

KB Values\*

N/A

N/A

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## Product Description

### LOCTITE® Industrial Hand Wipes

Premoistened with a powerful citrus-scented cleaning formula that is abrasive enough to scrub off the toughest grease and grime. Quick and easy-to-use, these 9.5 in. x 12 in. towels eliminate rinsing and drying and leave no residue behind. Perfect for industrial and commercial environments in the painting, printing, maintenance, transportation and construction industries.

P/N	Package Size
34943	75 count canister
34944	130 count bucket

### LOCTITE® Natural Blue® Biodegradable Cleaner & Degreaser

Biodegradable, all-purpose, industrial strength, concentrated cleaner and degreaser. Can be economically diluted with water. Formulated for wipe down, pressure spraying and immersion cleaning processes at room temperature or heated. Nonflammable and nontoxic. Contains no ODCs. Available in pine scent or unscented formulas.

CFIA Listed.

P/N	Package Size
82249	24 fl. oz. spray bottle
82251	1 gallon bottle
82253	5 gallon pail
82255	55 gallon drum

### LOCTITE® ODC-Free Cleaner & Degreaser

A non-aqueous, hydrocarbon-based 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 chemicals (ODCs). (Formerly referenced as 7070™.) NSF K1 Approved.

P/N	Package Size
22355	15 oz. net wt. aerosol
20162	16 fl. oz. pump spray

### LOCTITE® Pro Strength Parts Cleaner

Aggressively penetrates, dissolves and removes oil and grease from parts. Dries quickly with no residue. Contains no ozone-depleting chemicals (ODCs).

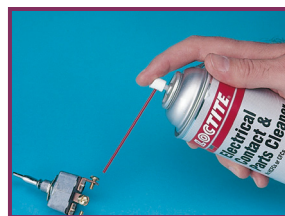
CFIA Listed.

P/N	Package Size
30548	19 oz. net wt. aerosol

\* Kauri-Butanol Value tested to ASTM D 1133. (This test method covers the determination of the relative solvent power of hydrocarbon solvents.)



# Cleaners & Degreasers



## LOCTITE® Cleaner & Degreaser Properties Chart

	LOCTITE® PRODUCT	ITEM NUMBER	PACKAGE TYPE & SIZE	DRYING TIME	RESIDUE/ RINSABILITY	ODOR	AGENCY APPROVALS
DEGREASERS	<b>NATURAL BLUE® BIODEGRADABLE CLEANER &amp; DEGREASER</b>	82249 82251 82253 82255	24 fl. oz. spray bottle 1 gallon bottle 5 gallon pail 55 gallon drum	Equivalent to the evaporation rate of water. Wiping or blowers will accelerate dry time.	Rinses residue-free with water	Pine Scent	CFIA Listed
	<b>NATURAL BLUE® BIODEGRADABLE CLEANER &amp; DEGREASER (FRAGRANCE-FREE)</b>	23811	1 gallon bottle	Equivalent to the evaporation rate of water. Wiping or blowers will accelerate dry time.	Rinses residue-free with water	Fragrance-Free	CFIA Listed
	<b>ODC-FREE CLEANER &amp; DEGREASER</b>	22355 20162	15 oz. net wt. aerosol 16 fl. oz. pump spray	Equivalent to the evaporation rate of water. Wiping or blowers will accelerate dry time.	No rinse and no residue	Mild Citrus	NSF K1
	<b>PRO STRENGTH DEGREASER</b>	1578099	15 oz. net wt. aerosol	Leave on surface for 10 minutes.	Rinses clean	Mild Solvent	CFIA Listed
PAINT STRIPPER	<b>CHISEL® PAINT STRIPPER (METHYLENE CHLORIDE)</b>	79040	18 oz. net wt. aerosol	Leave on surface for 5 to 10 minutes. Wipe/scrape clean.	Waxy residue	Solvent	N/A
	<b>CHISEL® MC-FREE PAINT STRIPPER</b>	1317781	15.25 oz. net wt. aerosol	Leave on surface for 5 to 10 minutes. Wipe/scrape clean.	Oily residue	Solvent	CFIA Listed
GLASS CLEANER / HAND WIPES	<b>INDUSTRIAL HAND WIPES</b>	34943 34944	75 count canister 130 count bucket	1 to 5 minutes	No rinse and no residue	Mild Citrus	N/A
PARTS CLEANERS	<b>NON-CHLORINATED PARTS CLEANER</b>	30545	14.75 oz. net wt. aerosol	5 to 15 minutes	No rinse and no residue	Mild Solvent	CFIA Listed
	<b>PRO STRENGTH PARTS CLEANER</b>	30548	19 oz. net wt. aerosol	1 to 5 minutes	No rinse and no residue	Mild Solvent	CFIA Listed
	<b>768™ X-NMS CLEANUP SOLVENT</b>	76820 76871	1.75 fl. oz. bottle 1 gallon can	<30 seconds	No rinse and no residue	Solvent	N/A
STRIPPER / VARNISH REMOVERS	<b>PRO STRENGTH VARNISH REMOVER</b>	30529	12 oz. net wt. aerosol	5 minutes	No rinse and no residue	Aromatic	CFIA Listed

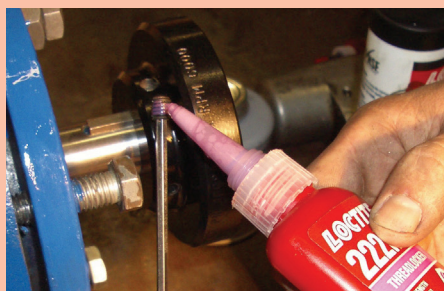
ITEMS IN RED = Source's PICK or NEW

## LOCTITE® Cleaner & Degreaser Applications Chart

	LOCTITE® PRODUCT	FUNCTION	APPLICATION
DEGREASERS	<b>NATURAL BLUE® BIODEGRADABLE CLEANER &amp; DEGREASER</b>	Removes grease, grime, oil, soot, cutting fluids, mildew, stains, light carbon, animal fat, polishing compounds and ink.	Cleans engine parts, ovens, exhaust hoods, drilling rigs. Can be diluted for general wipe-down cleaning. Formulated for pressure spraying and immersion cleaning processes, at room temperature or heated.
	<b>NATURAL BLUE® BIODEGRADABLE CLEANER &amp; DEGREASER (FRAGRANCE-FREE)</b>	Removes grease, grime, oil, soot, cutting fluids, mildew, stains, light carbon, animal fat, polishing compounds and ink, without added fragrance.	Exhaust hoods, machinery, tanks, motors, concrete floors, asphalt, walls, floors, carpets, valves, equipment, vehicles, compressors, exterior siding, engines, bearings.
	<b>ODC-FREE CLEANER &amp; DEGREASER</b>	Removes grease, oil, lubrication fluids, metal cuttings and filings from parts, equipment and machinery.	Use as a spray or in immersion cleaning processes, at room temperature or heated. Recommended as a final preassembly cleaning treatment for all surfaces bonded with adhesives.
	<b>PRO STRENGTH DEGREASER</b>	Self-emulsifying degreaser that quickly cuts and removes grease, oil and dirt, as well as inhibits rust and corrosion.	Cleaning and degreasing industrial and farm equipment, lawn mowers, garage floors, tools.
PAINT STRIPPER	<b>CHISEL® PAINT STRIPPER (METHYLENE CHLORIDE)</b>	Removes precut conventional gasket cements as well as formed-in-place chemical gaskets.	Removes silicones, baked-on gaskets, gaskets from aluminum, small difficult-to-reach components, weather-stripping adhesive, dried oil, grease, paint, varnish.
	<b>CHISEL® MC-FREE PAINT STRIPPER</b>	Removes precut conventional gasket cements as well as formed-in-place chemical gaskets.	Removes silicones, baked-on gaskets, gaskets from aluminum, small difficult-to-reach components, weather-stripping adhesive, dried oil, grease, paint, varnish.
GLASS CLEANER/ HAND WIPES	<b>INDUSTRIAL HAND WIPES</b>	Removes grease, grime, oil, soot, paints and ink.	Removes grease, grime, oil, soot, paints and ink from surfaces. Removes grease and grime from hands.
PARTS CLEANERS	<b>NON-CHLORINATED PARTS CLEANER</b>	Cleaner for removing oil, grease and asphalt with no chlorinated solvent runoff.	All-purpose metal parts cleaner. Ideal for aluminum surfaces.
	<b>PRO STRENGTH PARTS CLEANER</b>	Removes oil, grease, brake fluids, oxidized oils (gum) and asphalt. Penetrates through dirt and corrosion and flushes them away.	All-purpose metal parts cleaner.
	<b>768™ X-NMS CLEANUP SOLVENT</b>	Dissolves cured cyanoacrylate-based adhesives.	Disassembly of parts and cleanup of dispensing equipment.
STRIPPER/ VARNISH REMOVERS	<b>PRO STRENGTH VARNISH REMOVER</b>	Dissolves and cleans residue deposited during normal operation of gasoline engine powered equipment.	Carburetors, chokes, linkages, heat risers, PCV valves, metal parts, industrial equipment.

ITEMS IN RED = Source's PICK or NEW

# Threadlocking



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141	Threadlocker Equipment

## WHY USE A LOCTITE® THREADLOCKER?

LOCTITE® threadlockers are vastly superior to mechanical locking devices for the assembly of threaded fasteners. The anaerobic liquid is applied drop-wise to the threads of a fastener and cures to a hard thermoset plastic that locks the threads together. This prevents unwanted movement, loosening, leaks and/or corrosion. To further enhance their performance, anaerobic formulations have been developed for applications with high temperatures, oil contamination and less active surfaces.

LOCTITE® threadlockers have historically been formulated as liquids due to their reactivity; in liquid form they remain stable and ready for use. Recent breakthroughs have led to the development of stable, semisolid stick formulations. This has opened the door to applications where the liquids were considered too messy or inconvenient. The new semisolid formulations allow direct contact of the anaerobic product to the part – the product is placed exactly where it is needed, and it stays in place as the threaded part is positioned and assembled.

## LOCTITE® THREADLOCKERS ARE MUCH SUPERIOR TO TRADITIONAL MECHANICAL LOCKING METHODS:

- Mechanical devices such as split pins, tab washers: These are only used to prevent the loss of nuts and bolts.
- Friction devices: They add to absolute elasticity and/or increase friction but will not ensure permanent threadlocking under dynamic loads.
- Locking devices, like tooth flanged and ribbed flanged bolts, nuts and washers: They prevent self-loosening but are expensive and need larger flange-bearing surfaces. They may damage the surfaces.

LOCTITE® Threadlockers are single-component liquid and semisolid adhesives. They cure at room temperature to a hard solid thermoset plastic when applied between steel, aluminum, brass and most other metal surfaces. They cure in the absence of air. The adhesive completely fills the gaps between mating threads to lock threads and joints.

## ADVANTAGES OF LOCTITE® THREADLOCKERS AS COMPARED TO TRADITIONAL MECHANICAL LOCKING DEVICES:

- Prevent unwanted movement, loosening, leaks, and corrosion
- Resist vibration
- Single-component – clean and easy to apply
- Can be used on all sizes of fasteners – reduces inventory costs
- Seal threads – allow through-hole tapping

Henkel Adhesive and Sealant Product Specialists are available to assist you with new product designs, or to help you re-engineer an existing application for improved performance and cost savings. They can also set up testing of your parts at the Henkel Customer Engineering Center. For application assistance, call **1-800-LOCTITE (562-8483)**; within Canada, call 1-800-263-5043; or, contact us through the web at [www.henkelna.com/loctite](http://www.henkelna.com/loctite).

**STRAIGHT FROM** *The Source*



# Threadlocking

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Threadlocking

## IS THERE A THREADLOCKER FOR HIGH TEMPERATURE APPLICATIONS?

Yes, Henkel has threadlockers for applications below 300°F (150°C) and between 300°F (150°C) to 650°F (343°C). One example is LOCTITE® 2422™, a medium strength product for temperatures up to 650°F (343°C). Other high temperature products can be found in the Properties Chart.

## ARE THERE PRODUCTS THAT WORK WELL ON OILY PARTS?

There are several LOCTITE® products with oil-cutting capabilities. These include LOCTITE® 243™, 248™, 263™, 268™ and 294™ threadlockers. Use the Properties Chart to choose the one that is right for your application.

## WHAT DO I DO WHEN I HAVE A BLIND HOLE APPLICATION?

The application method for blind hole assemblies requires that the product be applied to both parts. If the product is applied to the fastener only, air pressure will force the liquid threadlocker to escape as you torque down.

## DO YOU HAVE A PRODUCT FOR INACTIVE METALS?

LOCTITE® 243™ and 263™ threadlockers enable the assembly of inactive metals without the need to use a primer. These products are ideal for use on metals such as stainless steel, zinc, magnesium, black oxide, cadmium, anodized aluminum, passivated titanium and others.

## HOW MUCH TIME IS NEEDED FOR FULL CURE?

Most anaerobic adhesives attain full cure in around 24 hours but will fixture in less time. For cure speed of the various products, refer to the Properties Chart or to the Technical Data Sheets (TDS).

## CAN I USE THREADLOCKERS ON PLASTIC THREADS?

For plastic fasteners, only use LOCTITE® 425™ Assure™ Instant Adhesive, a surface curing threadlocker.

## WHEN SHOULD I USE A PRIMER?

Primers help speed the curing process for faster return to service. For this reason, they can be used in any application but are most often used on less active metal surfaces. If the threadlocker will be applied below 40°F, pretreat parts with LOCTITE® 7649™ Primer N™. Alternatively, the use of LOCTITE® 243™ and 263™ primerless products provides a fast cure on inactive surfaces.

## The Source ANSWERS YOUR QUESTIONS



### CHOOSING THE RIGHT THREADLOCKER FOR YOUR APPLICATION

How do I decide which threadlocker to use?

LOCTITE® threadlockers are available in many grades to satisfy a wide range of applications. To make grade selection easy, the grades are color-coded to help you identify one threadlocker from the other.



**LOW STRENGTH** – Purple color, removable with hand tools, good for adjustment screws, calibration screws, meters and gauges, and for fasteners up to ¼ in. in diameter.



**HIGH STRENGTH** – Red color, for permanent assemblies, heavy equipment, suspension bolts, motor and pump mounts, bearing cap bolts and studs.



**MEDIUM STRENGTH** – Blue color, removable with hand tools, good for machine tools and presses, pumps and compressors, mounting bolts, gearboxes, and for fasteners over ¼ in. in diameter. Available in liquid, tape and stick formats.



**WICKING** – Green color, removable with heat and hand tools, for preassembled fasteners, instrumentation screws, electrical connectors, carburetors and fasteners.



# Threadlockers



## Your Application

- Prevent loosening from shock and vibration
- Single component – clean and easy to apply
- Can be used on various sizes of fasteners – reduces inventory costs
- Seal threads
- Stop rust and corrosion
- Available in a variety of viscosities and strengths for virtually any application

## ARE THE PARTS ALREADY ASSEMBLED?

No

## What strength do you require?

Low – Purple

Medium – Blue  
(Disassemble with hand tools)

## Solution

222MS™

243™

248™

QuickTape® 249™

Chemistry	Liquid Anaerobic	Liquid Anaerobic	Semisolid Anaerobic	Tape Anaerobic
Color	Purple	Blue	Blue	Blue
Viscosity (cP)	1,200/5,000 Thixotropic	1,300/3,000 Thixotropic	Semisolid	Tape
Torque (in.-lbs.) (Break/Prevail)	53/30	230/40	222/36	74/47
Fixture Time	10 min.	5 min.	5 min.	30 min.
Cure Time (Hours)	24 hrs.	24 hrs.	24 hrs.	24 hrs.
Temperature Resistance	-65°F to 300°F	-65°F to 360°F	-65°F to 300°F	-65°F to 300°F
Recommended Primer	7088™, 7649™, 7471™	Not Required	7088™, 7649™, 7471™	7088™, 7649™, 7471™

## Product Description

### LOCTITE® 222MS™ Threadlocker

#### Low Strength/ Small Screw

Recommended for low strength threadlocking of adjustment screws, countersunk head screws, and set screws; on collars, pulleys, tool holders and controllers. Also for low strength metals such as aluminum or brass.

**Mil-Spec (S-46163A)**

**Type II, Grade M.  
NSF P1 Certified.**

P/N	Package Size
22205	0.5 ml capsule
22221	10 ml bottle
22231	50 ml bottle
22241	250 ml bottle

### LOCTITE® 243™ Blue Threadlocker

#### Medium Strength/ Primerless

Versatile, medium strength liquid threadlocker. Reliably locks and seals metal fasteners up to 3/4 in. Engineered to cure consistently on a variety of metals including stainless steel and most plated fasteners. Tolerates minor surface contaminants, anti-corrosion and protection fluids. Rated for 360°F (180°C). Removable with hand tools.

P/N	Package Size
1330255	0.5 ml capsule
1329837	10 ml bottle
1329467	50 ml bottle
1329505	250 ml bottle
1330333	1 liter bottle

### LOCTITE® 248™ Blue Threadlocker

#### Semisolid/Medium Strength/Primerless

Semisolid stick form is convenient, portable and great for hard-to-reach applications. Engineered to cure consistently on a variety of metals including stainless steel and most plated fasteners. Tolerates minor surface contaminants, anti-corrosion and protection fluids. Removable with hand tools.

P/N	Package Size
37684	9 g stick
37087	19 g stick

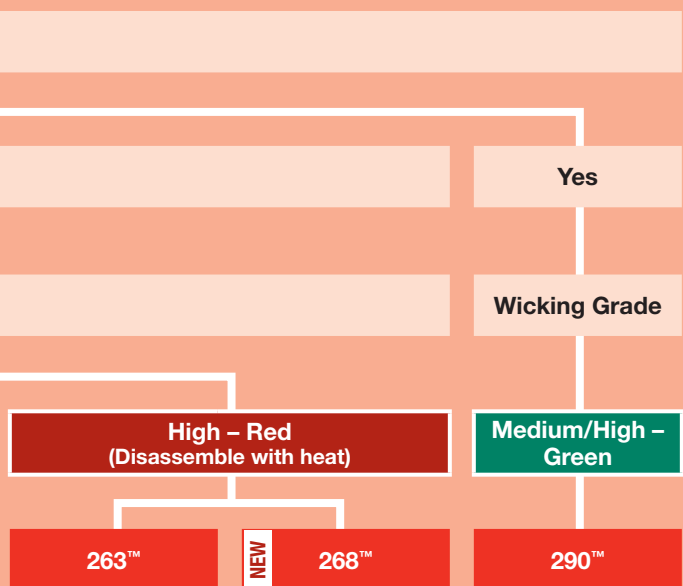
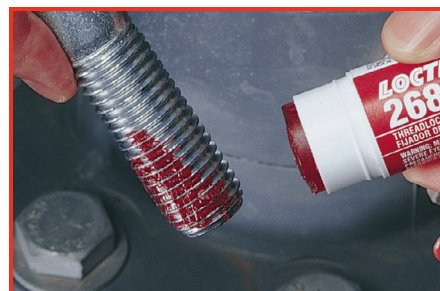
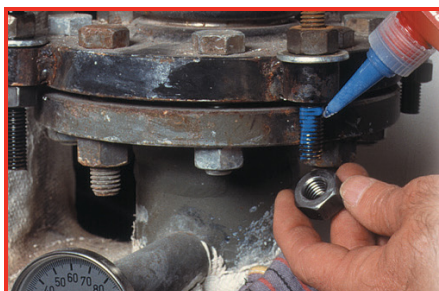
### LOCTITE® QuickTape® 249™ Blue Threadlocker Tape

#### Tape/Medium Strength

The one and only threadlocker in a tape form. This revolutionary product offers the same reliability and performance as LOCTITE® removable grade threadlocking liquids. Convenient, durable package is a must for every toolbox. It is easy to apply and can be preapplied for future assembly.

**CFIA Listed.**

P/N	Package Size
1372603	260 in. roll



Liquid Anaerobic	Semisolid Anaerobic	Liquid Anaerobic
Red	Red	Green
400/600 Thixotropic	Semisolid	25/55
290/290	311/83	90/260
10 min.	5 min.	20 min.
24 hrs.	24 hrs.	24 hrs.
-65°F to 360°F	-65°F to 300°F	-65°F to 300°F
Not Required	7088™, 7649™, 7471™	7088™, 7649™, 7471™

#### LOCTITE® 263™ Red Threadlocker

##### High Strength/Primerless

Versatile, high strength liquid threadlocker. Reliably locks and seals metal fasteners up to 1 in. Engineered to cure consistently on a variety of metals including stainless steel and most plated fasteners. Tolerates minor surface contaminants, anti-corrosion and protection fluids. Rated for 360°F (180°C). Heat required for removal.

P/N	Package Size
1330582	0.5 ml capsule
1330583	10 ml bottle
1330585	50 ml bottle
1330335	250 ml bottle
1330334	1 liter bottle

#### LOCTITE® 268™ Threadlocker

##### Semisolid/High Strength/Primerless

Semisolid stick form is convenient, portable and great for hard-to-reach applications. Engineered to cure consistently on a variety of metals including stainless steel and most plated fasteners. Tolerates minor surface contaminants, anti-corrosion and protection fluids. Rated to 300°F (180°C). Heat required for removal.

P/N	Package Size
37685	9 g stick
37686	19 g stick

#### LOCTITE® 290™ Threadlocker

##### Wicking Grade/High Strength

Recommended for locking preassembled fasteners, i.e., instrumentation screws, electrical connectors and set screws. Also seals porosities in welds and metal parts. **Mil Spec (S-46163A) Type III, Grade R. NSF/ANSI 61 Certified.**

P/N	Package Size
29005	0.5 ml capsule
29021	10 ml bottle
29031	50 ml bottle
29041	250 ml bottle
29043	1 liter bottle

### WHEN SHOULD A LOCTITE® PRIMER BE USED?

LOCTITE® anaerobic threadlockers cure (1) in the absence of air, and (2) in the presence of metal ions. When assembling inactive metal parts – which are low in metal ions – use of a LOCTITE® Primer is strongly recommended to ensure proper performance.

INACTIVE METALS (PRIMERS RECOMMENDED)		ACTIVE METALS (PRIMERS OPTIONAL)
PLATED PARTS	SILVER	IRON
ANODIZED ALUMINUM (ALODINE®, IRIDITE™)	GOLD	PLAIN STEEL
TITANIUM	ZINC	COPPER
STAINLESS STEEL	PURE	BRASS
GALVANIZED STEEL	ALUMINUM†	BRONZE
MAGNETITE STEEL	CADMIUM	MANGANESE
INCONEL™	MAGNESIUM	MONEL™
NICKEL	NATURAL OR CHEMICAL BLACK OXIDE	KOVAR™

Primers also help speed up cure rates. Fixture time can be reduced from several hours to minutes, allowing faster assembly and production throughput.

LOCTITE® primers are also recommended when assembling metal parts that are cold, have large gaps or deep threads.

**NOTE:** Using a primer will decrease ultimate bond strength.



### THREADLOCKING PREP STEPS

- Clean parts with LOCTITE® ODC-Free Cleaner & Degreaser before applying threadlocker.
- If the parts were in contact with aqueous washing solutions or cutting fluids, which leave a protective layer on the surface, wash with hot water before use.
- If the threadlocker will be applied below 40°F, pretreat parts with LOCTITE® 7649™ Primer N™.

† Pure aluminum is an inactive metal. Alloys of aluminum containing copper are considered active metals.





HELPFUL HINTS

HELPFUL HINTS

# Threadlockers



## LOCTITE® General-Purpose Threadlocker Properties Chart

KEY FACTORS		KEY FEATURES	TYPICAL USE	PRODUCT	ITEM NUMBER	PACKAGE TYPE & SIZE	COLOR	VISCOSITY† (cP)	TORQUE‡ IN.-LBS. (BREAK/PREVAL)	TEMP. RANGE	CURE SPEED (STEEL @ 25°C)	AGENCY APPROVALS
GENERAL-PURPOSE THREADLOCKERS	Low Strength	Small Fasteners	Small screws under 1/4"	222™ 	21463 21464	10 ml bottle 50 ml bottle	Purple	1,200 / 5,000 Thixotropic	53 / 30	-65°F to 300°F	Fixture – 20 min. Full – 24 hrs.	N/A
	Medium Strength	General-Purpose	1/4" to 3/4" bolts, primerless, tolerates surface contaminants	243™ 	1330255 1329837 1329467 1329505 1330333	0.5 ml capsule 10 ml bottle 50 ml bottle 250 ml bottle 1 liter bottle	Blue	1,300 / 3,000 Thixotropic	230 / 40	-65°F to 360°F	Fixture – 10 min. Full – 24 hrs.	NSF/ANSI 61, CFIA Listed
		Semisolid Stick	1/4" to 3/4" bolts, overhead, hard-to-reach areas	248™	37684 37087	9 g stick 19 g stick	Blue	Semisolid	226* / 36	-65°F to 300°F	Fixture – 5 min. Full – 24 hrs.	CFIA Listed
		Tape	1/4" to 3/4" bolts, overhead, pre-dispensed, hard-to-reach areas	QUICKTAPE® 249™	1372603	260" roll	Blue	Tape	74 / 47	-65°F to 300°F	Fixture – 30 min. Full – 24 hrs.	CFIA Listed
	High Strength	General-Purpose	Primerless, up to 1" bolts, tolerates surface contaminants	263™ 	1330582 1330583 1330585 1330335 1330334	0.5 ml capsule 10 ml bottle 50 ml bottle 250 ml bottle 1 liter bottle	Red	400 / 600	290 / 290*	-65°F to 360°F	Fixture – 10 min. Full – 24 hrs.	NSF/ANSI 61, CFIA Listed
		Semisolid Stick	Up to 3/4" bolts, primerless, overhead, hard-to-reach areas, tolerates surface contaminants	268™	37685 37686	9 g stick 19 g stick	Red	Semisolid	311* / 83	-65°F to 300°F	Fixture – 5 min. Full – 24 hrs.	CFIA Listed
	Wicking Grade	General-Purpose	Medium/high strength, wicking grade for preassembled parts and weld sealing	290™ 	29005 29021 29031 29041 29043	0.5 ml capsule 10 ml bottle 50 ml bottle 250 ml bottle 1 liter bottle	Green	25 / 55	90 / 260	-65°F to 300°F	Fixture – 20 min. Full – 24 hrs.	MIL-S-46163A for existing designs, ASTM D-5363**, NSF/ANSI 61, NSF P1, CFIA Listed

## LOCTITE® Specialty Threadlocker Properties Chart

KEY FACTORS	KEY FEATURES	TYPICAL USE	PRODUCT	ITEM NUMBER	PACKAGE TYPE & SIZE	COLOR	VISCOSITY <sup>†</sup> (cP)	TORQUE <sup>‡</sup> IN.-LBS. (BREAK/PREVAL)	TEMP. RANGE	CURE SPEED (STEEL @ 25°C)	AGENCY APPROVALS
SPECIALTY THREADLOCKERS	High Temperature	High temperature, medium strength	<b>246™</b>	29513 29514 29515	10 ml bottle 50 ml bottle 250 ml bottle	Blue	2,600	170 / 48*	-65°F to 450°F	Fixture – 5 min. Full – 24 hrs.	N/A
	Ultra High Temperature	Ultra high temperature, medium strength for 1/2" to 3/4" bolts	<b>2422™</b>	1134601	30 g syringe	Blue	Paste	102 / 12	-65°F to 650°F	Fixture – 30 min. Full – 24 hrs.	N/A
	Enhanced Health & Safety	Removable strength	<b>2400 NA™</b>	1526121 1526122	50 ml bottle 250 ml bottle	Blue	3,070 Thixotropic	160 / 20	-65°F to 300°F	Fixture – 5 min. Full – 24 hrs.	N/A
	Food Compliant	For use in food & beverage applications	<b>2046™</b>	1186840 1197606	0.40 fl. oz. dual cartridge (12 ml) Static Mix Nozzle (10 pk)	Blue	Paste	111 / 60	-65°F to 400°F	Fixture – 90 min. Full – 24 hrs.	21 C.F.R. § 175.300
	Low Halogen/ Low Sulfur	For use in nuclear facilities	<b>2432™</b>	25523	50 ml bottle	Blue	300	150 / 53 (black oxide steel nuts and bolts)	-65°F to 300°F	Fixture – 30 min. Full – 24 hrs.	N/A

ITEMS IN RED = Source's PICK or NEW

= Indicates Worldwide Availability

\* Break loose value.



\*\* For new designs.

† Brookfield RVT spindle 3.20 RPM/25 RPM.


‡ M10 steel nuts and bolts.

PLEASE NOTE: A complete line of surface primers is available. Refer to the Surface Cleaning section, 131-134.



## LOCTITE® Specialty Threadlocker Properties Chart

KEY FACTORS		KEY FEATURES	TYPICAL USE	PRODUCT	ITEM NUMBER	PACKAGE TYPE & SIZE	COLOR	VISCOSITY <sup>†</sup> (cP)	TORQUE <sup>‡</sup> IN.-LBS. (BREAK/PREVAL)	TEMP. RANGE	CURE SPEED (STEEL @ 25°C)	AGENCY APPROVALS
SPECIALTY THREADLOCKERS	High Strength	High Temperature	High temperature applications	272™ 	27240 27270 27285	50 ml bottle 250 ml bottle 1 liter bottle	Red	9,500	200 / 220	-65°F to 450°F	Fixture – 1 hr. Full – 24 hrs.	CFIA Listed
		Ultra High Temperature	Ultra high temperature, high strength for 1/2" to 3/4" bolts	2620™	1138282	30 g syringe	Red	Paste	161 / 10	-65°F to 650°F	Fixture – 30 min. Full – 24 hrs.	CFIA Listed
		Enhanced Health & Safety	High strength	2700 NA™ 	1526123 1526565	50 ml bottle 250 ml bottle	Red	5,000 Thixotropic	300 / 265	-65°F to 300°F	Fixture – 5 min. Full – 24 hrs.	N/A
		High Lubricity (Large Bolts)	Large bolts >7/8": High lubricity delivers higher clamp load than 277™	2047™	1134607	50 ml bottle	Black	2,000 / 12,000 Thixotropic	375 / 80	-65°F to 300°F	Fixture – 90 min. Full – 24 hrs.	CFIA Listed
	Plastic	Plastic Fasteners	For small metal and plastic fasteners and tamper-proofing	425™ ASSURE™	42540	20 g bottle	Blue	80	4 / 2	-65°F to 180°F	Fixture – 1.5 min. Full – 24 hrs.	N/A

## LOCTITE® MIL Spec Threadlocker Properties Chart

KEY FACTORS		TYPICAL USE	PRODUCT	ITEM NUMBER	PACKAGE TYPE & SIZE	COLOR	VISCOSITY <sup>†</sup> (cP)	TORQUE <sup>‡</sup> IN.-LBS. (BREAK/PREVAL)	TEMP. RANGE	CURE SPEED (STEEL @ 25°C)	AGENCY APPROVALS
MIL SPEC THREADLOCKERS	Low Strength	Easy removal, small screws under 1/4"	222MS™	22205	0.5 ml capsule	Purple	1,200 / 5,000 Thixotropic	53 / 30	-65°F to 300°F	Fixture – 10 min. Full – 24 hrs.	MIL-S-46163A for existing designs, ASTM D-5363**, NSF P1, CFIA Listed
				22221	10 ml bottle						
	22231	50 ml bottle									
	22241	250 ml bottle									
	Medium Strength	Removable grade, 1/4" up to 3/4" bolts	242®	24205	0.5 ml capsule	Blue	1,200 / 5,000 Thixotropic	110 / 43	-65°F to 300°F	Fixture – 5 min. Full – 24 hrs.	MIL-S-46163A for existing designs, ASTM D-5363**, NSF/ANSI 61, NSF P1, ABS, CFIA Listed
				24221	10 ml bottle						
	24231	50 ml bottle									
	24241	250 ml bottle									
24243	1 liter bottle										
High Strength	High strength locking, up to 3/4" bolts	262™	26205	0.5 ml capsule	Red	1,800 / 5,000 Thixotropic	189 / 275	-65°F to 300°F	Fixture – 10 min. Full – 24 hrs.	MIL-S-46163A for existing designs, ASTM D-5363**, NSF P1, ABS, CFIA Listed	
			26221	10 ml tube							
	26231	50 ml bottle									
	26241	250 ml bottle									
26243	1 liter bottle										
High Strength	High strength for fasteners up to 1" diameter	271™	27105	0.5 ml capsule	Red	500	250 / 275	-65°F to 300°F	Fixture – 10 min. Full – 24 hrs.	MIL-S-46163A for existing designs, ASTM D-5363**, UL Classified for U.S., CFIA Listed	
			27121	10 ml bottle							
27131	50 ml bottle										
27141	250 ml bottle										
27143	1 liter bottle										
High Strength	Permanent for large bolts >7/8"	277™	21434	10 ml bottle	Red	7,000	275 / 275	-65°F to 300°F	Fixture – 60 min. Full – 24 hrs.	MIL-S-46163A for existing designs, ASTM D-5363**	
			27731	50 ml bottle							
27741	250 ml bottle										
27743	1 liter bottle										
Wicking Grade	Low strength wicking grade for preassembled fasteners under 1/4"	220™	37388	10 ml bottle	Blue	20	85 / 170	-65°F to 300°F	Fixture – 6 min. Full – 24 hrs.	MIL-S-46163A for existing designs, ASTM D-5363**, CFIA Listed	
			39186	50 ml bottle							
22041	250 ml bottle										
Wicking Grade	Medium/high strength, wicking grade for preassembled parts	290™ 	29005	0.5 ml capsule	Green	25 / 55	90 / 260	-65°F to 300°F	Fixture – 20 min. Full – 24 hrs.	MIL-S-46163A for existing designs, ASTM D-5363**, NSF/ANSI 61, NSF P1, CFIA Listed	
			29021	10 ml bottle							
29031	50 ml bottle										
29041	250 ml bottle										
29043	1 liter bottle										

## LOCTITE® Activator Properties Chart

LOCTITE® PRODUCT		ITEM	PACKAGE TYPE & SIZE	COLOR	VISCOSITY (cP)	BASE	ON-PART LIFE	DRY TIME	APPLICATION	AGENCY APPROVALS
ACTIVATORS	7088™ PRIMER	1069258	17 g stick	Teal	Semisolid	No solvent	30 days	None	Anaerobics	CFIA Listed
	7090™	19368 12695	1 fl. oz. bottle 1 liter bottle	Dark Blue	17.5	No solvent	1 hour	None	Anaerobics	N/A
	7471™ PRIMER T™ 	19267 22477	1.75 fl. oz. bottle 4.5 oz. net wt. aerosol can	Amber	2	Acetone/ Isopropanol	7 days	30 to 70 seconds	Anaerobics	MIL-S-22473E for existing designs, ASTM D-5363 for new designs, CFIA Listed
		19268	1 gallon can							
	7649™ PRIMER N™ 	19269 21347 21348	1.75 fl. oz. glass bottle 25 g net wt. aerosol can 4.5 oz. net wt. aerosol can	Clear/ Green	2	Acetone	30 days	30 to 70 seconds	Anaerobics	MIL-S-22473E for existing designs, ASTM D-5363 for new designs, NSF/ANSI 61, NSF P1, CFIA Listed
		19266	1 gallon can							

ITEMS IN RED = Source's PICK or NEW

🌐 = Indicates Worldwide Availability

\*\* For new designs.  
† Brookfield RVT spindle 3.20 RPM/25 RPM.  
‡ M10 steel nuts and bolts.

PLEASE NOTE: A complete line of surface primers is available. Refer to the Surface Cleaning section, 131-134.

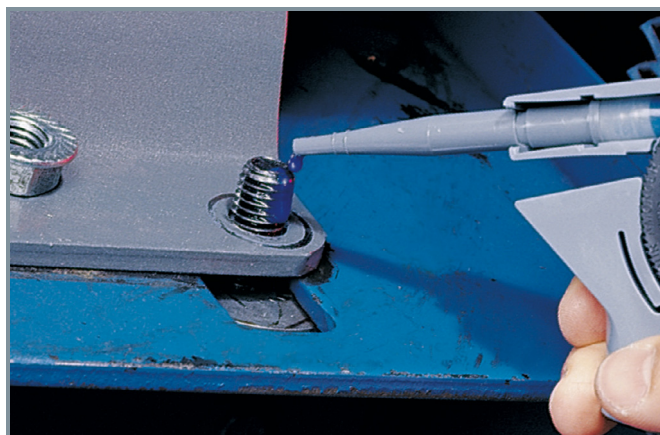
The Adhesive Sourcebook 2015: Your Source for LOCTITE® products for design, assembly, manufacturing and maintenance





# Threadlocker Equipment






## YOUR EQUIPMENT Source

For more details, see the **LOCTITE® Equipment Sourcebook, LT-3669**, or visit us on the web for additional information, diagrams, products and our full line of equipment at [www.equipment.loctite.com](http://www.equipment.loctite.com).





LOCTITE® PRODUCT		ITEM NUMBER	USED TO DISPENSE	PACKAGE TYPES & SIZES	VISCOSITY RANGE	PACKAGE TYPES & SIZES	CONSUMABLES – DISPENSE ACCESSORIES
<b>HANDHELD APPLICATORS</b>	<b>BOTTLE DISPENSING</b>						
	 <b>50 ML AND 250 ML HAND PUMPS</b>	98414 97001	Retaining Compounds, Threadlockers	50 ml bottle 250 ml bottle	Low to Medium	Manual	Dispense Tips and Accessories – Pages 176-177
<b>HANDHELD APPLICATORS</b>	<b>TUBE DISPENSING</b>						
	 <b>50 ML-F TUBE SQUEEZE DISPENSER</b>	1083845	Any 50 ml tube	50 ml tubes	Low to High	Manual	N/A






CONTROLLERS & RESERVOIRS

LOCTITE® PRODUCT		ITEM NUMBER	PRESSURE REGULATION	USED TO DISPENSE	PACKAGE TYPES & SIZES	VISCOSITY RANGE	LOW LEVEL SENSING	CONSUMABLES – DISPENSE ACCESSORIES
INTEGRATED RESERVOIR CONTROLLERS								
	INTEGRATED SEMI-AUTOMATIC DISPENSER	1390322	0 to 15 psi	Gel Adhesives, Instant Adhesives, Light Cure/Acrylics, Retaining Compounds, Threadlockers	250 ml bottle 1 lb. bottle 1 liter bottle 2 kg bottle 200 g squeeze tube	Low to Medium	Yes	Dispense Tips and Accessories – Pages 176-177
		1390321	0 to 100 psi			Medium to High	Yes	
RESERVOIRS								
	BOND-A-MATIC® 3000 RESERVOIR	982720	0 to 15 psi	Gel Adhesives, Instant Adhesives, Light Cure/Acrylics, Retaining Compounds, Threadlockers	250 ml bottle 1 lb. bottle 1 liter bottle 2 kg bottle 200 g squeeze tube	Low to Medium	Yes	Dispense Tips and Accessories – Pages 176-177
		982726					No	
		982723	0 to 100 psi			Medium to High	Yes	
		982727					No	
	SHOT MISER™ RESERVOIR	98090	0 to 100 psi	Instant Adhesives, Light Cure/Acrylics, Retaining Compounds, Threadlockers	250 ml bottle 1 lb. bottle 200 g squeeze tube	Low to High	No	
	4 LITER GRAVITY FEED RESERVOIR	982880	N/A	Retaining Compounds, Threadlockers	Direct Fill	Low to Medium	Yes	
MULTI-FUNCTION CONTROLLER								
	LOCTITE® SPRAY VALVE CONTROLLER	1406023	0 to 100 psi	Primers, Accelerators, Activators	250 ml bottle 1 lb. bottle 1 liter bottle 2 kg bottle 200 g squeeze tube	Low	No	Use with Loctite® Spray Valve 98520








ITEMS IN RED = Source's PICK or NEW

For more LOCTITE® branded equipment, go to page 165. Can't find what you're looking for? Visit [www.equipment.loctite.com](http://www.equipment.loctite.com).

LOCTITE® PRODUCT		ITEM NUMBER	DISPENSE PATTERNS	USED TO DISPENSE	PACKAGE TYPES & SIZES	VISCOSITY RANGE	VACUUM SUCK-BACK	CONSUMABLES – DISPENSE ACCESSORIES	
DISPENSE SYSTEMS	VOLUMETRIC BOTTLE DISPENSING								
		BENCHTOP PERISTALTIC DISPENSER	98548	Dot, Drop, Bead	Instant Adhesives, Light Cure/Acrylics, Retaining Compounds, Threadlockers	Any Bottle	0 to 5,000 cP	Programmable	Dispense Tips and Accessories – Pages 176-177
	COMPLETE PRESSURE-TIME BOTTLE DISPENSE SYSTEM								
		BOND-A-MATIC® 3000 DISPENSER 0-15 PSI	982719	Dot, Drop, Bead	Gel Adhesives, Instant Adhesives, Light Cure/Acrylics, Retaining Compounds, Threadlockers	200 ml bottle 1 lb. bottle 1 liter bottle 2 kg bottle 200 g squeeze tube	Low	N/A	Dispense Tips and Accessories – Pages 176-177
BOND-A-MATIC® 3000 DISPENSER 0-100 PSI		982722	Medium to High						

LOCTITE® PRODUCT		ITEM NUMBER	TYPE	VISCOSITY RANGE	DISPENSE PATTERNS	USED TO DISPENSE	STROKE ADJUSTMENT	ACTUATION	CONSUMABLES – DISPENSE ACCESSORIES	
HANDHELD VALVES	GENERAL-PURPOSE APPLICATORS									
		LV HAND-HELD APPLICATOR	97130	Pneumatic	Low	Drop, Dot, Bead	Instant Adhesives, Retaining Compounds, Threadlockers	Yes	Foot	Dispense Tips and Accessories – Pages 176-177
	GENERAL-PURPOSE APPLICATORS									
		MANUAL HAND-HELD APPLICATOR	97111	Manual	Low to Medium	Drop, Dot, Bead	Light Cure/Acrylics, Retaining Compounds, Threadlockers	Yes	Finger	Dispense Tips and Accessories – Pages 176-177
		PNEUMATIC HAND-HELD APPLICATOR	97112	Pneumatic	Low to Medium	Drop, Dot, Bead	Light Cure/Acrylics, Retaining Compounds, Threadlockers	Yes	Foot	
		PNEUMATIC HAND-HELD APPLICATOR	97116	Pneumatic	Low to Medium	Drop, Dot, Bead	Light Cure/Acrylics, Retaining Compounds, Threadlockers	Yes	Finger	
	GENERAL-PURPOSE APPLICATORS									
	VARI-DROP™ APPLICATORS	97131 97132	Pinch Tube	Low to Medium	Drop, Dot, Bead	Instant Adhesives, Retaining Compounds, Threadlockers	Yes	Finger	Dispense Tips and Accessories – Pages 176-177	

VALVES & PUMPS

LOCTITE® PRODUCT		ITEM NUMBER	TYPE	VISCOSITY RANGE	DISPENSE PATTERNS	USED TO DISPENSE	STROKE ADJUSTMENT	SUCK-BACK	CONSUMABLES – DISPENSE ACCESSORIES
HIGH PRECISION VALVES									
	LOCTITE® SPRAY VALVE	98520	Spray Valve	Low	Spray	Primers, Accelerators, Activators	Yes	No	989268 – 0.014" Nozzle Kit 989269 – 0.028" Nozzle Kit
HIGH PRECISION VALVES									
	STATIONARY APPLICATOR VALVE	97113	High Precision	Low to Medium	Drop, Dot, Bead	Gel Instant Adhesives, Instant Adhesives, Retaining Compounds, Threadlockers	Yes	Yes	Dispense Tips and Accessories – Pages 176-177
		97114							
HIGH PERFORMANCE DIAPHRAGM VALVES									
	LIGHT CURE DISPENSE VALVE	98009	High Performance Diaphragm	Low to Medium	Drop, Dot, Bead	Light Cure Adhesives, Retaining Compounds, Threadlockers	Yes	No	Dispense Tips and Accessories – Pages 176-177
	CYANOACRYLATE DISPENSE VALVE	98013	High Performance Diaphragm	Low to Medium	Drop, Dot, Bead, Microdot	Instant Adhesives, Retaining Compounds, Threadlockers	Yes	No	
GENERAL DUTY DIAPHRAGM VALVES									
	DIAPHRAGM VALVE	97135	General Duty Diaphragm	0 to 2,500 cP	Drop, Dot, Bead	Light Cure/Acrylics, Instant Adhesives, Retaining Compounds, Threadlockers	No	No	Dispense Tips and Accessories – Pages 176-177
		97136		2,500 to 5,000 cP					
HIGH VISCOSITY FLUID AND PASTE VALVES									
	POPPET VALVE	986300	High Viscosity Fluid and Paste	Medium to High	Drop, Bead	Anaerobic Gasketing, Retaining Compounds, Threadlockers	Yes	Yes	Dispense Tips and Accessories – Pages 176-177
POSITIVE DISPLACEMENT PUMP									
	POSITIVE DISPLACEMENT PUMP	983330	Positive Displacement Pump	Low to Medium	Drop	Retaining Compounds, Threadlockers, Any single-component, non-moisture-curing, low- to medium-viscosity fluid (<100,000 cP)	Yes	No	Dispense Tips and Accessories – Pages 176-177

# Thread Sealing



143	THREAD SEALING
145	Thread Sealants
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## WHY USE A LOCTITE® THREAD SEALANT?

LOCTITE® Thread Sealants prevent leakage of gasses and liquids. Designed for low- and high-pressure applications, they fill the space between threaded parts and provide an instant, low-pressure seal. When fully cured they seal to the burst pressure of most pipe systems.

### LOCTITE® SEALANTS ARE MUCH SUPERIOR TO TRADITIONAL SEALANT TYPES:

- Solvent-based sealing compounds: Shrink during cure as solvents evaporate. Fittings must be re-torqued to minimize voids. They lock the assembly by a combination of friction and deformation.
- PTFE tape: Lubricates in off direction, allowing fittings to loosen under dynamic loads resulting in loss of clamping force and leakage. Dynamic loads may accelerate creep, causing leakage over time. The lubricating effect of PTFE frequently results in over-tightening of fasteners, adding stress or causing breakage of parts. Application requires good professional skills to avoid stressing fittings or castings.

## ADVANTAGES OF LOCTITE® THREAD SEALANTS AS COMPARED TO TRADITIONAL SEALANT TYPES:

- Single-component – clean and easy to apply
- Do not creep, shrink or block systems
- Can be used on any size of pipe fitting
- Replace all types of tape and paste sealants
- The seal resists vibration and shock loads
- Products are available with potable water and gas approvals
- Protect mated threaded areas against corrosion and galling

Henkel Adhesive and Sealant Product Specialists are available to assist you with new product designs, or to help you re-engineer an existing application for improved performance and cost savings. They can also set up testing of your parts at the Henkel Customer Engineering Center. For application assistance, call 1-800-LOCTITE (562-8483); within Canada, call 1-800-263-5043; or, contact us through the web at [www.henkelna.com/loctite](http://www.henkelna.com/loctite).

**STRAIGHT FROM** *The Source*





## Thread Sealing

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Thread Sealing

### Old Way: Pastes, Tapes & Dopes



### Better Way: Loctite® Thread Sealants



- Complete contact between threads, 100% seal
- Will not creep, shrink, shred or block systems
- Easy disassembly
- Prevent corrosion



# Thread Sealants



## Your Application

- Prevent leaks
- Single component – quick and easy to apply
- Can be used on any size pipe fitting and seal to the burst strength of most piping systems
- Prevent thread corrosion
- Seal and secure metal pipes and fittings, filling the space between threaded metal parts and hardening to prevent leakage
- Designed for high- and low-pressure applications
- Controlled strength for ease of disassembly

## Solution

### ARE THE PARTS METAL OR PLASTIC?

#### Metal Parts

### Are you working with hydraulic fittings?

Yes

No

### Do you prefer a paste or a semisolid?

#### Paste

**LOCTITE® 545™**  
Thread Sealant  
(Hydraulic & Pneumatic)

**LOCTITE® 565™**  
Thread Sealant

**LOCTITE® 567™**  
Thread Sealant

Chemistry	Anaerobic	Anaerobic	Anaerobic
Color	Purple	White	White
Viscosity (cP)	14,000	300,000	540,000
Pressure Resistance (psi)	10,000	10,000	10,000
Cure Time (hours)	24 hours	24 hours	24 hours
Temperature Resistance	-65°F to 300°F	-65°F to 300°F	-65°F to 400°F
Recommended Primer	7088™, 7649™ or 7471™	7088™, 7649™ or 7471™	7088™, 7649™ or 7471™

## Product Description

### LOCTITE® 545™ Thread Sealant

Recommended for fine threaded fittings as used in hydraulic and pneumatic installations and small fittings in general.

**ABS Approved.**  
**CFIA Listed.**

P/N	Package Size
54505	5 ml capsule
32429	10 ml bottle
54531	50 ml bottle
54541	250 ml bottle

### LOCTITE® 565™ Thread Sealant

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

**CSA 3319-81 and 3319-01.**  
**UL MH007(N).**  
**NSF/ANSI 61 Certified.**  
**ULC-Canada Approved.**  
**CFIA Listed.**

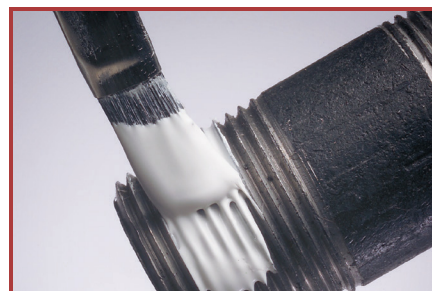
P/N	Package Size
56507	6 ml tube
56531	50 ml tube
56541	250 ml tube
56571	300 ml cartridge
56543	1 liter bottle
56566	10 liter bottle

### LOCTITE® 567™ Thread Sealant

A general-purpose instant sealant for tapered and straight/tapered fittings. Rated to 400°F.

**UL MH007(N).**  
**NSF/ANSI 61 Certified.**  
**ULC-Canada Approved.**  
**CFIA Listed.**

P/N	Package Size
56707	6 ml tube
56747	50 ml tube
56765	250 ml tube
33241	350 ml brush-top can
56790	1 liter bottle



Plastic

Semisolid

LOCTITE® 561™ Pipe Sealant with PTFE

LOCTITE® No More Leaks™

Anaerobic	Non-Anaerobic
White	White
Semisolid	90,000 to 110,000
10,000	5,000
24 hours	24 hours
-65°F to 300°F	-65°F to 300°F
7088™, 7649™ or 7471™	N/A

#### LOCTITE® 561™ Pipe Sealant with PTFE

Semisolid stick form is convenient, portable and less messy. Formulated for fast, reliable curing on metal, tapered pipe threads and fittings. Provides high pressure sealing and withstands continuous operating temperatures of -65°F to 300°F (-54°C to 150°C). **NSF/ANSI 61 Certified.**

**P/N**      **Package Size**  
37127      19 g stick

#### LOCTITE® No More Leaks™

Recommended for use on threaded plastic fittings carrying hot or cold water, i.e., industrial and agricultural plastic water pipe systems, or drainage systems.

**P/N**      **Package Size**  
1537780      16 oz. brush-top can

### WHEN SHOULD A LOCTITE® PRIMER BE USED?

LOCTITE® anaerobic thread sealants cure (1) in the absence of air, and (2) in the presence of metal ions. When assembling inactive metal parts – which are low in metal ions – use of a LOCTITE® Primer is strongly recommended to ensure proper performance.

INACTIVE METALS (PRIMERS RECOMMENDED)		ACTIVE METALS (PRIMERS OPTIONAL)
PLATED PARTS	SILVER	IRON
ANODIZED ALUMINUM (ALODINE®, IRIDITE™)	GOLD	PLAIN STEEL
TITANIUM	ZINC	COPPER
STAINLESS STEEL	PURE	BRASS
GALVANIZED STEEL	ALUMINUM†	BRONZE
MAGNETITE STEEL	CADMIUM	MANGANESE
INCONEL™	MAGNESIUM	MONEL™
NICKEL	NATURAL OR CHEMICAL BLACK OXIDE	KOVAR™

Primers also help speed up cure rates. Fixture time can be reduced from several hours to minutes, allowing faster assembly and production throughput.

LOCTITE® primers are also recommended when assembling metal parts that are cold, have large gaps or deep threads.

**NOTE:** Using a primer will decrease ultimate bond strength.



### THREAD SEALING PREP STEPS

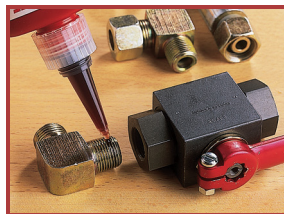
- Clean parts with LOCTITE® ODC-Free Cleaner & Degreaser before applying thread sealant.
- If the parts were in contact with aqueous washing solutions or cutting fluids, which leave a protective layer on the surface, wash with hot water before use.
- If the thread sealant will be applied below 40°F, pretreat parts with LOCTITE® 7649™ Primer N™.

† Pure aluminum is an inactive metal. Alloys of aluminum containing copper are considered active metals.

HELPFUL HINTS

HELPFUL HINTS

# Thread Sealants



**LOCTITE® Liquid Anaerobic Thread Sealant Properties Chart**

	LOCTITE® PRODUCT	ITEM NUMBER	PACKAGE TYPE & SIZE	TYPICAL USE	COLOR & APPEARANCE	VISCOSITY (cP)	TEMPERATURE RANGE	PRESSURE RESISTANCE (psi)	RECOMMENDED PRIMER	AGENCY APPROVALS
GENERAL-PURPOSE	561™	37127	19 g stick	General-purpose, portable, overhead	White Paste	Semisolid	-65°F to 300°F	10,000	7088™, 7649™ or 7471™	UL Classified for U.S., CFIA Listed, NSF/ANSI 61
	565™	56507 56531 56541 56571 56543 56566	6 ml tube 50 ml tube 250 ml tube 300 ml cartridge 1 liter bottle 10 liter bottle	Controlled strength	White	300,000	-65°F to 300°F	10,000	7088™, 7649™ or 7471™	CSA International, UL Classified for U.S., NSF/ANSI 61, ULC Classified for Canada
	577™	21456 21457	50 ml tube 250 ml tube	Medium strength, coarse threads	Yellow	24,000/80,000 Thixotropic	-65°F to 300°F	10,000	7088™, 7649™ or 7471™	N/A
HIGH TEMPERATURE	567™	56707 56747 56765 33241 56790	6 ml tube 50 ml tube 250 ml tube 350 ml brush-top can 1 liter bottle	For stainless steel and all other metal fittings	White	540,000	-65°F to 400°F	10,000	7088™, 7649™ or 7471™	UL Classified for U.S., ABS, CFIA Listed, NSF/ANSI 61, ULC Classified for Canada
	5770™	1138284 1138281	50 ml tube 250 ml tube	High temperature	Off-White Paste	Paste	-65°F to 530°F	N/A	7088™, 7649™ or 7471™	N/A
	592™	59214 59231 59241 59243	6 ml tube 50 ml tube 250 ml tube 1 liter bottle	Medium strength	White	350,000	-65°F to 400°F	10,000	NF™	CFIA Listed
HYDRAULIC & PNEUMATIC	545™	54505 32429 54531 54541	0.5 ml capsule 10 ml bottle 50 ml bottle 250 ml bottle	Pneumatic hydraulic sealant, no fillers	Purple	14,000	-65°F to 300°F	10,000	7088™, 7649™ or 7471™	ABS, CFIA Listed
	5452™ FAST CURE	1265769 1265770	50 ml tube 250 ml tube	Pneumatic hydraulic sealant, no fillers	Purple	29,000/200,000 Thixotropic	-65°F to 300°F	10,000	7088™, 7649™ or 7471™	N/A
	569™	56931 56941	50 ml bottle 250 ml bottle	Original hydraulic sealant	Brown	400	-65°F to 300°F	10,000	7088™, 7649™ or 7471™	CFIA Listed
LOW HALOGEN	580™	58031	50 ml tube	Low halogen, low sulfur, PTFE-free	White	600,000	-65°F to 300°F	10,000	N/A	N/A
	5772™	25524	50 ml bottle	Low halogen, low sulfur, medium strength, fast cure	Yellow	7,500	-65°F to 300°F	10,000	N/A	N/A
	5802™	1313319	50 ml tube	Low halogen, high purity, medium strength, high viscosity	Off-White	Paste	-65°F to 300°F	10,000	N/A	N/A
CHEMICAL RESISTANCE	554™	25882 55441	10 ml bottle 250 ml bottle	Refrigerant sealant, high strength	Red	2,500	-65°F to 300°F	10,000	7088™, 7649™ or 7471™	CFIA Listed



ITEMS IN RED = Source's PICK or NEW

⊗ = Indicates Worldwide Availability

## LOCTITE® Liquid Non-Anaerobic Thread Sealant Properties Chart

	LOCTITE® PRODUCT	ITEM NUMBER	PACKAGE TYPE & SIZE	TYPICAL USE	COLOR AND APPEARANCE	VISCOSITY (cP)	TEMPERATURE RANGE	PRESSURE RESISTANCE (psi)	RECOMMENDED PRIMER	AGENCY APPROVALS
SOLVENT-BASED	THREAD SEALANT WITH PTFE	1527514	1 pint brush can	General-purpose, metal pipes, added lubricity	White Paste	50,000 to 60,000	-65°F to 300°F	5,000	N/A	CFIA Listed
	PIPE JOINT COMPOUND	1534294	1 pint brush can	General-purpose, non-shredding, chemical resistant	Black Paste	35,000 to 45,000	-65°F to 400°F	5,000	N/A	N/A
	NO MORE LEAKS™	1537780	16 oz. brush-top can	Plastic pipes, easy disassembly	White Paste	90,000 to 110,000	-65°F to 300°F	5,000	N/A	CFIA Listed
NON-CURING	55™ PIPE SEALING CORD	35082	5,700"	Metal and plastic compatible, allows post-adjustment	White Coated Cord	N/A	Up to 300°F	10,000	N/A	NSF-61
	THREAD SEAL TAPE WITH PTFE	39904	1/2" x 520" x 0.003"	General-purpose, oxygen service compatible	White Tape	N/A	Up to 500°F	Pressure Rating for Pipe	N/A	N/A

## LOCTITE® Activator Properties Chart

	LOCTITE® PRODUCT	ITEM	PACKAGE TYPE & SIZE	COLOR	VISCOSITY (cP)	BASE	ON-PART LIFE	DRY TIME	APPLICATION	AGENCY APPROVALS
ACTIVATORS	7088™ PRIMER	1069258	17 g stick	Teal	Semisolid	No solvent	30 days	None	Anaerobics	CFIA Listed
	7090™ PRIMER	19368 12695	1 fl. oz. bottle 1 liter bottle	Dark Blue	17.5	No solvent	1 hour	None	Anaerobics	N/A
	7471™ PRIMER T™ 	19267 22477 19268	1.75 fl. oz. bottle 4.5 oz. net wt. aerosol can 1 gallon can	Amber	2	Acetone/ Isopropanol	7 days	30 to 70 seconds	Anaerobics	MIL-S-22473E for existing designs, ASTM D-5363 for new designs, CFIA Listed
	7649™ PRIMER N™ 	19269 21347 21348 19266	1.75 fl. oz. glass bottle 25 g net wt. aerosol can 4.5 oz. net wt. aerosol can 1 gallon can	Clear/ Green	2	Acetone	30 days	30 to 70 seconds	Anaerobics	MIL-S-22473E for existing designs, ASTM D-5363 for new designs, NSF/ANSI 61, NSF P1, CFIA Listed

 = Indicates Worldwide Availability







# Thread Sealant Equipment






## YOUR EQUIPMENT Source


For more details, see the **LOCTITE® Equipment Sourcebook**, LT-3669, or visit us on the web for additional information, diagrams, products and our full line of equipment at [www.equipment.loctite.com](http://www.equipment.loctite.com).




LOCTITE® PRODUCT		ITEM NUMBER	USED TO DISPENSE	PACKAGE TYPES & SIZES	VISCOSITY RANGE	PACKAGE TYPES & SIZES	CONSUMABLES – DISPENSE ACCESSORIES
<b>HANDHELD APPLICATORS</b>	<b>BOTTLE DISPENSING</b>						
	 <b>50 ML AND 250 ML HAND PUMPS</b>	98414 97001	Retaining Compounds, Threadlockers	50 ml bottle 250 ml bottle	Low to Medium	Manual	Dispense Tips and Accessories – Pages 176-177
<b>HANDHELD APPLICATORS</b>	<b>TUBE DISPENSING</b>						
	 <b>50 ML-F TUBE SQUEEZE DISPENSER</b>	1083845	Any 50 ml tube	50 ml tubes	Low to High	Manual	N/A






CONTROLLERS & RESERVOIRS

LOCTITE® PRODUCT		ITEM NUMBER	PRESSURE REGULATION	USED TO DISPENSE	PACKAGE TYPES & SIZES	VISCOSITY RANGE	LOW LEVEL SENSING	CONSUMABLES – DISPENSE ACCESSORIES
INTEGRATED RESERVOIR CONTROLLERS								
	INTEGRATED SEMI-AUTOMATIC DISPENSER	1390322	0 to 15 psi	Gel Adhesives, Instant Adhesives, Light Cure/Acrylics, Retaining Compounds, Threadlockers	250 ml bottle 1 lb. bottle 1 liter bottle 2 kg bottle 200 g squeeze tube	Low to Medium	Yes	Dispense Tips and Accessories – Pages 176-177
		1390321	0 to 100 psi			Medium to High	Yes	
RESERVOIRS								
	BOND-A-MATIC® 3000 RESERVOIR	982720	0 to 15 psi	Gel Adhesives, Instant Adhesives, Light Cure/Acrylics, Retaining Compounds, Threadlockers	250 ml bottle 1 lb. bottle 1 liter bottle 2 kg bottle 200 g squeeze tube	Low to Medium	Yes	Dispense Tips and Accessories – Pages 176-177
		982726					No	
		982723	0 to 100 psi			Medium to High	Yes	
		982727					No	
	SHOT MISER™ RESERVOIR	98090	0 to 100 psi	Instant Adhesives, Light Cure/Acrylics, Retaining Compounds, Threadlockers	250 ml bottle 1 lb. bottle 200 g squeeze tube	Low to High	No	
	4 LITER GRAVITY FEED RESERVOIR	982880	N/A	Retaining Compounds, Threadlockers	Direct Fill	Low to Medium	Yes	
MULTI-FUNCTION CONTROLLER								
	LOCTITE® SPRAY VALVE CONTROLLER	1406023	0 to 100 psi	Primers, Accelerators, Activators	250 ml bottle 1 lb. bottle 1 liter bottle 2 kg bottle 200 g squeeze tube	Low	No	Use with LOCTITE® Spray Valve 98520








LOCTITE® PRODUCT		ITEM NUMBER	DISPENSE PATTERNS	USED TO DISPENSE	PACKAGE TYPES & SIZES	VISCOSITY RANGE	VACUUM SUCK-BACK	CONSUMABLES – DISPENSE ACCESSORIES
<b>DISPENSE SYSTEMS</b>	<b>PINCH TUBE APPLICATORS</b>							
	 <b>DIAL-A-SEAL® APPLICATORS</b>	998400	N/A	Pipe Sealants	50 ml tube 250 ml tube 1 liter bottle	Medium to High	N/A	Dispense Tips and Accessories – Pages 176-177

ITEMS IN RED = Source's PICK or NEW

DISPENSE SYSTEMS	LOCTITE® PRODUCT	ITEM NUMBER	DISPENSE PATTERNS	USED TO DISPENSE	PACKAGE TYPES & SIZES	VISCOSITY RANGE	VACUUM SUCK-BACK	CONSUMABLES – DISPENSE ACCESSORIES
	COMPLETE PRESSURE-TIME BOTTLE DISPENSE SYSTEM							
	BOND-A-MATIC® 3000 DISPENSER 0-15 PSI	982719	Dot, Drop, Bead	Gel Adhesives, Instant Adhesives, Light Cure/Acrylics, Retaining Compounds, Threadlockers	200 ml bottle 1 lb. bottle 1 liter bottle 2 kg bottle 200 g squeeze tube	Low	N/A	Dispense Tips and Accessories – Pages 176-177
	BOND-A-MATIC® 3000 DISPENSER 0-100 PSI	982722				Medium to High		

LOCTITE® PRODUCT		ITEM NUMBER	TYPE	VISCOSITY RANGE	DISPENSE PATTERNS	USED TO DISPENSE	STROKE ADJUSTMENT	ACTUATION	CONSUMABLES – DISPENSE ACCESSORIES	
HANDHELD VALVES	GENERAL-PURPOSE APPLICATORS									
		LV HAND-HELD APPLICATOR	97130	Pneumatic	Low	Drop, Dot, Bead	Instant Adhesives, Retaining Compounds, Threadlockers	Yes	Foot	Dispense Tips and Accessories – Pages 176-177
	GENERAL-PURPOSE APPLICATORS									
		MANUAL HAND-HELD APPLICATOR	97111	Manual	Low to Medium	Drop, Dot, Bead	Light Cure/Acrylics, Retaining Compounds, Threadlockers	Yes	Finger	Dispense Tips and Accessories – Pages 176-177
		PNEUMATIC HAND-HELD APPLICATOR	97112	Pneumatic	Low to Medium	Drop, Dot, Bead	Light Cure/Acrylics, Retaining Compounds, Threadlockers	Yes	Foot	
		PNEUMATIC HAND-HELD APPLICATOR	97116	Pneumatic	Low to Medium	Drop, Dot, Bead	Light Cure/Acrylics, Retaining Compounds, Threadlockers	Yes	Finger	
	GENERAL-PURPOSE APPLICATORS									
		VARI-DROP™ APPLICATORS	97131	Pinch Tube	Low to Medium	Drop, Dot, Bead	Instant Adhesives, Retaining Compounds, Threadlockers	Yes	Finger	Dispense Tips and Accessories – Pages 176-177
			97132							

VALVES & PUMPS

LOCTITE® PRODUCT	ITEM NUMBER	TYPE	VISCOSITY RANGE	DISPENSE PATTERNS	USED TO DISPENSE	STROKE ADJUSTMENT	SUCK-BACK	CONSUMABLES – DISPENSE ACCESSORIES	
HIGH PRECISION VALVES									
	LOCTITE® SPRAY VALVE	98520	Spray Valve	Low	Spray	Primers, Accelerators, Activators	Yes	No	989268 – 0.014" Nozzle Kit 989269 – 0.028" Nozzle Kit
HIGH PRECISION VALVES									
	STATIONARY APPLICATOR VALVE	97113	High Precision	Low to Medium	Drop, Dot, Bead	Gel Instant Adhesives, Instant Adhesives, Retaining Compounds, Threadlockers	Yes	Yes	Dispense Tips and Accessories – Pages 176-177
		97114							
HIGH PERFORMANCE DIAPHRAGM VALVES									
	LIGHT CURE DISPENSE VALVE	98009	High Performance Diaphragm	Low to Medium	Drop, Dot, Bead	Instant Adhesives, Retaining Compounds, Threadlockers	Yes	No	Dispense Tips and Accessories – Pages 176-177
	CYANOACRYLATE DISPENSE VALVE	98013	High Performance Diaphragm	Low to Medium	Drop, Dot, Bead, Microdot	Instant Adhesives, Retaining Compounds, Threadlockers	Yes	No	
GENERAL DUTY DIAPHRAGM VALVES									
	DIAPHRAGM VALVE	97135	General Duty Diagram	0 to 2,500 cP	Drop, Dot, Bead	Light Cure/Acrylics, Instant Adhesives, Retaining Compounds, Threadlockers	No	No	Dispense Tips and Accessories – Pages 176-177
		97136		2,500 to 5,000 cP					
HIGH VISCOSITY FLUID AND PASTE VALVES									
	POPPET VALVE	986300	High Viscosity Fluid and Paste	Medium to High	Drop, Bead	Anaerobic Gasketing, Retaining Compounds, Threadlockers	Yes	Yes	Dispense Tips and Accessories – Pages 176-177
POSITIVE DISPLACEMENT PUMP									
	POSITIVE DISPLACEMENT PUMP	983330	Positive Displacement Pump	Low to Medium	Drop	Retaining Compounds, Threadlockers, Any single-component, non-moisture-curing, low- to medium-viscosity fluid (<100,000 cP)	Yes	No	Dispense Tips and Accessories – Pages 176-177

For more Loctite® branded equipment, go to page 165. Can't find what you're looking for? Visit [www.equipment.loctite.com](http://www.equipment.loctite.com).



## Toolboxes & Specialty Kits

Your Application	EMERGENCY REPAIR			
	Replace or Repair O-Ring Seals	Repair Stripped Threads	Stop Pipe Leaks	Insulation and Sealing
Solution	O-Ring Making Kit	Form-A-Thread® Stripped Thread Repair Kit	Pipe Repair Kit	Insulating & Sealing Wrap
Product Description	<p><b>LOCTITE® O-Ring Making Kit</b> Makes replacement, high performance O-rings in less than a minute. This compact kit contains four 3-foot lengths of common diameters of Buna N (nitrile) cord, LOCTITE® 404® Quick Set™ Instant Adhesive, O-ring fixture, blade, a waterproofing solution, and a cleanup solution. <i>Cut and splice tool and standard size cord stock are available.</i></p> <p><b>LOCTITE® Form-A-Thread® Stripped Thread Repair Kit</b> Permanently repairs stripped threads and fasteners in five minutes (up to SAE Grade 5 English and 8.8 metric). Allows up to 1,538 in.-lb. torque (on 1 in. bolt) and 300°F (149°C). Resists most shop fluids.</p> <p><b>LOCTITE® Pipe Repair Kit</b> Urethane-impregnated fiberglass tape, activated by water, for reliable, temporary repairs of metal, plastic and composite pipes. Includes LOCTITE® Fixmaster® Metal Magic Steel™ epoxy stick, urethane-impregnated fiberglass tape and gloves. Cures in 30 minutes.</p> <p><b>LOCTITE® Insulating &amp; Sealing Wrap</b> Non-sticky, self-fusing, multipurpose wrap. Insulates electrical, seals leaks, improves grip. Hundreds of uses: industrial, automotive and marine.</p>			
	<p><b>P/N Package Size</b></p> <p>00112 See chart for kit contents - Standard</p>	<p><b>P/N Package Size</b></p> <p>28654 12.9 ml kit</p>	<p><b>P/N Package Size</b></p> <p>96321 2 in. x 6 ft. tape 96322 4 in. x 12 ft. tape</p>	<p><b>P/N Package Size</b></p> <p>1212164 1 in. x 10 ft. Red 1540599 1 in. x 10 ft. Black 1496756 2 in. x 36 ft. Black</p>

Henkel Adhesive and Sealant Product Specialists are available to assist you with new product designs, or to help you re-engineer an existing application for improved performance and cost savings. They can also set up testing of your parts at the Henkel Customer Engineering Center. For application assistance, call **1-800-LOCTITE (562-8483)**; within Canada, call 1-800-263-5043; or, contact us through the web at [www.henkelna.com/loctite](http://www.henkelna.com/loctite).

**STRAIGHT FROM** *The Source*



# Toolboxes & Specialty Kits

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Toolboxes & Specialty Kits

## Tool Kits

Quick Service  
Tool Kit

Toolbox

### LOCTITE® Quick Service Tool Kit

The "original" LOCTITE® kit containing eight of the most common LOCTITE® products.

**P/N** **Package Size**  
00101 See chart for kit  
contents

### LOCTITE® Toolbox

Containing 18 of the latest and best LOCTITE® technologies to solve the most common mechanical failures, this kit has everything a professional needs to increase reliability at the base component level.

**P/N** **Package Size**  
38956 See chart for kit  
contents

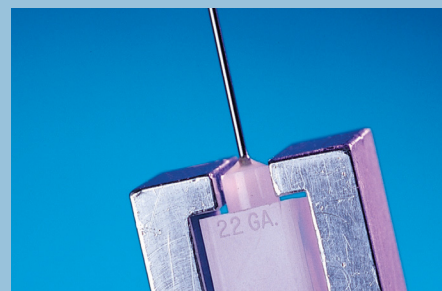
## LOCTITE® Toolboxes & Specialty Kit Ordering Chart

	LOCTITE® PRODUCT	ITEM NUMBER	KIT CONTENTS & CONTAINER	MAXIMUM TEMPERATURE RESISTANCE	AGENCY APPROVALS
SPECIALTY REPAIR	<b>FORM-A-THREAD® STRIPPED THREAD REPAIR KIT</b>	28654	12.9 ml kit	300°F (149°C)	CFIA Listed
	<b>LOCTITE® O-RING MAKING KIT</b>	Standard: 00112	1 oz. waterproofing solution, item number 74126 1 oz. cleanup solvent, item number 75326 1/3 oz. 404® Quick Set™ instant adhesive, item number 46551 Fixture and cutting blade [STANDARD] Cord: 3/32 in., 1/8 in., 3/16 in., 1/4 in. 98613 Precision O-Ring Cut & Splice Tool 8900591 O-Ring Stock, Buna N, 1/4 in. x 3 ft. 8900589 O-Ring Stock, Buna N, 1/8 in. x 3 ft. 8900588 O-Ring Stock, Buna N, 3/32 in. x 3 ft. 8900590 O-Ring Stock, Buna N, 3/16 in. x 3 ft.	N/A	CFIA Listed
	<b>PIPE REPAIR KIT</b>	96321 96322	2 in. x 6 ft. tape 4 in. x 12 ft. tape	250°F (121°C)	CFIA Listed
GENERAL MAINTENANCE	<b>LOCTITE® QUICK SERVICE TOOLKIT</b>	00101	243™ Threadlocker, Medium Strength, 10 ml 263™ Threadlocker, Primerless High Strength, 10 ml 7088™ Primer, 17 g 454™ Instant Adhesive Gel, 3 g 660™ Retaining Compound, 6 ml 565™ Thread Sealant, 50 ml 587™ Blue RTV Silicone Gasket Maker, 70 ml 518™ Flange Sealant, 50 ml QuickTape® Threadlocker Tape, 260 in. roll	N/A	N/A
	<b>LOCTITE® TOOLBOX</b>	38956	220™ Threadlocker, Low Strength/Wicking, 10 ml 222™ Threadlocker, Low Strength/Small Screw, 10 ml 243™ Threadlocker, Medium Strength, 10 ml 248™ Threadlocker, Medium Strength, 9 g 268™ Threadlocker, High Strength, 9 g 263™ Threadlocker, Primerless High Strength, 10 ml 404® Quick Set™ Instant Adhesive, 1/3 oz. 518™ Flange Sealant, 50 ml 545™ Thread Sealant, Hydraulic/Pneumatic, 10 ml 561™ Pipe Sealant, 19 g 565™ Thread Sealant, 50 ml 587™ Blue, High Performance RTV Silicone, 70 ml 641™ Retaining Compound, Low Strength, 10 ml 660™ Retaining Compound, 50 ml  C5-A® Copper Anti-Seize, 20 g stick	N/A	N/A
			7088™ Primer, 17 g QuickTape® Threadlocker Tape, 260 in. roll QuickTite® Instant Adhesive Gel, 0.14 oz. net wt. bottle	N/A	N/A
	<b>LOCTITE® INSULATING &amp; SEALING WRAP</b>	1212164	1 in. x 10 ft. Red	500°F (260°C)	N/A
		1540599	1 in. x 10 ft. Black		
		1496756	2 in. x 36 ft. Black		

ITEMS IN RED = Source's PICK or NEW



# Medical Device Adhesive Solutions



153	MEDICAL DEVICE ADHESIVE SOLUTIONS
155	Medical Device Light Cure Acrylic Adhesives
158	Medical Device Adhesive Curing Equipment
159	Medical Device Cyanoacrylate Adhesives, Accelerators & Primers
162	Medical Device Adhesive Dispensing Equipment
163	Medical Device Epoxy & Urethane Adhesives
164	Medical Device Epoxy & Urethane Adhesive Dispensing Equipment

## WHY USE LOCTITE® ADHESIVES FOR MEDICAL DEVICE APPLICATIONS?

LOCTITE® adhesives have been specified by medical device manufacturers all over the world for more than three decades. We offer over 65 products for medical device assemblies requiring biocompatibility and hundreds of other products for applications not requiring toxicity testing.

Our medical device adhesives cover almost every adhesive chemistry conceivable, providing users with a wide range of choices and assembly solutions. No matter what the application, chances are we have the right adhesive for the job. Our products are available in viscosities ranging from water-thin liquids to thixotropic gels, and are compatible with common sterilization methods such as ethylene oxide, gamma radiation, electron beam, liquid sterilization and limited cycles of autoclave and peroxide plasma.

Henkel Adhesive and Sealant Product Specialists are available to assist you with new product designs, or to help you re-engineer an existing application for improved performance and cost savings. They can also set up testing of your parts at the Henkel Customer Engineering Center. For application assistance, call **1-800-LOCTITE (562-8483)**; within Canada, call 1-800-263-5043; or, contact us through the web at [www.henkelna.com/loctite](http://www.henkelna.com/loctite).

**STRAIGHT FROM** *The Source*

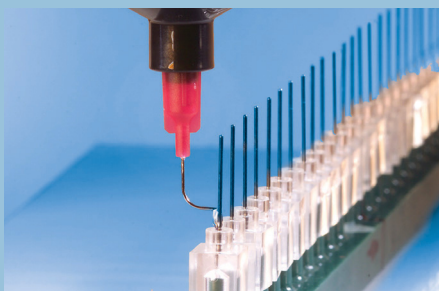
## TRADITIONAL METHODS VS. LOCTITE® MODERN SOLUTIONS

Advantages of LOCTITE® medical device adhesives over welding or mechanical assembly methods include:

- Join dissimilar and difficult-to-join substrates
- Distribute stresses evenly
- Fill large gaps
- Seal and bond
- Result in a neat appearance
- Easily automated

## KEY BENEFITS OF USING LOCTITE® ADHESIVES FOR MEDICAL DEVICE APPLICATIONS:

- Broadest range of medical device adhesive technologies (light cure, cyanoacrylate, epoxy, urethane, silicone)
- Adhesives meet comprehensive ISO 10993 biocompatibility requirements
- More than 30 years of medical industry experience and support
- A customized quality program tailored to the needs of the medical device industry
- Total solutions support with adhesives and equipment (dispensing, curing and process monitoring)
- Comprehensive training programs



# Medical Device Adhesive Solutions

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Medical Device Adhesive Solutions

PERFORMANCE CONSIDERATIONS	ADHESIVE CATEGORY				
	CYANOACRYLATES	EPOXIES	LIGHT CURE ADHESIVES	SILICONES	URETHANES
BENEFITS	Wide range of bonding applications	Wide range of formulations	Rapid cure/adhesion to plastics	Excellent temperature resistance	Excellent toughness/flexibility
CONSIDERATIONS	Low solvent resistance	Mixing or heat required	Light cure system required	Low cohesive strength	Sensitive to moisture
TEMPERATURE RESISTANCE					
TYPICAL FOR THE CATEGORY	-65°F to 180°F (-54°C to 82°C)	-65°F to 300°F (-54°C to 149°C)	-65°F to 300°F (-54°C to 149°C)	-65°F to 350°F (-54°C to 177°C)	-65°F to 250°F (-54°C to 121°C)
HIGHEST RATED PRODUCT	250°F (121°C)	300°F (149°C)	300°F (149°C)	200°F (93°C)	250°F (121°C)
ENVIRONMENTAL RESISTANCE					
POLAR SOLVENTS (EX.: H <sub>2</sub> O, ETHYLENE GLYCOL, ISOPROPYL ALCOHOL, ACETONE)	Poor <sup>1</sup>	Very Good	Good	Good	Good
NONPOLAR SOLVENTS (EX.: MOTOR OIL, TOLUENE, GASOLINE, ATF)	Good	Excellent	Very Good	Poor to Fair	Good
ADHESION TO SUBSTRATES					
METALS	Very Good	Excellent	Good	Good	Good
PLASTICS <sup>2</sup>	Excellent	Fair	Excellent	Good	Very Good
GLASS	Poor	Excellent	Excellent	Good	Good
RUBBER	Very Good	Fair	Fair	Fair	Good
OVERLAPPING SHEAR STRENGTH	High	High	High	Low	Medium
PEEL STRENGTH	Low <sup>3</sup>	Medium	Medium	Medium	Medium
TENSILE STRENGTH	High	High	High	Low	Medium
ELONGATION/FLEXIBILITY	Low	Low	Medium	Very High	High
HARDNESS	Rigid	Rigid	Semirigid	Soft	Soft
PERFORMANCE CONSIDERATIONS	ADHESIVE CATEGORY				
	CYANOACRYLATES	EPOXIES	LIGHT CURE ADHESIVES	SILICONES	URETHANES
NUMBER OF COMPONENTS	1	1 and 2	1	1	2
CURE TEMPERATURES	Room Temperature	Heat or Room Temperature	UV/Visible	UV/Visible	Room Temperature
FIXTURE TIME					
AVERAGE	60 seconds	5 hours	30 seconds	10 minutes	5 hours
FASTEST	<5 seconds	15 to 20 minutes	5 seconds	60 seconds	5 hours
FULL CURE TIME	24 hours	30 minutes to 24 hours	30 to 60 seconds	24 hours	24 hours
GAP FILL					
IDEAL (IN INCHES)	0.001 to 0.003	0.004 to 0.006	0.002 to 0.010	0.004 to 0.006	0.004 to 0.006
MAXIMUM (IN INCHES)	0.010	0.5	0.25	0.25	0.5
DISPENSING/MIXING EQUIPMENT REQUIRED	No	Yes (2 parts)	No	No	Yes
LIGHT CURE VERSIONS AVAILABLE?	Yes	No	Yes	Yes	No

<sup>1</sup> Cyanoacrylates have very good moisture resistance on plastics.

<sup>2</sup> Uncured liquid adhesives may cause stress cracking of certain thermoplastics, e.g., polycarbonate, acrylic and polysulfone. Special products and process techniques are available. Consult the LOCTITE® Design Guide to Bonding Plastics (LT-2197) or contact 1-800-LOCTITE (562-8483) for more information.

<sup>3</sup> Exception: Toughened cyanoacrylates have high peel strength.

# Medical Device Light Cure Acrylic Adhesives



## Your Application

### WHAT TYPE OF TRANSPARENT SUBSTRATE ARE YOU BONDING?

#### Plastic to Plastic

#### Plastic to Metal

In-Line  
Degree of  
Cure

Medium  
Viscosity

Superior  
Tack-Free  
Curing

Gel

Low  
Viscosity

Medium  
Viscosity

## Solution

3924AC™

3926™

3972™

3979™

3922™

3942™

Chemistry	Acrylic	Acrylic	Acrylic	Acrylic	Acrylic	Acrylic
Color	Transparent to Hazy Fluorescent	Transparent to Hazy Fluorescent	Transparent to Hazy Fluorescent	Translucent/Straw/Fluorescent	Transparent to Hazy Fluorescent	Transparent to Hazy Fluorescent
Viscosity (cP)	1,100	5,500	4,650	56,500	300	1,250
Cure Type	UV/Visible	UV/Visible	UV/Visible	UV/Visible	UV/Visible	UV/Visible
ISO 10993 Compliant	Yes	Yes	Yes	Yes	Yes	Yes

## Product Description

### LOCTITE® 3924AC™ Light Cure Adhesive

Fluorescing, UV/visible adhesive offering superior sterilization resistance. AssureCure™ capable, allowing for in-line quantitative degree of cure.

**P/N Package Size**  
1526994 25 ml syringe  
1526993 1 liter bottle

### LOCTITE® 3926™ Light Cure Adhesive

Fluorescing, UV/visible adhesive offering superior sterilization resistance.

**P/N Package Size**  
36492 25 ml syringe  
36493 1 liter bottle

### LOCTITE® 3972™ Light Cure Adhesive

Rapid curing, UV/visible, fluorescing adhesive with superior tack-free curing.

**P/N Package Size**  
36294 25 ml syringe  
36295 1 liter bottle

### LOCTITE® 3979™ Light Cure Adhesive

A rapid curing, UV/visible non-sag gel, which fluoresces red.

**P/N Package Size**  
1402562 25 ml syringe  
1402563 300 ml cartridge

### LOCTITE® 3922™ Light Cure Adhesive

Fluorescing, UV/visible adhesive offering superior sterilization resistance. Ideal for bonding a wide variety of plastic and metal components where environmental resistance is required.

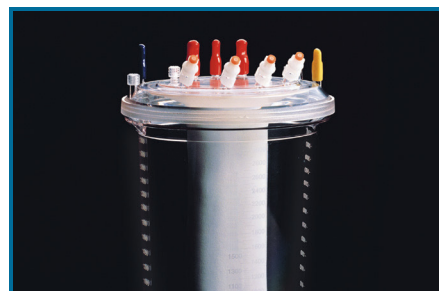
**P/N Package Size**  
32083 25 ml syringe  
32047\* 1 liter bottle

### LOCTITE® 3942™ Light Cure Adhesive

Fluorescing, UV/visible acrylic adhesive. Ideal for applications where high strength on a variety of substrates and rapid surface cure are required.

**P/N Package Size**  
36483 25 ml syringe  
36481 1 liter bottle

\* Made-to-order item.



Flexible Substrates				Translucent Colored Substrates	
Thermoplastics	Plasticized PVC	Silicone		Medium Viscosity	High Viscosity
3974™	3341™	5056™	5240™	3555™	3556™
Acrylic	Acrylic	Silicone	Silicone	Acrylic	Acrylic
Transparent to Hazy Fluorescent	Transparent to Hazy Fluorescent	Light Yellow/Transparent	Translucent/White	Clear/Light Yellow/Fluorescent	Clear/Light Yellow/Fluorescent
2,400	525	2,200	25,000	1,000	5,000
UV/Visible	UV/Visible	UV/Visible	UV/Visible, Humidity	Visible	Visible
Yes	Yes	Yes	Yes	Yes	Yes

#### LOCTITE® 3974™ Light Cure Adhesive

A highly resilient, extremely flexible, thermal-cycling resistant UV/visible adhesive that bonds plastic, metal and glass.

P/N	Package Size
1135733	25 ml syringe
1135732	1 liter bottle

#### LOCTITE® 3341™ Light Cure Adhesive

A rapid cure, UV/visible, fluorescing adhesive that bonds highly plasticized PVC and other difficult-to-bond substrates.

P/N	Package Size
23792	25 ml syringe
23440	1 liter bottle

#### LOCTITE® 5056™ Silicone Adhesive Sealant

A medium viscosity UV or visible light curing, noncorrosive silicone with very high bond strength. Ideal for high speed adhesion and sealing applications.

P/N	Package Size
1214249	25 ml syringe
1214250	1 liter bottle

#### LOCTITE® 5240™ Nuva-Sil® Medical Device Sealant

A self-leveling, UV or visible light silicone that also features a secondary moisture cure. Makes transparent, white-tinted seals or bonds.

P/N	Package Size
1010341	25 ml syringe
1010320	300 ml cartridge

#### LOCTITE® 3555™ Indigo® Visible Light Cure Adhesive

A medium viscosity adhesive that cures in the visible spectrum offering properties and performance similar to most UV/visible adhesives. Visible light adhesives cure with unique systems that minimize venting or specialized safety equipment. Benefits include lower initial investment and reduced maintenance costs.

P/N	Package Size
1072221	25 ml syringe
1072200	1 liter bottle

#### LOCTITE® 3556™ Indigo® Visible Light Cure Adhesive

A high viscosity adhesive that cures in the visible spectrum offering properties and performance similar to most UV/visible adhesives. Visible light adhesives cure with unique systems that minimize venting or specialized safety equipment. Benefits include lower initial investment and reduced maintenance costs.

P/N	Package Size
1072223	25 ml syringe
1072222	1 liter bottle



INTRODUCING...

#### LOCTITE® ASSURECURE®

A revolutionary technology that combines adhesive, a detection system and software to provide in-line quantifiable confirmation of cure level for light cure acrylic adhesives.

[www.AssureCure.com](http://www.AssureCure.com)





# Medical Device Light Cure Acrylic Adhesives

## LOCTITE® Medical Device Light Cure Adhesive Properties Chart

LOCTITE® PRODUCT	ITEM NUMBER	PACKAGE TYPE & SIZE	APPEARANCE/CLARITY/COLOR	CURE TYPE	KEY SUBSTRATES	VISCOSITY (cP) BROOKFIELD (25°C)	TEMPERATURE RANGE	ISO 10993 COMPLIANT
ACRYLIC VISIBLE WITH FLUORESCENCE	3554™ INDIGO®	1072199 1 liter bottle	Clear/Light Yellow/ Fluorescent	Visible	Polycarbonate, thermoplastic, polyvinyl chloride	300	-65°F to 300°F (-54°C to 149°C)	●
	3555™ INDIGO®	1072221 1 liter bottle	Clear /Light Yellow/ Fluorescent	Visible	Polycarbonate, thermoplastic, polyvinyl chloride	1,000	-65°F to 300°F (-54°C to 149°C)	●
	3556™ INDIGO®	1072223 1 liter bottle	Clear /Light Yellow/ Fluorescent	Visible	Polycarbonate, thermoplastic, polyvinyl chloride	5,000	-65°F to 300°F (-54°C to 149°C)	●
ACRYLIC UV/VISIBLE WITH FLUORESCENCE	3341™	23792 1 liter bottle	Clear/Straw/Fluorescent	Ultraviolet, visible	Thermoplastics, polyvinyl chloride	525	-65°F to 300°F (-54°C to 149°C)	●
	3921™	36484 1 liter bottle	Transparent to Hazy/Fluorescent	Ultraviolet, visible	Glass, metal, thermoplastic, polycarbonate, polyvinyl chloride	150	-65°F to 300°F (-54°C to 149°C)	●
	3922™	32083 1 liter bottle	Transparent to Hazy/Fluorescent	Ultraviolet, visible	Glass, metal, thermoplastic, polycarbonate, polyvinyl chloride	300	-65°F to 300°F (-54°C to 149°C)	●
	3924AC™	1526994 1 liter bottle	Transparent to Hazy/Fluorescent	Ultraviolet, visible	Glass, metal, thermoplastic, polycarbonate, polyvinyl chloride	1,100	-65°F to 300°F (-54°C to 149°C)	●
	3926™	36492 1 liter bottle	Transparent to Hazy/Fluorescent	Ultraviolet, visible	Glass, metal, thermoplastic, polycarbonate, polyvinyl chloride	5,500	-65°F to 300°F (-54°C to 149°C)	●
	3933™	32040*	Transparent to Hazy/Fluorescent	Ultraviolet, visible	Glass, metal, thermoplastic, polycarbonate	3,250	-65°F to 300°F (-54°C to 149°C)	●
	3936™	32304 1 liter bottle	Transparent to Hazy/Fluorescent	Ultraviolet, visible	Glass, metal, thermoplastic, polycarbonate	11,000	-65°F to 300°F (-54°C to 149°C)	●
	3942™	36483 1 liter bottle	Transparent to Hazy/Fluorescent	Ultraviolet, visible	Glass, metal, thermoplastic, thermoset plastic	1,250	-65°F to 300°F (-54°C to 149°C)	●
	3943™	36480 1 liter bottle	Transparent to Hazy/Fluorescent	Ultraviolet, visible	Glass, metal, thermoplastic, thermoset plastic	6,750	-65°F to 300°F (-54°C to 149°C)	●
	3944™	38210 1 liter bottle	Transparent to Hazy/Fluorescent	Ultraviolet, visible	Glass, metal, thermoplastic, polycarbonate, polyvinyl chloride	5,000	-65°F to 300°F (-54°C to 149°C)	●
	3971™	36792 1 liter bottle	Transparent to Hazy/Fluorescent	Ultraviolet, visible	Metal, thermoplastic, polyvinyl chloride, polyurethane	320	-65°F to 300°F (-54°C to 149°C)	●
	3972™	36294 1 liter bottle	Transparent to Hazy/Fluorescent	Ultraviolet, visible	Metal, thermoplastic, polyvinyl chloride, polyurethane	4,650	-65°F to 300°F (-54°C to 149°C)	●
	3974™	1135733 1 liter bottle	Translucent/Colorless/ Fluorescent	Ultraviolet, visible	Thermoplastic, thermoset plastic, glass, metal, ceramic	2,400	-65°F to 300°F (-54°C to 149°C)	●
	3979™	1402562 300 ml cartridge	Translucent/Straw/ Fluorescent	Ultraviolet, visible	Polycarbonate, polyvinyl chloride	56,500	-65°F to 300°F (-54°C to 149°C)	●
ACRYLIC UV/VISIBLE WITHOUT FLUORESCENCE	3201™	19727 1 liter bottle	Clear/Pale Straw	Ultraviolet, visible	Glass, metal, thermoplastic, polycarbonate	3,750	-65°F to 300°F (-54°C to 149°C)	●
	3211™	19730 1 liter bottle	Clear/Pale Straw	Ultraviolet, visible	Glass, metal, thermoplastic, polycarbonate	11,250	-65°F to 300°F (-54°C to 149°C)	●
	3301™	19733 1 liter bottle	Clear/Pale Straw	Ultraviolet, visible	Glass, metal, thermoplastic, polycarbonate, polyvinyl chloride	150	-65°F to 300°F (-54°C to 149°C)	●
	3311™	19736 1 liter bottle	Clear/Pale Straw	Ultraviolet, visible	Glass, metal, thermoplastic, polycarbonate, polyvinyl chloride	300	-65°F to 300°F (-54°C to 149°C)	●
	3321™	19739 1 liter bottle	Clear/Pale Straw	Ultraviolet, visible	Glass, metal, thermoplastic, polycarbonate, polyvinyl chloride	5,500	-65°F to 300°F (-54°C to 149°C)	●
SILICONE ADHESIVE/ SEALANTS	5240™ NUVA-SIL®	1010341 300 ml cartridge	Translucent/White	UV/visible, humidity	Silicone, metal, glass, plastic	25,000	-65°F to 200°F (-54°C to 93°C)	●
	5055™	1212167 1 liter bottle	Light Yellow/Transparent	Ultraviolet, visible	Silicone, metal, glass, plastic	525	-65°F to 200°F (-54°C to 93°C)	●
	5056™	1214249 15 liter pail	Light Yellow/Transparent	Ultraviolet, visible	Silicone, metal, glass, plastic	2,200	-65°F to 200°F (-54°C to 93°C)	●

ITEMS IN RED = Source's PICK or NEW

● = Indicates Worldwide Availability

\* Made-to-order item.

### WEAR EYE PROTECTION




For proper eye protection, use LOCTITE® brand ultraviolet safety glasses.



Item No. 98452

# Medical Device Adhesive Curing Equipment

LOCTITE® PRODUCT		ITEM NUMBER	WAVELENGTH	OPTIONS/ACCESSORIES	
SPOT/WAND SYSTEMS	LED CURING DEVICES				
		CUREJET™ 375 LED	1369539	LED – 375 nm	Used with 1364033 or 1180632
		CUREJET™ 405 LED	1369538	LED - 405 nm	Used with 1364033 or 1180632
		CUREJET™ INDIGO® LED	1369537	LED - Proprietary Indigo Wavelength	Used with 1364033 or 1180632
		LED CONTROLLER	1364033	N/A	Used with all CUREJET™ LEDs
		CUREJET™ QUAD CONTROLLER	1180632	N/A	Used with all CUREJET™ LEDs
		7700 LED LIGHT SOURCE	1427231	LED - 405 nm	OPTIONAL: Foot Switch – 98440; Holder – 98522; Radiometer Dosimeter for Visible LED and UVW Light – 1265282; Dosimeter Adapter – 1403405
		7700-HD LED LIGHT SOURCE	1427232		
		7703 LED LIGHT SOURCE	806038	LED - Proprietary Indigo Wavelength	ONE OF THE FOLLOWING IS REQUIRED: Timer – 960356; PLC Cable – 8900550; Foot Switch – 97201; Pistol Grip Timer – 1003327
		7703-HD LED LIGHT SOURCE	883979		
		EQ CL10 SINGLE LED CONTROLLER	1514636	N/A	ONE OF THE FOLLOWING IS REQUIRED – sold separately: 6 mm Spot Dia. 365 nm. 2.7 meter cable – 1538499 6 mm Spot Dia. 405 nm. 2.7 meter cable – 1746633
		EQ CL10 QUAD LED CONTROLLER	1514634	N/A	
		EQ CL15 UV WAND SYSTEM	1661548	N/A	REQUIRES Light Guide 983677, 983684 or 951681 – sold separately
FLOOD/LINE SYSTEMS		LED FLOOD CONTROLLER	1359255	N/A	Used with 1167582, 1167589 or 1167593
		LED FLOOD CURE, 375	1167582	LED – 375 nm	Used with 1359255 in conjunction with cable 13333333
		LED FLOOD CURE, INDIGO®	1167589	LED – Indigo Wavelength	Used with 1359255 in conjunction with cable 13333333
		LED FLOOD CURE, 405	1167593	LED – 405 nm	Used with 1359255 in conjunction with cable 13333333
		LED SINGLE LINE ARRAY CONTROLLER	1447728	N/A	Requires Line Array cable (1483245) and one of the following – sold separately LED Line Array 405 nm Light Source – 1449336 LED Line Array 365 nm Light Source – 1449337

LOCTITE® PRODUCT		ITEM NUMBER	WAVELENGTH	OPTIONS/ACCESSORIES	
LIGHT METERS	LIGHT METERS				
		RADIOMETER DOSIMETER FOR VISIBLE LED AND UUV LIGHT	1265282	350 to 500 nm	Calibration services are available
		RADIOMETER DOSIMETER FOR UV LED AND UV A/B LIGHT	1390323	320 to 400 nm	Calibration services are available
		7020 UV SPOT RADIOMETER	1406024	280 to 400 nm	Calibration services are available

ITEMS IN RED =  
Source's PICK or NEW

Your Source for  
Motion Control Robot  
Dispense Systems.  
See page 171.

# Medical Device Cyanoacrylate Adhesives, Accelerators & Primers



## Your Application

WHAT IS THE PRIMARY INSTANT ADHESIVE APPLICATION REQUIREMENT?

Surface Insensitive

Low Odor/Low Bloom

Low Viscosity

Medium Viscosity

Gel

Low Viscosity

Medium Viscosity

## Solution

4011™

431™

4541™

4601™

4031™

Chemistry	Cyanoacrylate	Cyanoacrylate	Cyanoacrylate	Cyanoacrylate	Cyanoacrylate
Color	Clear	Clear	Clear	Clear	Clear
Viscosity (cP)	100	1,000	Gel	45	1,375
ISO 10993 Compliant	Yes	Yes	Yes	Yes	Yes

## Product Description

### LOCTITE® 4011™ Instant Adhesive

A low viscosity, instant adhesive ideally suited for dry environments, as well as for bonding acidic surfaces.

P/N	Package Size
18680	20 g bottle
18681	1 lb. bottle

### LOCTITE® 431™ Instant Adhesive

A medium viscosity, instant adhesive ideally suited for dry environments, as well as for bonding acidic surfaces.

P/N	Package Size
41254	3 g tube
41255	20 g bottle
41256	1 lb. bottle

### LOCTITE® 4541™ Instant Adhesive

A gel viscosity adhesive particularly suited for bonding porous or absorbent materials. Formulated for faster cure speeds on dry or acidic surfaces and substrates.

P/N	Package Size
21920	10 g syringe
18690	20 g tube
18691	200 g tube

### LOCTITE® 4601™ Instant Adhesive

A low viscosity instant adhesive offering lower odor and lower blooming for improved cosmetic appearance.

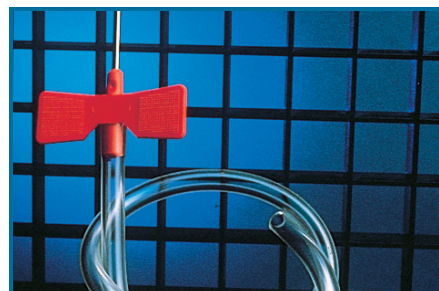
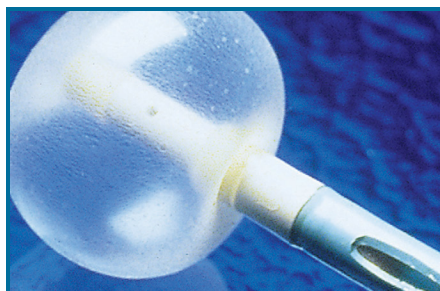
P/N	Package Size
18692	20 g bottle
18693	1 lb. bottle

### LOCTITE® 4031™ Instant Adhesive

A medium viscosity instant adhesive offering lower odor and lower blooming for improved cosmetic appearance.

P/N	Package Size
18682	20 g bottle
18683	1 lb. bottle

\* Made-to-order item.



Thermal & Impact Resistant		Rapid Curing (Light Cure)		Surface Preparation	
Low Viscosity	Medium Viscosity	Low Viscosity	Medium Viscosity	Low Energy Plastics	Accelerated Cure & Gap Fill
435™	4206™	4310™	4311™	7701™	713™
Cyanoacrylate	Cyanoacrylate	Light Cure Cyanoacrylate	Light Cure Cyanoacrylate	Primer	Accelerator
Clear	Clear	Clear/Pale Green	Clear/Pale Green	Clear	Clear
175	375	175	1,050	N/A	N/A
Yes	Yes	Yes	Yes	Yes	Yes

#### LOCTITE® 435™ Instant Adhesive

The first true clear, surface insensitive, elastomer-modified instant adhesive. Faster fixture times over traditional toughened adhesives with exceptional bond and peel strength on metals, plastics and rubbers.

#### CFIA Listed

P/N	Package Size
40994	20 g tube
40995	1 lb. bottle

#### LOCTITE® 4206™ Instant Adhesive

A clear, toughened thermally resistant adhesive with excellent heat aging and hot strength properties up to 250°F (121°C).

P/N	Package Size
28628	20 g tube

#### LOCTITE® 4310™ Flashcure® Light Cure Adhesive

A low viscosity toughened fluorescent adhesive that achieves tack-free cures in less than 5 seconds. Surface versatile with shadow cure capability.

P/N	Package Size
1401792	1 oz. bottle
1401790	1 lb. bottle

#### LOCTITE® 4311™ Flashcure® Light Cure Adhesive

A medium viscosity toughened fluorescent adhesive that achieves tack-free cures in less than 5 seconds. Surface versatile with shadow cure capability.

P/N	Package Size
1401791	1 oz. bottle
1401789	1 lb. bottle

#### LOCTITE® 7701™ Primer for Instant Adhesives

An adhesion promoter formulated for use with polyolefins and other low surface energy plastics. Fast dry time and long on-part life.

P/N	Package Size
19886	1.75 fl. oz. bottle
19887	16 fl. oz. can

#### LOCTITE® 713™ Accelerator for Instant Adhesives

An accelerator for use with instant adhesive to speed fixture and enhance gap filling. Fast dry time and 10 minute on-part life.

P/N	Package Size
19889	1.75 fl. oz. bottle

COMING SOON

### HIGHLY FLEXIBLE CYANOACRYLATE ADHESIVES

- > 100% ELONGATION
- ISO 10993 COMPLIANT
- FAST FIXTURE
- HIGH STRENGTH

[www.henkelna.com/highflexca](http://www.henkelna.com/highflexca)



# LOCTITE® Medical Device Cyanoacrylate Adhesive, Accelerator & Primer Properties Chart

LOCTITE® PRODUCT		ITEM NUMBER	PACKAGE TYPE & SIZE	APPEARANCE/ CLARITY/COLOR	CURE TYPE	KEY SUBSTRATES	VISCOSITY (cP) BROOKFIELD (25°C)	TEMPERATURE RANGE	ISO 10993 COMPLIANT
CYANOACRYLATES	<b>431™ (SI)</b> 	41254 41255 41256	3 g tube 20 g bottle 1 lb. bottle	Clear	Humidity	Thermoplastic, thermoset plastic, metal, elastomer, including rubber	1,000	-65°F to 180°F (-54°C to 82°C)	●
	<b>435™ (T)</b> 	40994 40995	20 g bottle 1 lb. bottle	Clear	Humidity	Thermoplastic, thermoset plastic, metal, elastomer, including rubber	175	-65°F to 250°F (-54°C to 121°C)	●
	<b>4011™ (SI)</b> 	18680 18681	20 g bottle 1 lb. bottle	Clear	Humidity	Thermoplastic, thermoset plastic, metal, elastomer, including rubber	100	-65°F to 180°F (-54°C to 82°C)	●
	<b>4013™ (GP)</b>	20268 18013	20 g bottle 1 lb. bottle	Clear	Humidity	Thermoplastic, thermoset plastic, metal	600	-65°F to 180°F (-54°C to 82°C)	●
	<b>4014™ (GP)</b> 	20269 18014	20 g bottle 1 lb. bottle	Clear	Humidity	Thermoplastic, thermoset plastic, metal	3	-65°F to 220°F (-54°C to 104°C)	●
	<b>4031™ (LO)</b> 	18682 18683	20 g bottle 1 lb. bottle	Clear	Humidity	Thermoplastic, thermoset plastic, metal	1,375	-65°F to 160°F (-54°C to 71°C)	●
	<b>4061™ (SI)</b> 	18686 18687	20 g bottle 1 lb. bottle	Clear	Humidity	Thermoplastic, thermoset plastic, metal, elastomer, including rubber	20	-65°F to 180°F (-54°C to 82°C)	●
	<b>4081™ (LO)</b>	18688	20 g bottle	Clear	Humidity	Thermoplastic, thermoset plastic, metal	7	-65°F to 160°F (-54°C to 71°C)	●
	<b>4161™ (GP)</b>	19743 19744	20 g bottle 1 lb. bottle	Clear	Humidity	Thermoplastic, thermoset plastic, metal	1,575	-65°F to 180°F (-54°C to 82°C)	●
	<b>4206™ (TR)</b>	28628	20 g tube	Clear	Humidity	Thermoplastic, thermoset plastic, metal, elastomer, including rubber	375	-65°F to 250°F (-54°C to 121°C)	●
	<b>4541™ (SI)</b>	18690 18691 21920	20 g tube 200 g tube 10 g syringe	Clear	Humidity	Thermoplastic, thermoset plastic, metal, elastomer, including rubber, wood, paper, leather, fabric	Gel	-65°F to 180°F (-54°C to 82°C)	●
	<b>4601™ (LO)</b> 	18692 18693	20 g bottle 1 lb. bottle	Clear	Humidity	Thermoplastic, thermoset plastic, metal	45	-65°F to 160°F (-54°C to 71°C)	●
	<b>4851™ (FL)</b>	37732 37733	20 g bottle 1 lb. bottle	Clear	Humidity	Thermoplastic, thermoset plastic, metal, elastomer, including rubber	375	-65°F to 125°F (-54°C to 52°C)	●
	<b>4861™ (FL)</b>	37708 37711	20 g bottle 1 lb. bottle	Clear	Humidity	Thermoplastic, thermoset plastic, metal, elastomer, including rubber	4,250	-65°F to 125°F (-54°C to 52°C)	●
	<b>4981™ (TR)</b>	18694 18695	20 g bottle 1 lb. bottle	Clear	Humidity	Thermoplastic, thermoset plastic, metal, elastomer, including rubber	500	-65°F to 220°F (-54°C to 104°C)	●
LIGHT CURE CYANOACRYLATES	<b>4306™ FLASHCURE®</b>	37439 37442	1 oz. bottle 1 lb. bottle	Clear/ Pale Green	Ultraviolet, visible, humidity	Thermoplastic, polycarbonate, elastomer, metal	20	-65°F to 180°F (-54°C to 82°C)	●
	<b>4310™ FLASHCURE®</b>	1401792 1401790	1 oz. bottle 1 lb. bottle	Clear/ Pale Green	Ultraviolet, visible, humidity	Thermoplastic, polycarbonate, elastomer, metal	175	-65°F to 200°F (-54°C to 93°C)	●
	<b>4311™ FLASHCURE®</b>	1401791 1401789	1 oz. bottle 1 lb. bottle	Clear/ Pale Green	Ultraviolet, visible, humidity	Thermoplastic, polycarbonate, elastomer, metal	1,050	-65°F to 200°F (-54°C to 93°C)	●
ACCELERATOR & PRIMERS	<b>713™ ACCELERATOR</b>	19889	1.75 fl. oz. bottle	Clear	N/A	Isopropanol-based accelerator for cyanoacrylates	1	N/A	●
	<b>7451™ ACCELERATOR</b>	19890	1.75 fl. oz. bottle	Clear	N/A	Acetone-based accelerator for cyanoacrylates	1	N/A	●
	<b>7701™ PRIMER</b> 	19886 19887	1.75 fl. oz. bottle 16 fl. oz. can	Clear	N/A	Heptane-based adhesion promoter for low energy surface plastics	1	N/A	●






ITEMS IN RED = Source's PICK or NEW




(SI) = Surface Insensitive  
(GP) = General-Purpose(LO) = Low Odor/Low Bloom  
(FL) = Flexible(TR) = Thermally Resistant  
(T) = Toughened






\* Made-to-order item.



# Medical Device Adhesive Dispensing Equipment

ITEMS IN RED = Source's PICK or NEW

LOCTITE® PRODUCT		ITEM NUMBER	TYPE	VISCOSITY RANGE	DISPENSE PATTERNS	USED TO DISPENSE	STROKE ADJUSTMENT	SUCK-BACK	CONSUMABLES – DISPENSE ACCESSORIES	
VALVES	HIGH PRECISION VALVES									
		MICRO NEEDLE VALVE	98084	High Precision	Low to Medium	Drop, Dot, Bead, Microdot	Light Cure/Acrylics	Yes	No	Dispense Tips and Accessories – Pages 176-177
		EQ VA30 JET VALVE	1850212	Non-Contact High Precision Jetting Valve	Low to High	Drop, Dot, Bead, Microdot	Light Cure Adhesives	No	No	1872279 – 75µm Nozzle Plate 1871880 – 125µm Nozzle Plate or 1871874 – 200µm Nozzle Plate
	HIGH PERFORMANCE DIAPHRAGM VALVES									
		VA10 MICRO DIAPHRAGM VALVE	1611449	High Performance Diaphragm	Low to Medium	Drop, Dot, Bead, Microdot	Instant Adhesives	Yes	No	Dispense Tips and Accessories – Pages 176-177
		CYANOACRYLATE DISPENSE VALVE	98013	High Performance Diaphragm	Low to Medium	Drop, Dot, Bead,	Instant Adhesives, Retaining Compounds, Threadlockers	Yes	No	
	LIGHT CURE DISPENSE VALVE	98009	Light Cure				Yes	No		

LOCTITE® PRODUCT		ITEM NUMBER	USED TO DISPENSE	PACKAGE TYPES & SIZES	VISCOSITY RANGE	CONSUMABLES – DISPENSE ACCESSORIES	
HANDHELD APPLICATORS	BOTTLE DISPENSING						
		CA VOLUMETRIC HAND PUMP	1506477	Cyanoacrylates	20 g or 1 fl. oz. bottle	0.009 to 0.002 grams	Dispense Tips and Accessories – Pages 176-177
	SYRINGE DISPENSING						
		10 ML GEL CA SYRINGE DISPENSER	1233800	Any fluid in a 10 ml syringe	10 ml syringe	Low to High	Dispense Tips and Accessories – Pages 176-177
		30 ML MANUAL SYRINGE APPLICATOR	1544934	Any fluid in a 30 ml syringe, including 25 ml syringes	30 ml syringe	Low to High	Dispense Tips and Accessories – Pages 176-177

LOCTITE® PRODUCT			ITEM NUMBER	DISPENSE PATTERNS	USED TO DISPENSE	PACKAGE TYPES & SIZES	VISCOSITY RANGE	VACUUM SUCK-BACK	CONSUMABLES – DISPENSE ACCESSORIES
DISPENSE SYSTEMS	VOLUMETRIC BOTTLE DISPENSING								
		<b>BENCHTOP PERISTALTIC DISPENSER</b>	98548	Dot, Drop, Bead	Instant Adhesives, Light Cure/Acrylics	Any Bottle	0 to 5,000 cP	Programmable	Dispense Tips and Accessories – Pages 176-177
	SYRINGE DISPENSING SYSTEMS								
		<b>PRECISION SYRINGE DISPENSING SYSTEM</b>	97006*	Dot, Drop, Bead	Gel Adhesives, Instant Adhesives, Light Cure/Acrylics	3 ml syringe 5 ml syringe 10 ml syringe 30 ml syringe 55 ml syringe	Low to Paste	Yes	Dispense Tips and Accessories – Pages 176-177
		<b>DIGITAL SYRINGE DISPENSING SYSTEM</b>	883976						
		<b>SD10 DIGITAL SYRINGE DISPENSER</b>	1514629						
	TUBE BONDING								
	<b>LIGHT CURE ACRYLIC ADHESIVE DISPENSING SYSTEM</b>	98445	Beads on tubing OD	Light Cure/Acrylics	2.0 mm to 6.0 mm ID tubing	Low	N/A	Use with bushings – Items: 989038, 989039, 989040, 989041 & 989042	

LOCTITE® PRODUCT		ITEM NUMBER	PRESSURE REGULATION	USED TO DISPENSE	PACKAGE TYPES & SIZES	VISCOSITY RANGE	LOW LEVEL SENSING	FOR MORE INFORMATION	
CONTROLLERS & RESERVOIRS	INTEGRATED RESERVOIR CONTROLLERS								
		INTEGRATED SEMI-AUTOMATIC DISPENSER	1390322	0 to 15 psi	Gel Adhesives, Instant Adhesives, Light Cure/Acrylics	250 ml bottle 1 lb. bottle 1 liter bottle 2 kg bottle 200 g squeeze tube	Low to Medium	Yes	Dispense Tips and Accessories – Pages 176-177
			1390321	0 to 100 psi			Medium to High	Yes	
		EQ VA30 JET CONTROLLER	1850211	0 to 100 psi	Light Cure Adhesives	10, 30, 55 ml Syringes	Low to High	No	Use with LOCTITE® VA 30 Jet Valve – 1850212

\* Syringe Airline Adapter sold separately. Visit [www.equipment.loctite.com](http://www.equipment.loctite.com) for all available accessories.

# Medical Device Epoxy & Urethane Adhesives



## Your Application

WHAT TYPE OF CURE WOULD YOU LIKE FOR YOUR APPLICATION?

Room Temperature Cure

Heat Cure

Rigid Low Viscosity

Rigid High Viscosity

Flexible Low  
Viscosity

Rigid High Viscosity

## Solution

M-31CL™

M-121HP™

M-11FL™

3984™

Chemistry	Epoxy	Epoxy	Urethane	Epoxy
Color	Ultra-Clear	Amber	Ultra-Clear	Light Grey
Viscosity (cP)	6,000	11,000	3,800	25,000
Mix Ratio	1:1	1:1	1:1	1 Part
Cure Type	Room Temperature	Room Temperature	Room Temperature	Heat Cure

## Product Description

### LOCTITE® M-31CL™ Hysol® Epoxy Adhesive

A low viscosity epoxy that bonds glass, ceramic, metal and many rigid plastics. Ideal for applications where optical clarity and excellent structural and mechanical properties are required.

**P/N Package Size**  
30673 50 ml dual cartridge  
30674\* 200 ml dual cartridge

### LOCTITE® M-121HP™ Hysol® Epoxy Adhesive

A high viscosity, non-sag epoxy for applications that require high impact resistance and high peel strength. Bonds dissimilar materials including aluminum, steel and other metals, as well as a variety of plastics and ceramics.

**P/N Package Size**  
30680 50 ml dual cartridge

### LOCTITE® M-11FL™ Hysol® Urethane Adhesive

A low viscosity urethane that bonds polycarbonate and a variety of other plastics, glass and metal. When fully set, product forms an ultra-clear bond line and provides excellent peel strength.

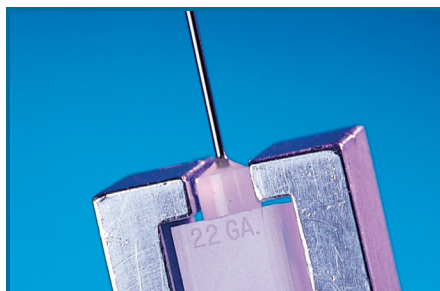
**P/N Package Size**  
30678 50 ml dual cartridge

### 3984™ Hysol® Epoxy Adhesive

Highly fluorescent, one-part, heat cure epoxy adhesive offering superior physical, environmental and performance properties.

**P/N Package Size**  
36768 30 ml syringe

\* Made-to-order item.





## LOCTITE® Medical Device Epoxy & Urethane Adhesive Properties Chart


	LOCTITE® PRODUCT	ITEM NUMBER	PACKAGE TYPE & SIZE	APPEARANCE/ CLARITY/COLOR	CURE TYPE	KEY SUBSTRATES	VISCOSITY (cP) BROOKFIELD (25°C)	TEMPERATURE RANGE	ISO 10993 COMPLIANT
EPOXIES	<b>3984™ HYSOL®</b>	36768	30 ml syringe	Light Grey	Heat cure	Thermoset plastic, metal, glass, ceramic	25,000	-65°F to 300°F (-54°C to 149°C)	●
	<b>M-21HP™ HYSOL®</b>	30671	50 ml dual cartridge	Off-White	Room temperature	Thermoplastic, thermoset plastic, elastomer, metal, glass, ceramic	37,000	-65°F to 300°F (-54°C to 149°C)	●
	<b>M-31CL™ HYSOL®</b>	30673 30674*	50 ml dual cartridge 200 ml dual cartridge	Ultra-Clear	Room temperature	Thermoplastic, thermoset plastic, polycarbonate, metal, glass, ceramic	6,000	-65°F to 300°F (-54°C to 149°C)	●
	<b>M-121HP™ HYSOL®</b>	30680	50 ml dual cartridge	Amber	Room temperature	Thermoplastic, polycarbonate, polyvinylchloride, metal, glass, ceramic	11,000	-65°F to 300°F (-54°C to 149°C)	●
URETHANE	<b>M-06FL™ HYSOL®</b>	30676	50 ml dual cartridge	Off-White	Room temperature	Thermoplastic, thermoset plastic, polycarbonate, elastomer, metal, glass, ceramic	38,000	-65°F to 250°F (-54°C to 121°C)	●
	<b>M-11FL™ HYSOL®</b>	30678	50 ml dual cartridge	Ultra-Clear	Room temperature	Thermoplastic, thermoset plastic, polycarbonate, elastomer, metal, glass, ceramic	3,800	-65°F to 250°F (-54°C to 121°C)	●

ITEMS IN RED = Source's PICK or NEW

\* Made-to-order item.

# Medical Device Epoxy & Urethane Adhesive Dispensing Equipment

LOCTITE® PRODUCT		ITEM NUMBER	USED TO DISPENSE	PACKAGE TYPE & SIZES	MIX RATIOS	VISCOSITY RANGE	TYPE	CONSUMABLES – DISPENSE ACCESSORIES	
HANDHELD APPLICATORS	TWO-PART DISPENSING								
		30 ML MANUAL SYRINGE APPLICATOR	1544934	Any fluid in 30 ml syringe including 25 ml syringes	30 ml syringe	N/A	Low to High	Manual	Dispense Tips and Accessories – Pages 176-177 Syringe Accessories – Pages 181-182
		50 ML DUAL CARTRIDGE PNEUMATIC APPLICATOR	97042	Two-Component Epoxies, Urethanes	50 ml dual cartridge	1:1, 2:1	Low to High	Pneumatic	

LOCTITE® PRODUCT		ITEM NUMBER	DISPENSE PATTERNS	USED TO DISPENSE	PACKAGE TYPES & SIZES	VISCOSITY RANGE	VACUUM SUCK-BACK	CONSUMABLES – DISPENSE ACCESSORIES
DISPENSE SYSTEMS	SYRINGE DISPENSING SYSTEMS							
		POSI-LINK™ DISPENSE SYSTEM	See Page 169	Dot, Drop, Bead	Gel Adhesives, Instant Adhesives, Light Cure/ Acrylics, Epoxies	Prepackaged 5 ml syringe 10 ml syringe 25 ml syringe	Low to Paste	Yes



# Equipment



165	EQUIPMENT
167	Controllers & Reservoirs
167	Light Cure Equipment
168	Handheld Applicators
168	Handheld Valves
168	Dispense Systems
169	Valves & Pumps
169	Two-Part Volumetric Dispensing
170	Hot Melt Equipment
170, 171	Motion Control Robot Dispense Systems
166	Consumables – Dispense Accessories
171	EQUIPMENT – MOTION CONTROL ROBOT DISPENSE SYSTEMS
169	EQUIPMENT – TWO-PART VOLUMETRIC DISPENSING
169	LOCTITE® Posi-Link™ Dispense System for Dual Cartridges
175	Meter Mix Systems
176	EQUIPMENT – CONSUMABLES – DISPENSE ACCESSORIES

## AS A FULL-SERVICE SUPPLIER OF EQUIPMENT, HENKEL OFFERS A WIDE VARIETY OF EQUIPMENT SERVICES TO ITS CUSTOMERS

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.

### YOUR EQUIPMENT Source

For more details, see the **LOCTITE® Equipment Sourcebook, LT-3669**, or visit us on the web for additional information, diagrams, products and our full line of equipment at [www.equipment.loctite.com](http://www.equipment.loctite.com).

### FACTORY REPAIRS

If you have equipment in need of repair, Henkel can restore it to original operating specifications. Customers often schedule preventive repairs to coincide with annual shutdowns. Henkel can work with you to get your equipment up and running in the fastest possible time frame. Rental equipment may be available on a short-term basis to minimize downtime.

#### Benefits of factory repair service include:

- Trained technicians evaluate equipment based on original design specifications to identify critical and preventive repair recommendations
- Equipment is repaired using original factory parts
- All equipment is fully tested to original quality specifications
- All repairs carry a 30-day labor and 90-day parts warranty

### CALIBRATIONS

Henkel provides calibration services for all of its light meters. All meters are calibrated to original calibration standards. Data is collected before and after calibration, and a calibration certificate is issued that states the test results. In addition, you can sign up with Henkel for calibration reminders. Also, all units are inspected during calibration for any needed repairs.

### FIELD SERVICE

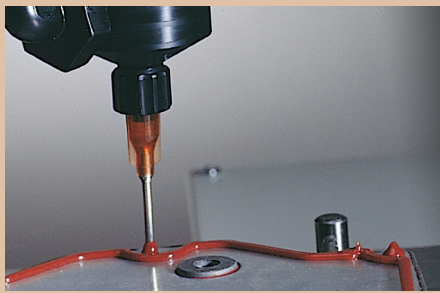
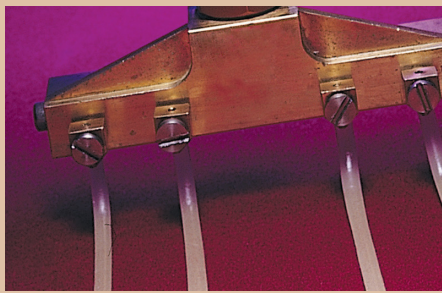
Henkel technicians are available to travel to your location for repair services, preventive maintenance, training, or assistance in setting up a new system. Whatever you need, Henkel can provide the service.

### SPARE PARTS

Spare parts and accessories are available through the equipment services group of Henkel. Most common spare parts can be identified on our website at [www.equipment.loctite.com](http://www.equipment.loctite.com). If you cannot find the part you are looking for, our equipment services group can help you identify that part and provide you with a quote.

### REBUILD EXCHANGE PROGRAM

The Henkel rebuild exchange program offers customers a cost-effective way of streamlining the repair of dispensing valves. The rebuild program allows customers to send in an old valve and receive a reconditioned valve in return. Customers who participate in this program typically keep a spare valve in inventory, so if a valve goes down, it can be replaced immediately. The valve in need of repair is then sent to Henkel and a reconditioned valve is shipped back to the customer for future use.



# Equipment

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Equipment

## Advantages of the rebuild exchange program are:

- Rebuilt equipment is less than half the cost of a new unit.
- Rebuilt equipment is shipped in one to two business days.
- Highly trained technicians use original factory parts.
- All equipment is specially treated with a Henkel proprietary technology to prolong its useful life with reactive adhesives.
- All rebuilds carry a 30-day labor and 90-day parts warranty.

## DISCOUNT EQUIPMENT

Henkel is able to offer a wide range of used or discontinued equipment at discounted prices. This equipment typically has been used in our rental program or has been used for customer demonstrations or trade shows. This equipment may have cosmetic blemishes but performs to original factory specifications. All equipment carries the same warranty as new equipment, and is fully tested and reconditioned prior to sale.

## EQUIPMENT RENTAL

Many of the equipment products that Henkel offers are available for short-term rental. Henkel's equipment rental program allows customers the flexibility to confirm the performance of our adhesive and equipment risk-free before investing in a purchase. If, during the first 30 days, you decide that you would like to purchase the rental equipment, the entire rental charge is credited toward your purchase.

## The benefits of this program include the following:

- The performance of a new manufacturing process can be confirmed before investing fully in the purchase of equipment.
- Short production runs can be accommodated without having to buy equipment.
- Equipment can be rented during the repair of production equipment, minimizing any downtime.

## LEASE-TO-OWN PROGRAM

Henkel offers a lease-to-own program for new equipment. According to the United States Equipment Lessors Association, 80% of all companies use leasing to acquire some or all of the machinery and equipment they use to run their businesses. Henkel's lease-to-own program provides an effective way for your business to acquire almost any Henkel equipment. Leases can be customized to each company's needs. Our program can also include other services and spare parts as part of the equipment lease. Let us customize a lease program to meet your needs.

## PREVENTIVE MAINTENANCE CONTRACTS

There are many misconceptions about preventive maintenance. One such misconception is that preventive maintenance is unduly costly. This may be true for some components, but not all. Without preventive maintenance, costs for lost production time from unscheduled equipment breakdown will be incurred. Also, preventive maintenance will result in savings due to an increase in effective system service life.

## Long-term benefits of preventive maintenance include:

- Improved system reliability
- Decreased cost of replacement
- Decreased downtime
- Better spare part inventory management

Henkel can create a preventive maintenance contract that fits your specific equipment and work with your maintenance staff to ensure maximum uptime of your equipment.

## REQUEST EQUIPMENT SERVICES

### On the Web

To learn more about the services Henkel offers, you can visit our website at [www.equipment.loctite.com/service](http://www.equipment.loctite.com/service). In addition to our services, the website offers manuals and technical information on LOCTITE® equipment products.

### Via Email

To request a quote or get more information, email your request to [equipment-customerservice@loctite.com](mailto:equipment-customerservice@loctite.com).

### By Telephone

If you wish to speak to us regarding an equipment service, you can call 860-571-5174 to speak to an equipment services representative. If you have a question regarding equipment setup or operation, our technical information staff is available to help. To contact a staff member, call 1-800-LOCTITE (562-8483) and choose the technical service option.

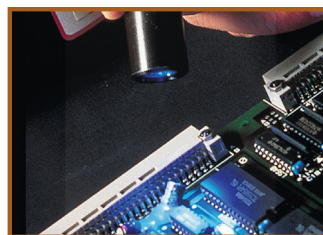
## LOCTITE® EQUIPMENT WEBSITE

To better support our wide array of equipment services, our equipment website provides easy access to all service options and inquiries for all LOCTITE® equipment you may be interested in. Technical literature, equipment showroom locator, operational videos, and much more are all at your fingertips for quick and easy access. You can also choose to purchase directly online using a major credit card. Select from our wide array of adhesive dispensing and light curing equipment. Shipping time for most items is just one to two business days.

# Equipment

## YOUR EQUIPMENT Source

For more details, see the **LOCTITE® Equipment Sourcebook**, LT-3669, or visit us on the web for additional information, diagrams, products and our full line of equipment at [www.equipment.loctite.com](http://www.equipment.loctite.com).



## CROSS-REFERENCE

We have provided you the **item numbers**, **names**, and **page numbers** for each piece of equipment listed on this page for **easy cross-reference** to the sections where the equipment details can be found.

**HELPFUL  
HINTS**

## HENKEL OFFERS A WIDE VARIETY OF LOCTITE® EQUIPMENT AND ACCESSORIES TO ITS CUSTOMERS

Below is an overview of the different types of LOCTITE® equipment and accessories that Henkel has to offer. For more details, you can find the items in the corresponding adhesives sections listed below. In addition, dispense systems and accessories are featured in much greater detail later in this chapter.

### CONTROLLERS & RESERVOIRS

LOCTITE® brand controllers and reservoirs can be used as the chief components, along with a selection of LOCTITE® brand parts and accessories or with your own parts, to create a complete custom dispensing system designed to meet your specific needs and manufacturing goals. Selection of a LOCTITE® brand controller and reservoir is based on the adhesive or fluid being used, the package or container the adhesive or fluid is supplied in, and the overall requirements of the manufacturing process.

For more information, see page number(s):		
<b>Item #</b>	<b>Integrated Reservoir Controllers</b>	
1390322	Integrated Semiautomatic Dispenser – 0 to 15 psi (Low Level Sensing)	12, 24, 36, 129, 141, 149, 162
1390321	Integrated Semiautomatic Dispenser – 0 to 100 psi (Low Level Sensing)	12, 24, 36, 129, 141, 149, 162
<b>Reservoirs</b>		
982720	Bond-A-Matic® 3000 Reservoir – 0 to 15 psi (Low Level Sensing – DC)	12, 24, 129, 141, 149
982726	Bond-A-Matic® 3000 Reservoir – 0 to 15 psi	12, 24, 129, 141, 149
982723	Bond-A-Matic® 3000 Reservoir – 0 to 100 psi (Low Level Sensing – DC)	12, 24, 129, 141, 149
982727	Bond-A-Matic® 3000 Reservoir – 0 to 100 psi	12, 24, 129, 141, 149
98090	Shot Miser™ Reservoir – 1 Liter	12, 24, 141, 149
982880	4 Liter Gravity Feed Reservoir	141, 149
<b>Multifunction Controllers</b>		
97152	Dual Channel Automatic Controller	12, 25, 129
1022006	Digital Multifunctional Controller	12, 25
<b>Single Function Controllers</b>		
97101	Digital Dispense Controller	12, 25
1406023	Spray Valve Digital Controller	12, 74, 130, 141, 149

### LIGHT CURE EQUIPMENT

Henkel offers the widest selection of light curing equipment available from any one company on the market today. Our LOCTITE® brand ensures you have the most innovative and dependable systems for all your light curing adhesive applications. Whether your process calls for a manual, semiautomatic or fully integrated automatic solution, you will find the LOCTITE® brand light curing device to meet your specific requirements. Please see the charts below that summarize our complete line.

For more information, see page number(s):		
<b>Item #</b>	<b>Light Cure Point Systems – LED Curing Devices</b>	
1427231	7700 LED Light Source II	26, 158
806038	7703 LED Light Source	26, 158
1427232	7700-HD LED Light Source II	26, 158
883979	7703-HD LED Light Source	26, 158
1369538	CureJet™ 405 LED	26, 158
1369539	CureJet™ 375 LED	26, 158
1369537	CureJet™ Indigo® LED	26, 158
1364033	LED Controller – Single Curejet™	26, 158
1180632	CureJet™ Quad Controller	26, 158
<b>Light Cure Point Systems – Wand Systems</b>		
1514634	EQ CL10 Quad LED Controller	26, 158
1661548	EQ CL15 UV Wand System	26, 158
<b>Light Cure Line Systems – LED Curing Devices</b>		
1447728	LED Single Line Array Controller	26, 158
1449336	LED Line Array 405 nm Light Source	26, 158
1449337	LED Line Array 365 nm Light Source	26, 158
<b>Light Cure Flood Systems – LED Curing Devices</b>		
1167582	LED Flood Cure, 375	26, 158
1167589	LED Flood Cure, Indigo®	26, 158
1167593	LED Flood Cure, 405	26, 158
1359255	LED Flood Controller	26, 158
<b>Light Cure Flood Systems – Enclosed Chamber &amp; Flood Systems</b>		
98039	Zeta® 7401 UV Chamber	25
98413	Zeta® 7411-S UV Flood System	25
1113131	Focused UV Flood Curing System	25
<b>Light Cure Flood Systems – Cure Conveyors</b>		
98003	Zeta® 7415 UV Benchtop Conveyor	25
1241543	UV Curing Conveyor	25
<b>Light Cure Flood Systems – Light Sources</b>		
98004	Electrodeless Lamp Assembly and Power Supply – 208 VAC	25
98005	Electrodeless Lamp Assembly and Power Supply – 240 VAC	25
980160	High Intensity Ultraviolet Sources	25
<b>Light Cure Meters</b>		
1265282	Radiometer Dosimeter for Visible LED and UV Light	25, 158
1390323	Radiometer Dosimeter for UV LED and UV A/B Light	25, 158
1406024	UV Spot 7020 Radiometer	25, 158





## HANDHELD APPLICATORS

LOCTITE® brand handheld applicators are ergonomically designed for the hand delivery of adhesives and fluids directly from their original package. Whether pneumatic or manual, each item is designed for the simple, clean, handheld dispensing of fluids, and to reduce waste and operator contact over other methods. Selection of a LOCTITE® brand handheld applicator is based on product type, package configuration and process requirements.

Item #	Bottle Dispensing	For more information, see page number(s):
98414	50 ml Hand Pump	129, 141, 149
97001	250 ml Hand Pump	129, 141, 149
98345	Soft Squeeze Bottle – 2 fl. oz.	11
98346	Soft Squeeze Bottle – 4 fl. oz.	11
98347	Soft Squeeze Bottle – 8 fl. oz.	11
1506477	CA Volumetric Hand Pump	11, 162
Item #	Syringe Dispensing	For more information, see page number(s):
1233800	10 ml Gel CA Syringe Dispenser	11, 162
1544934	30 ml Manual Syringe Applicator	11, 23, 36, 45, 74, 162, 164
Item #	Tube Dispensing	For more information, see page number(s):
1083845	50 ml-F Tube Squeeze Dispenser	36, 74, 141, 149
Item #	Cartridge Dispensing	For more information, see page number(s):
1093940	Manual Cartridge Applicator – 300 ml	32, 46, 66, 68, 74, 79, 80
1093981	Heavy Duty Manual Cartridge Applicator – 600 ml	66, 68
Item #	Two-Part Dispensing	For more information, see page number(s):
98472	50 ml Dual Cartridge Manual Applicator – 1:1, 2:1	40, 46, 48, 121
1034026	50 ml Dual Cartridge Manual Applicator – 10:1	40, 46, 48
97042	50 ml Dual Cartridge Pneumatic Applicator	40, 46, 48, 164
1493310	50 ml S-Style Dual Cartridge Pneumatic Applicator	40, 46, 48
984211	Conversion Kit (Manual) for 400 ml Cartridges	40
984210	Conversion Kit (Pneumatic) for 400 ml Cartridges	40
983436	200 ml Dual Cartridge Manual Applicator	46, 48
983438	400 ml Dual Cartridge Manual Applicator	40, 46, 48
985246	490 ml Dual Cartridge Manual Applicator	40, 46, 48
983437	200 ml Dual Cartridge Pneumatic Applicator	46, 48
983439	400 ml Dual Cartridge Pneumatic Applicator	40, 46, 48
985249	490 ml Dual Cartridge Pneumatic Applicator	40, 46, 48
1372751	Universal Fixmaster® Dispenser	46, 48, 117, 118
1500890	400 ml Dual Cartridge Pneumatic Applicator	46, 48

## HANDHELD VALVES

LOCTITE® brand handheld dispensing valves are used where ergonomic design for hand dispensing of fluids is desired. Designed for use with LOCTITE® brand controllers and reservoirs, these handheld valves use passive wetted components for universal compatibility with many fluids. Selection of a LOCTITE® brand handheld valve is based on the desired dispensing controls, the dispense principal of the delivery system and other process requirements.

Item #	Low Viscosity Cyanoacrylate Applicator	For more information, see page number(s):
97130	LV Handheld Applicator	11, 130, 142, 150
Item #	General-Purpose Applicators	For more information, see page number(s):
97111	Manual Handheld Applicator	23, 130, 142, 150
97112	Pneumatic Handheld Applicator – Foot Activated	23, 130, 142, 150
97116	Pneumatic Handheld Applicator – Finger Activated	23, 130, 142, 150
Item #	Syringe Dispense Systems	For more information, see page number(s):
97131	Vari-Drop™ Applicator – with PTFE tubing	11, 130, 142, 150
97132	Vari-Drop™ Applicator – without PTFE tubing	11, 130, 142, 150

## DISPENSE SYSTEMS

LOCTITE® brand dispense systems available from Henkel are designed to offer the total package for fluid delivery. Whether you use a LOCTITE® brand adhesive product, or any other brand, these complete systems are ready for immediate operation and offer the manufacturing flexibility and reliability you're seeking. Selection of a LOCTITE® brand complete dispensing system is based on the product being used, package size and process requirements.

Item #	Volumetric Bottle Dispensers	For more information, see page number(s):
98548	Benchtop Peristaltic Dispenser	12, 24, 130, 142, 162
Item #	Complete Pressure-Time Bottle Dispense Systems	For more information, see page number(s):
982719	Bond-A-Matic® 3000 Dispenser – 0-15 psi	12, 24, 36, 130, 142, 150
982722	Bond-A-Matic® 3000 Dispenser – 0-100 psi	12, 24, 36, 130, 142, 150
Item #	Pneumatic Cartridge Dispensing	For more information, see page number(s):
98022	300 ml Cartridge Pusher	11, 24, 36, 45, 74, 80, 106
98319A	300 ml Pneumatic Cartridge Dispensing Retainer	11, 24, 45, 74, 80, 106
1714379	HD10 300 ml Pneumatic Cartridge Dispenser	11, 24, 32, 45, 74, 80, 82, 106
1046901	High Pressure 300 ml Benchtop Cartridge Dispenser	32, 36, 45, 80, 106
960304	Powerline II 300 ml Dispenser	32, 82
1175530	Pneumatic Handgun	56
Item #	Syringe Dispense Systems	For more information, see page number(s):
98377	Posi-link™ Dispense System (Accessories Required)	12, 24, 164, 173, 174
97006*	Precision Syringe Dispensing System	12, 24, 162
883976	Digital Syringe Dispensing System	12, 24, 162
1514629	SD10 Digital Syringe Dispenser	12, 24, 162
98050	Foot Pedal Dispenser	12, 24
Item #	Thread Sealant & Anaerobic Gasketing Delivery Systems	For more information, see page number(s):
998400	Dial-A-Seal® Applicator	149
986000	Pump-A-Bead™ II Dispenser	74
Item #	Tube Bonding	For more information, see page number(s):
98445	Light Cure Acrylic Adhesive Dispensing System	162

\* Syringe Air-Line Adapter sold separately.

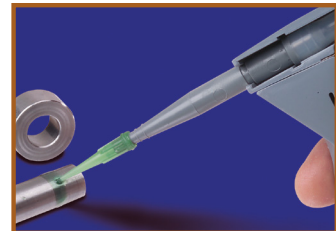
LOCTITE® HANDHELD VALVES FLUID CAPABILITY CHART	97130	97111	97112	97116	97131/97132
ACCELERATORS	•	•	•	•	•
ACRYLICS		•	•	•	•
ACTIVATORS	•	•	•	•	•
ANAEROBICS	•	•	•	•	•
CYANOACRYLATES	•				•
INKS	•	•	•	•	•
OILS		•	•	•	•
PAINTS		•	•	•	•
PRIMERS	•	•	•	•	•
REAGENTS	•	•	•	•	•
SOLVENTS	•				•
UV & LIGHT CURE FLUIDS		•	•	•	•
UV ANAEROBICS		•	•	•	•
WATER	•				



# Equipment

## YOUR EQUIPMENT Source

For more details, see the **LOCTITE® Equipment Sourcebook, LT-3669**, or visit us on the web for additional information, diagrams, products and our full line of equipment at [www.equipment.loctite.com](http://www.equipment.loctite.com).



## CROSS-REFERENCE

We have provided you the **item numbers**, **names**, and **page numbers** for each piece of equipment listed on this page for **easy cross-reference** to the sections where the equipment details can be found.

HELPFUL HINTS

## VALVES & PUMPS

LOCTITE® brand dispensing valves and pumps are value-added, robust, dispensing valves for adhesive or fluid delivery. Each valve is uniquely designed to meet different manufacturing needs. These valves should be combined with a reservoir and/or a controller. Selection of a LOCTITE® brand valve or pump is based on the chemistry and viscosity of the adhesive or fluid being used and process requirements.

Item #		For more information, see page number(s):
<b>High Precision Valves</b>		
97113	Stationary Applicator Valve – 1/4 in. Tube	11, 36, 142, 150
97114	Stationary Applicator Valve – 3/8 in. Tube	11, 36, 142, 150
98084	Micro Needle Valve	23, 162
<b>High Performance Diaphragm Valves</b>		
1611449	VA10 Micro Diaphragm Valve	11, 23, 162
1730181	VA15 Diaphragm Valve	11
98009	Light Cure Dispense Valve	11, 23, 130, 142, 150, 162
98013	Cyanoacrylate Dispense Valve	11, 129, 142, 150, 162
<b>General Duty Diaphragm Valves</b>		
97135	Diaphragm Valve	130, 142, 150
97136	Diaphragm Valve	130, 142, 150
<b>Spray Valves</b>		
98520	Spray Valve	74, 130, 142, 150
<b>High Viscosity Fluid &amp; Paste Valves</b>		
986300	Poppet Valve	74, 130, 142, 150, 182
1838885	VA 25 Dispense Valve – 50 Bar	32, 36, 45, 80, 106
1153502	High Pressure Dispense Valve – 150 Bar	32, 36, 45, 80, 106
<b>Pinch Tube Valve</b>		
97141	Pinch Tube Valve	174
<b>Positive Displacement Pump</b>		
983330	Positive Displacement Pump	129, 142, 150

## TWO-PART VOLUMETRIC DISPENSING

### LOCTITE® POSI-LINK™ DISPENSE SYSTEM FOR DUAL CARTRIDGES

When you need high precision dispensing from your prepackaged dual cartridge adhesive, the LOCTITE® Posi-Link™ Dispense System is the solution. This system offers dispensing accuracy well beyond any pneumatic cartridge dispenser down to 0.001 ml drop size. Select your system based on cartridge size and adhesive ratio requirements.

**LOCTITE® Posi-Link™ Dispense System for Dual Cartridges**  
For more information on LOCTITE® Posi-Link™ Dispense Systems, please refer to **page 173**, where you can find information on the parts that make up the system, including the controller, actuator, dual cartridge nests, pinch tube valve and technical information.

### LOCTITE® METER MIX SYSTEMS\*

When your LOCTITE® two-part adhesive application takes on a larger dimension, Henkel has the two-part volumetric dispensing solution with our high precision LOCTITE® Meter Mix Dispense Systems. You can choose either fixed or variable ratio units for any of our featured systems and, together with a wide selection of reservoir systems, hoses, valves and other accessories, customize your system to meet your application requirements.

\* Requires special order through your local Henkel sales rep.  
For more information on LOCTITE® Meter Mix Systems, please refer to **page 175**.

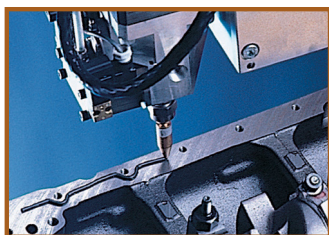
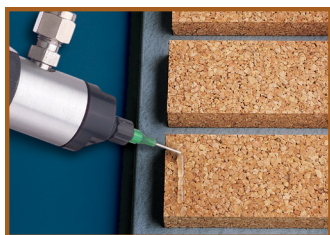
### DuraPump™ Programmable Meter Mix System

1041649	1:1	1041639	4:1
1041644	2:1	1041638	10:1

### DuraPump™ Pneumatic Meter Mix System

1041648	1:1	1041641	4:1
1041643	2:1	1041637	10:1

LOCTITE® VALVE & PUMP FLUID CAPABILITY CHART	97113/97114	98084	98009	98013	97135/97136	98520	986300	1838885	1153502	97135	983330	1611449
ACCELERATORS			•	•		•				•		•
ACRYLICS	•	•	•		•		•			•		•
ACTIVATORS			•	•		•				•		•
ANAEROBICS	•		•	•	•		•			•	•	
ANAEROBIC GASKETING							•					
CYANOACRYLATES	•			•	•					•		•
INKS	•	•	•	•	•	•				•		•
LUBRICANTS	•					•	•					•
MODIFIED SILANES								•	•			
NONABRASIVE GREASES							•		•			•
OILS	•		•	•	•			•		•		•
ONE-PART EPOXIES	•						•		•			•
PAINTS	•		•	•		•				•		•
PRIMERS			•	•		•				•		•
REAGENTS			•	•		•				•		
SILICONES								•	•			•
SOLVENTS			•	•		•				•		•
UV & LIGHT CURE FLUIDS	•	•	•		•					•		•
UV ANAEROBICS	•		•		•					•		
WATER		•	•	•	•	•				•		•



## HOT MELT EQUIPMENT

Henkel offers LOCTITE® Hysol® handheld hot melt applicators as well as LOCTITE® Hysol® Bulk Hot Melt Systems.

LOCTITE® Hysol® handheld hot melt applicators are state-of-the-art dispensing units designed for the application of hot melt adhesives. These units combine ergonomics, user-friendly design and reliability. Selection of a LOCTITE® Hysol® hot melt applicator should be based on the type of hot melt being used, stick diameter and process requirements.

LOCTITE® Hysol® bulk hot melt systems offer high performance control and reliability for all of your hot melt dispensing needs. You can rely on Henkel to supply you with performance hot melt adhesives as well as an array of standard high volume hot melt dispensing equipment. Henkel offers true one-stop shopping for your complete adhesive solution. These systems are rugged, compact and feature internal system diagnostics that monitor the temperatures and system settings.

### Handheld Hot Melt Dispensers

#### 1/2 in. Superstick Dispensers

916282 Hysol® 050A 16, 17, 18, 109, 110

1597635 Hysol® 050A-HT 16, 17, 18, 109, 110

#### 3/4 in. Maxistick Dispensers

98033 Hysol® 075 16, 17, 18, 109, 110

98034 Hysol® 075-LT 16, 17, 18, 109, 110

#### 1 3/4 in. SprayPac® and Polyshot Dispensers

98036 Hysol® 175-AIR 16, 17, 18, 109, 110

98040 Hysol® 175-AIR-HT 16, 17, 18, 109, 110

98037 Hysol® 175-SPRAY 16, 17, 18, 109, 110

98041 Hysol® 175-SPRAY-HT 16, 17, 18, 109, 110

98035 Hysol® 175 16, 17, 18, 109, 110

#### Urethane Dispenser

98011 Hysol® Reactive Urethane Cartridge Dispenser 17, 109

For more information, see page number(s):

### Handheld Hot Melt Nozzles & Accessories

A complete listing of Hot Melt Nozzles and Accessories can be found on pages 18 and 110. For custom hot melt dispense nozzles, contact the Special Equipment Group of Henkel at 1-800-LOCTITE (562-8483).

## MOTION CONTROL ROBOT DISPENSE SYSTEMS

Available in both Benchtop and SCARA model types, LOCTITE® brand robots are designed to simplify the dispensing of adhesives and sealants onto complex surface configurations. They allow manufacturers to dispense repeatedly and reliably patterns of liquid material on a programmed basis, resulting in improved process efficiencies, minimal material waste, and reduced manufacturing costs.

### Benchtop Robots & SCARA Robot Station

For more information on LOCTITE® Motion Control Robot Dispense Systems, please refer to page 171, where you can find product listings, technical information, mounting hardware, workbenches and guarding systems.

## CONSUMABLES – DISPENSE ACCESSORIES

Henkel offers a comprehensive line of LOCTITE® brand dispense tips, static mix nozzles and syringe barrel components. Our high precision stainless steel, tapered polyethylene and flexible polypropylene tips all feature a positive locking, helical thread design to ensure the tip will stay intact during the toughest applications. A wide variety of static mix nozzles are available to meet your two-part adhesive dispensing needs. High-quality syringe barrels and components will ensure consistent single-component adhesive dispensing needs are met.

### Dispense Tips & Accessories

You can find a complete listing of Dispense Tips and Accessories on pages 176-177.

### Cartridge Accessories

You can find a complete listing of Cartridge Accessories on page 177.

### Static Mix Nozzles & Accessories

You can find a complete listing of Static Mix Nozzles and Accessories on pages 178-180.

### LOCTITE® Brand Syringe Accessories

You can find a complete listing of LOCTITE® Brand Syringe Accessories on pages 181-182.

### LOCTITE® Brand Dispense Spare Parts

You can find a listing of LOCTITE® Brand Dispense Spare Parts on page 182.

# Motion Control Robot Dispense Systems

## YOUR EQUIPMENT Source

For more details, see the **LOCTITE® Equipment Sourcebook, LT-3669**, or visit us on the web for additional information, diagrams, products and our full line of equipment at [www.equipment.loctite.com](http://www.equipment.loctite.com).



- Available in both Benchtop and SCARA model types
- Designed to simplify the dispensing of adhesives and sealants onto complex surface configurations
- Allows for repeated and reliable dispense patterns of liquid material on a programmed basis
- Improves process efficiencies
- Minimal material waste
- Reduces manufacturing costs

## ROBOT TYPES

Benchtop robots are beam or gantry style robots designed to be placed on a bench. These robots carry one or more parts that are captured in a fixture that is mounted on the work surface. Motion in the X axis is achieved by moving the work surface forward and backward. The Y and Z axes are achieved by moving the tool head left and right and up and down, respectively, on the beam or gantry. When applicable, the fourth axis (R axis) is achieved by rotating the mounting shaft that protrudes from the tool head.

SCARA is an acronym for Selective Compliance Assembly Robot Arm. The robot is a multi-jointed arm that moves above the work surface. It must be mounted near the work surface by the user. The X and Y axes are achieved by changing the angles of the two arms. This creates a kidney-shaped dispensing area that is approximately 880 mm (34.6 in.) wide and 440 mm (17.3 in.) tall at the center. The Z axis is achieved by moving both arms up and down. On the 4-axis models, the R axis is achieved by rotating the mounting shaft that protrudes from the end of the arm.

LOCTITE® PRODUCT		200D BENCHTOP ROBOT	300D BENCHTOP ROBOT	400D BENCHTOP ROBOT	500D BENCHTOP ROBOT	RB20 500D DUAL BENCHTOP ROBOT	RB15 200D GANTRY ROBOT	S440 SCARA-N ROBOT
ITEM NUMBER (110 VOLT SYSTEMS)	3-AXIS	1597107	1452395	1452396	1578317	1682223	1670898	1008351
	4-AXIS	98283A	98291A	98299A	98606	N/A	N/A	1008338
TYPE		Benchtop	Benchtop	Benchtop	Benchtop	Benchtop	Gantry	SCARA
RANGE OF OPERATION	X AXIS	200 mm	300 mm	400 mm	500 mm	(2X) 250 mm	200 mm	Arm 1: 260 mm ± 90°
	Y AXIS	200 mm	320 mm	400 mm	500 mm	250 mm	200 mm	Arm 2: 180 mm ± 150°
	Z AXIS	50 mm	100 mm	100 mm	100 mm	500 mm	50 mm	100 mm
	R AXIS	± 360°	± 360°	± 360°	± 360°	N/A	N/A	± 360°
PORTABLE WEIGHT LIMITATIONS	WORK SURFACE	5.0 kg	10.0 kg	10.0 kg	10.0 kg	10.0 kg	N/A	N/A
	TOOL HEAD	2.0 kg	5.0 kg	5.0 kg	5.0 kg	5.0 kg	2.0 kg	5.0 kg
SPEED	PTP (X,Y) MAX.	400 mm/s	600 mm/s	600 mm/s	600 mm/s	600 mm/s	400 mm/s	1500 mm/s
	PTP (Z) MAX.	200 mm/s	320 mm/s	320 mm/s	320 mm/s	300 mm/s	200 mm/s	320 mm/s
	PTP (R)	6 to 600 °/s	8 to 800 °/s	8 to 800 °/s	8 to 800 °/s	N/A	N/A	10 to 1,000 °/s
ADDITIONAL INFORMATION		Please visit <a href="http://www.equipment.loctite.com">www.equipment.loctite.com</a> for detailed drawings of all benchtop robots. Just search for the part number that you are interested in and scroll down to the product documentation.						

ITEMS IN RED = Source's PICK or NEW

## LOCTITE® RB10 ROTARY DISPENSING SYSTEM

Item Number 1635546

The LOCTITE® RB10 Rotary Dispense System is used for repetitive dispensing of circles or arcs. It is a fully integrated system that will directly control a cartridge or dispense valve and will operate any LOCTITE® Syringe Dispensing System. The rugged, all-metal construction is designed for tough manufacturing environments.

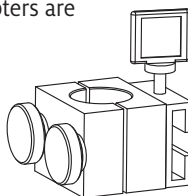


## LOCTITE® BRAND TIP LOCATION MOUNTING HARDWARE & GUARDING ENCLOSURES

### Mounting Bracket Kits

Mounting bracket kits are used to grasp syringe barrels, LOCTITE® Posi-Link™ syringe and dual cartridge nests, 300 ml cartridges, dispense valves, and LEDs. Mounting rails or adapters are required to mount the brackets on the robot or dispense station.

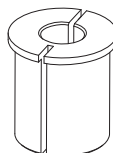
Item #	98316	30 ml syringe mounting bracket kit
	98318	300 ml cartridge mounting bracket kit
	98326	98009 and 98013 valve mounting bracket kit
	98327	97113 and 97114 valve mounting bracket kit
	98406	983914 and 986300 poppet valve mounting bracket kit
	98441	98520 spray and 98084 micro needle valve mounting bracket kit
	98646	Universal syringe bracket for Posi-Link™
	98647	50 ml dual cartridge bracket for Posi-Link™
	1034030	CureJet™ mounting bracket kit
	1638885	VA10 mounting bracket



### 3, 5 and 10 ml Syringe Adapters

These adapters are inserted into the 30 ml syringe mounting bracket kit to adapt it for 3, 5 and 10 ml syringes. The 30 ml syringe mounting bracket (item 98316) must be purchased separately.

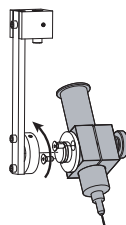
Item #	98320	10 ml adapter for use with 98316
	98321	5 ml adapter for use with 98316
	98322	3 ml adapter for use with 98316



### Mounting Adapter for All 4-Axis Robots

A mounting adapter is required when using LOCTITE® brand mounting hardware for all 4-axis robots. The mounting adapter includes a 360-degree rotation kit.

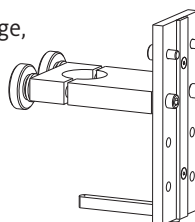
Item #	98336	Mounting adapter for 4-axis robots
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### Complete Mounting Kits for 3-Axis SCARA Robots\*

Complete mounting adapter kits hold the syringe, cartridge or valve, and position the dispense tip 60 mm from the end of the tool arm.

Item #	98343	97113 and 97114 valve holder
	98408	983914 and 986300 poppet valve holder



\* These are sized for 25 gauge needles and must be modified by the user for larger gauge sizes.

### Robot Needle Calibration Kit

Electronic system integrates with D-Series robots for precise, repeatable tip location.

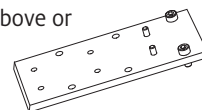
Item #	1569523	Robot Needle Calibration Kit
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### Z Height Adjustment Plate for 3-Axis Benchtop Robots

This plate allows you attach the mounting rails above or below the mounting bracket on the robot.

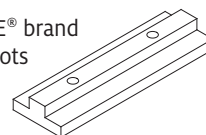
Item #	98357	Z height adjustment plate
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### Mounting Rails for 3-Axis Benchtop Robots and Dispense Stations

A mounting rail is required when using LOCTITE® brand mounting hardware for all 3-axis Benchtop Robots and Dispense Stations.

Item #	98328	3 3/4 in. bar with two cap screws
	98329	8 3/4 in. bar with two cap screws



### Guarding Systems

#### FOR PLANTS REQUIRING HIGHER SAFETY LEVELS

- Light Curtain or Interlocked Sliding Door\* on front
- Sturdy extruded aluminum frame
- Polycarbonate panels on left, right and rear
- Operator control panel mounted on front right
- Direct plug-in to robots

\* Interlocked door model for Benchtop units only.

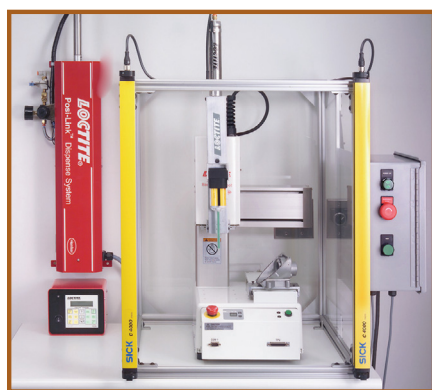
Item #	989787	200 Series Slide Door Guarding System	22" W x 26" D x 27" H
	989763	200 Series Light Curtain Guarding System	22" W x 24" D x 27" H
	989788	300 Series Slide Door Guarding System	30" W x 32" D x 30" H
	989771	300 Series Light Curtain Guarding System	30" W x 30" D x 30" H
	989789	400/500 Series Slide Door Guarding System	32" W x 36" D x 35" H
	989777	400/500 Series Light Curtain Guarding System	32" W x 38" D x 35" H
	989852	SCARA Light Curtain Guarding System	48" W x 48" D x 36" H





## Two-Part Volumetric Dispensing – LOCTITE® Posi-Link™ Dispense System For Dual Cartridges

When you need high precision dispensing from your prepackaged dual cartridge adhesive, the LOCTITE® Posi-Link™ Dispense System is the solution. This system offers dispensing accuracy well beyond any pneumatic cartridge dispenser down to 0.001 ml drop size. This system specifically excels at eliminating dispense variability due to continuously changing viscosity (curing) in the mix nozzle. It can easily be integrated into any automated process and provide process feedback to a plant PLC. Select your system based on cartridge and adhesive ratio requirements.

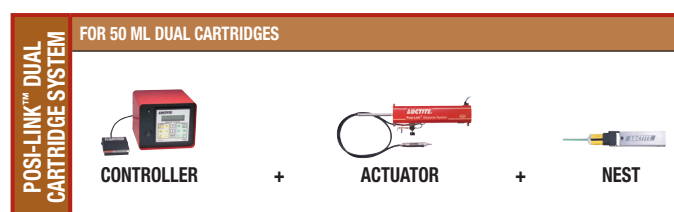


LOCTITE® Posi-Link™ 10-50 System, Integrated Robotic Solution using a 50 ml dual cartridge, and showing wall-mounted actuator.



the  
**NEW** AGE  
of Volumetric Control

### COMPLETE LOCTITE® POSI-LINK™ DUAL CARTRIDGE SYSTEM



#### LOCTITE® Posi-Link™ Controller

Provides all operator interface and control signals to actuator.

Item # 98377 Posi-Link™ Controller

(Each Item Sold Separately.)

#### FEATURES:

- Dose selection by volume
- Easy programming controller, with storage capacity for 25 user-defined programs, reduces adhesive setup waste
- Smallest footprint on the market to conserve benchtop space
- Automatic cartridge engagement to ensure easy and error-free cartridge changeover
- Adhesive level monitoring with low level visual and digital outputs
- Fault detection with visual and digital outputs for clogged nozzles, loss of pressure and system faults
- In-cycle visual and digital outputs
- Foot switch, finger switch or PLC remote start activation



## LOCTITE® Posi-Link™ Actuators\*

Provides adhesive dispensing by effecting incremental movements of dual pistons and displacing programmable quantities of adhesive within the cartridge regardless of viscosity changes in the mix nozzle.

Item # 98379 Posi-Link™ 10-50 Actuator 50 ml Cartridges

\* See [www.equipment.loctite.com](http://www.equipment.loctite.com) for use with syringes.

### FEATURES:

- Flexible orientation in any position
- Easily fits below an industrial workbench or wall mounts with brackets supplied to conserve benchtop space
- Lightweight remote dispense head has a “positive link” to actuator via a 7-foot tether, allowing ergonomic hand held dispensing or mounting directly on robotic arms
- Easily attaches to the dual cartridge nests (sold separately) to accommodate alternate cartridge barrel sizes
- Mechanically linked dual plungers guarantee proper ratios are achieved
- Positive shut-off pinch tube available, which directly attaches to the mix nozzle, eliminating dripping



## LOCTITE® Posi-Link™ 50 ml Dual Cartridge Nests

Connects the actuator to the dual cartridge.

Item # 98641 1:1/2:1 – 50 ml Cartridge Used with LOCTITE® Posi-Link™ 10-50 Actuator  
Item # 98642 10:1 – 50 ml Cartridge Used with LOCTITE® Posi-Link™ 10-50 Actuator

### THEORY OF OPERATION:

A disposable dual cartridge is effectively used as a dual metering piston/cylinder.

Because the individual chambers of a dual cartridge are of a known and constant diameter, a given incremental measurement of the dual pistons will displace a known volume of adhesive within each chamber at an exact ratio. This dual cartridge system functions identically to a LOCTITE® Posi-Link™ Syringe System, except that it has two plungers within the dispense head. These plungers simultaneously act on two chambers within the dual cartridge. You can view a functionality diagram on [www.equipment.loctite.com](http://www.equipment.loctite.com).

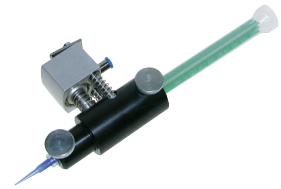


## LOCTITE® Pinch Tube Valve

Item # 97141 Pinch Tube Valve

### FEATURES:

- Valve attaches directly to the end of the square mix nozzle
- Provides positive no-drip shut-off, using disposable pinch tube elements



### FOR 50 ML DUAL CARTRIDGES – OPTIONAL

Pinch Tube Valve  
+  
97541 (10 pack) Replacement Tube Inserts  
+  
98671 Solenoid Valve

TECHNICAL SPECIFICATIONS	PRODUCT	
	LOCTITE® POSI-LINK™ CONTROLLER ITEM # 98377	LOCTITE® POSI-LINK™ 10-50 ACTUATOR ITEM # 98379
POWER SOURCE	9 ft. Communication Cable	100/240 VAC; 47/60 Hz
DIMENSIONS	5.375" H x 6" D x 6" W	34" H x 4" D x 5" W
TOTAL WEIGHT	2 lbs.	13 lbs.
DISPENSE HEAD WEIGHT (INCLUDES NEST AND PINCH TUBE VALVE)	N/A	2 lbs.
AIR SUPPLY	N/A	40 to 100 psi
POSI-LINK™ ELECTRO/HYDRAULIC TETHER	N/A	7 feet
MINIMUM <sup>1</sup> DISPENSE VOLUME	N/A	0.005 ml
DISPENSE RATE <sup>2</sup>	N/A	0.009 – 0.4 ml/second
MAXIMUM CYCLE RATE	N/A	1 cycle per second
USED TO DISPENSE	N/A	All Dual 50 ml Cartridge 1:1 / 2:1 / 10:1 ratio adhesives
PARTS INCLUDED	(1) LOCTITE® Posi-Link™ Controller (1) Foot Switch	(1) LOCTITE® Posi-Link™ Actuator (1) 9 ft. Controller/Actuator Signal Cord (1) 110 Power Cord (1) Air Inlet Pressure Regulator Gauge (1) Wall or Table Mounting Bracket (1) Instruction Manual
ADDITIONAL INFORMATION	For Spare Parts and Accessories, see <a href="http://www.loctite.equipment.com">www.loctite.equipment.com</a> . For Static Mix Nozzles and Accessories, see pages 178-180.	

<sup>1</sup> Minimum Dispense Volume is a machine dispense capability. As with all mix nozzle systems, the minimum possible shot with “proper mixing” is dependent on a properly specified combination of adhesive, mix nozzle and dispense rate.

<sup>2</sup> Maximum Dispense Rate varies based on adhesive viscosity and mix nozzle selection.

# Two-Part Volumetric Dispensing – LOCTITE® Meter Mix Systems

- Customize your system to meet your application requirements. A wide selection of reservoir systems, hoses, valves and other accessories is available. Visit [www.equipment.loctite.com](http://www.equipment.loctite.com) or contact your local Henkel sales rep for more information.

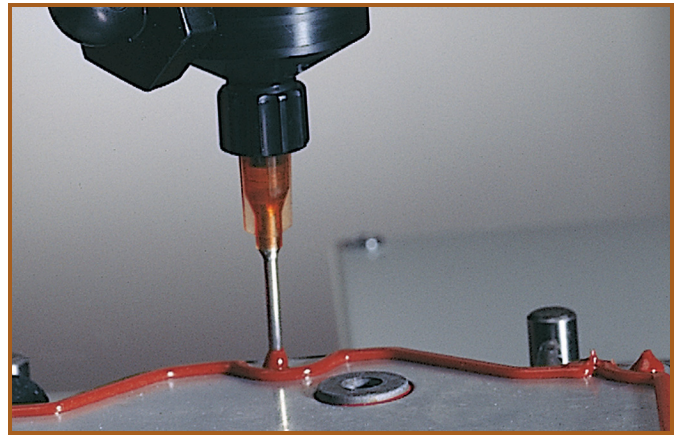


LOCTITE® PRODUCT	DURAPUMP™ PROGRAMMABLE METER MIX SYSTEM	DURAPUMP™ PNEUMATIC METER MIX SYSTEM
MACHINE RATIO CAPABILITIES/ITEM NUMBERS		
FIXED	1041649 – 1:1 1041644 – 2:1 1041639 – 4:1 1041638 – 10:1 1041635 – Custom Ratios (available from 1:1 up to 9.99:1)	1041648 – 1:1 1041643 – 2:1 1041641 – 4:1 1041637 – 10:1
MMA COMPATIBLE	N/A	1041647 – 1:1 1041636 – 10:1 1041620 – Custom Ratios
PERFORMANCE SPECIFICATIONS		
DISPENSE RANGE	0.40 cc to 28 cc	
CYCLE RATE	Up to 20 per minute	
MIX RATIO RANGE BY VOLUME	1:1 to 10.0:1	
MAXIMUM PRODUCT FEED PRESSURE	2000 psi	
WETTED COMPONENT MAKEUP		
ABRASION-RESISTANT PUMPS	Standard	Standard
MILD STEEL PUMPS	Not Required	Not Required
INERT PUMPS	Standard	Standard
DISPENSE VALVES		
MIX MANIFOLD (ACCEPTS MIX NOZZLE DIRECTLY)	Standard	Standard
HANDHELD VALVE WITH TRIGGER PISTOL GRIP	Optional	Optional
HANDHELD VALVE WITH LEVER ACTUATION	N/A	N/A
ADJUSTABLE BOOM MOUNTED VALVE	N/A	N/A
SHOT CONTROL CAPABILITIES		
MANUAL/OPERATOR CONTROLLED SHOT	Standard	Standard
MECHANICALLY ADJUSTED LIMIT SWITCH SHOT CONTROL	N/A	Standard
PREPROGRAMMED ELECTRONIC SHOT SIZE CONTROL	Standard	N/A
MULTIPLE PREPROGRAMMED SHOT SIZE CONTROL	Standard	N/A
TOUCH SCREEN MACHINE CONTROLS	Standard	N/A
OTHER MACHINE FEATURES		
FEED ACCUMULATORS FOR BULK PACKAGE PRESSURE FEED	Not Required	Not Required
MAINTENANCE TOTALIZER	Standard	N/A
LOW/HIGH LEVEL SENSING CAPABLE	Optional – Low Level Only	N/A
SUPERVISOR MACHINE LOCK-OUT	Standard	N/A
PNEUMATICALLY ADJUSTABLE FLOW CONTROL	Standard	Standard
AUTO-PURGE CAPABLE	Standard	N/A
FOOT SWITCH CONTROLLED	Standard	Standard
TECHNICAL SPECIFICATIONS		
USED TO DISPENSE	Two-Part Epoxies, Two-Part Acrylics, Two-Part Polyurethanes, Two-Part Silicones	Two-Part MMAs, Two-Part Epoxies, Two-Part Acrylics, Two-Part Polyurethanes, Two-Part Silicones
PACKAGE TYPES	Any, excluding Dual Cartridges	Any, excluding Dual Cartridges
ADDITIONAL INFORMATION	Please visit <a href="http://www.equipment.loctite.com">www.equipment.loctite.com</a> for feed system options and accessories (sold separately).	

ITEMS IN RED = Source's PICK or NEW

# Consumables – Dispense Accessories

- Full line of LOCTITE® brand dispense tips, static mix nozzles and syringe barrel components
- Available in stainless steel, tapered polyethylene and flexible polypropylene tips that all feature a positive locking, helical thread design to ensure the tip will stay intact during application
- Wide variety of static mix nozzles is available for two-part adhesive dispensing needs
- High-quality syringe barrels and components are available for single-component adhesive dispensing needs



## HIGH PRECISION STAINLESS STEEL DISPENSE TIPS

### ¼ Inch Stainless Steel Tips Helical Thread



50 Pack Item Number	1,000 Pack Item Number	Hub Color	Gauge
830704	–	Olive	14
98196	98197	Green	18
98198	98199	Pink	20
98200	98201	Purple	21
1585606	1585607	Blue	22
1635176	1635175	Orange	23
98624	98625	Red	25
98626	98627	Clear	27
98628	98629	Lavender	30
98114	98115	Yellow	32

### 1½ Inch Stainless Steel Tips Helical Thread



50 Pack Item Number	1,000 Pack Item Number	Hub Color	Gauge
98163	98164	White	14
98165	98166	Amber	15
98167	98168	Green	18
98169	98170	Pink	20
98171	98172	Purple	21
98173	98174	Blue	22
98175	98176	Orange	23
98177	98178	Red	25
98179	98180	Light Grey	27

### ½ Inch Stainless Steel Tips Helical Thread



50 Pack Item Number	1,000 Pack Item Number	Hub Color	Gauge
1244444	–	Olive	14
98396	98397	Amber	15
98398	98399	Green	18
98400	98401	Pink	20
98424	98425	Purple	21
98402	98403	Blue	22
98611	98612	Orange	23
98404	98405	Red	25
1256848	1256497	Lavender	30
1255059	1255058	Light Grey	27

### 45° by ½ Inch Stainless Steel Tips Helical Thread



50 Pack Item Number	1,000 Pack Item Number	Hub Color	Gauge
98236	98237	White	14
98240	98241	Amber	15
98244	98245	Green	18
98248	98249	Pink	20
98252	98253	Purple	21
98256	98257	Blue	22
98260	98261	Orange	23
98264	98265	Red	25
98268	98269	Light Grey	27

### 1 Inch Stainless Steel Tips Helical Thread



50 Pack Item Number	1,000 Pack Item Number	Hub Color	Gauge
98216	98217	White	14
98218	98219	Amber	15
98220	98221	Black	16
98222	98223	Green	18
98224	98225	Pink	20
98226	98227	Purple	21
98228	98229	Blue	22
98230	98231	Orange	23
98232	98233	Red	25
98234	98235	Light Grey	27

### 90° by ½ Inch Stainless Steel Tips Helical Thread



50 Pack Item Number	1,000 Pack Item Number	Hub Color	Gauge
98238	98239	White	14
98242	98243	Amber	15
98246	98247	Green	18
98250	98251	Pink	20
98254	98255	Purple	21
98258	98259	Blue	22
98262	98263	Orange	23
98266	98267	Red	25
98270	98271	Light Grey	27



# Consumables – Dispense Accessories

## TAPERED DISPENSE TIPS

### 1¼ Inch Polyethylene Tapered Tips Helical Thread and UV Light Block Additive



50 Pack Item Number	1,000 Pack Item Number	Hub Color	Gauge
98385	98386	White	14
98387	98388	Grey	16
98389	98390	Green	18
98391	98392	Pink	20
98393	98394	Blue	22
98658*	98659*	Red	25
98660*	98661*	Clear	27

\* Smaller gauge sizes.

## FLEXIBLE DISPENSE TIPS

### 1½ Inch Polypropylene Tips Helical Thread



50 Pack Item Number	1,000 Pack Item Number	Hub Color	Gauge
97229	98069	Amber	15
97230	98070	Green	18
97231	98071	Pink	20
97232	98082	Red	25

## DISPENSE TIPS & ACCESSORIES

PRODUCT	Item Numbers	Description
	1146079 / 1146078	SS, PTFE-Lined, 25 Gauge (50/1,000 pack)
	1244443	SS, PTFE-Lined, 21 Gauge (50 pack)
	97233	Luer-Lok Adapter Kit, 20 Luer-Loks and 5 Adapters
	97248 / 98499	Tip Caps (50/1,000 pack)
	97261 / 98074	High Density Polyethylene, 15 Gauge, White (50/1,000 pack)
	97262	2 each of a variety of Helical Threaded 1/2" Stainless Steel Tips, Tapered Tips and Polypropylene Tips
	98652	Light-blocking Shield for Dispense Tips (10 pack)
	998390	Vari-Drop™ Applicator Brushes (10 pack)

## CARTRIDGE ACCESSORIES

PRODUCT	Item Number	Description
	98446	Roller Assembly 1" wide band
	98448	Roller Assembly 2" wide band
	98447	Replacement Rollers 1" wide (3 pack)
	98449	Replacement Rollers 2" wide (3 pack)
	98610	3/4" wide x 3/8" NPT Dispense Nozzle (10 pack)
	1044246	Aero Nozzle for silicones in aerosol cans (10 pack)
	98128	Cartridge Dispense Tip: 1/4" male Semco Thread (10 pack)
	98371	Cartridge-Needle Adapter: (Female Luer x 1/4" male Semco Thread) Luer-Lok adapter for dispense needle attachment (5 pack)
	1147763	Cartridge-Dispense Valve Adapter Assembly Fischbach Thread x 1/4" male NPT

## GENERAL-PURPOSE DISPENSE TIPS

### ½ Inch Stainless Steel Tips



50 Pack Item Number	1,000 Pack Item Number	Hub Color	Gauge
98208	98209	Olive	14
97225	98065	Amber	15
97226	98066	Green	18
97227	98067	Pink	20
98210	98211	Purple	21
98100	98080	Blue	22
98212	98213	Orange	23
97228	98068	Red	25
98214	98215	Clear	27

**CHECK OUT OUR GENERAL-PURPOSE DISPENSE TIPS, WITH HELICAL THREADS AND SECURE PLASTIC BOX CONTAINERS.**



## GENERAL-PURPOSE TAPERED DISPENSE TIPS

### 1¼ Inch Polyethylene Tapered Tips



50 Pack Item Number	1,000 Pack Item Number	Hub Color	Gauge
98272	98273	Tan	14
97221	98061	Grey	16
97222	98062	Green	18
97223	98063	Pink	20
97224	98064	Blue	22

## ADDITIONAL DISPENSE TIPS & ACCESSORIES

### LOCTITE® Showcase Needle Variety Kit

*Item Number: 98439*




















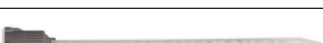





This kit contains five each of an assortment of high precision Stainless Steel Tips in various lengths and gauges. Tapered and Flexible Dispense Tips are also included. All Dispense Tips have helical thread Luer-Lok hubs for reliable locking.



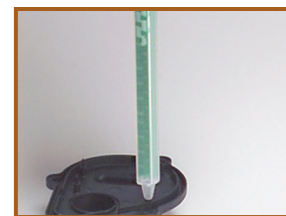
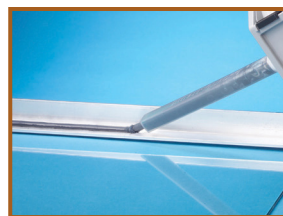
## CARTRIDGE ACCESSORIES

PRODUCT	Item Number	Description
	97215	Cartridge-Syringe Adapter: 1/4" Semco Thread x Female Luer, used for downloading
	98181	Cartridge-Tube Fitting Adapter: (1/4" FNPT x 1/4" male Semco Thread) used for connecting tube fittings to cartridges (984832 also required and sold separately) (3 pack)
	984832	Tube Fitting: 1/4" male NPT x 1/4" feed tube (10 pack)
	982644	Cartridge Adapter: SS, (1/4" FNPT x 1/4" female Fischbach Thread), used for connecting tube fittings
	1045339	Cartridge-Needle Adapter: 1/4" NPT Thread x Female Luer - shown with 982644 for 1/4" Fischbach, for needle attachment (5 pack)
	1044247	Cartridge-Syringe Adapter: 1/4" MNPT x Female Luer shown with 982644 for 1/4" Fischbach, used for downloading (5 pack)








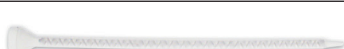







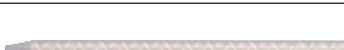
## LOCTITE® Brand Static Mix Nozzles & Accessories

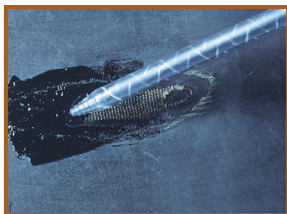
LOCTITE® PRODUCT	ITEM NUMBER	PACKAGE QUANTITY	DESCRIPTION
<b>MIX NOZZLES FOR 50 ML DUAL (A STYLE) CARTRIDGES</b>			
	778273 1405182	10 5,000	50 ml Square Mix Nozzle, Luer/Stepped Combo Tip, 3.25" overall length, 5.3 mm inner dimension, 16 elements; 1:1, 2:1 mix ratios.
	720227 826190	10 1,000	50 ml Square Mix Nozzle, Luer/Stepped Combo Tip, 4.5" overall length, 5.3 mm inner dimension, 24 elements; 1:1, 2:1, 4:1 mix ratios.
	98622 983509	10 2,000	50 ml Mix Nozzle, Slip-Luer, 5.9" overall length, 0.250" inner diameter, 20 elements; 1:1, 2:1 and 4:1 mix ratios. 
	98623 98364	10 2,000	50 ml Mix Nozzle, Stepped Tip-Luer, 5.9" overall length, 0.250" inner diameter, 20 elements; 1:1, 2:1 and 4:1 mix ratios. 
	720225	10	50 ml Mix Nozzle, Luer Tip, 6.0" overall length, 6.35 mm inner diameter, 21 elements; 1:1, 2:1, 4:1 mix ratios.
	720230 1116241	10 2,500	50 ml Mix Nozzle, Stepped Tip, 6.0" overall length, 6.35 mm inner diameter, 21 elements; 1:1, 2:1, 4:1 mix ratios.
	1145743 1143355	10 2,000	50 ml Mix Nozzle with Integral Needle Adapter, 5.9" overall length, 6.35 mm inner diameter, 20 elements; 1:1, 2:1 mix ratios.
	1259190	10	50 ml Round Mix Nozzle, Luer Tip, 4.7 mm inner diameter, 3.3" long, 16 elements; 1:1, 2:1 mix ratios.
	1334299	100	50 ml Mix Nozzle, Taper Tip, 3.0 mm inner diameter, 17 elements; 1:1, 2:1 – A Cartridges.
	720221 1061921	10 100	50 ml Mix Nozzle, 10:1 mix ratio, 17 elements at .213 ID, 13 elements at .157 ID, 5.87 m length
<b>MIX NOZZLES FOR 50 ML DUAL (B AND S STYLE) CARTRIDGES</b>			
	1573156 1573154	10 1,000	50 ml Square Mix Nozzle, Taper Tip, 3.6" overall length, 5.3 mm inner dimension, 16 elements; 1:1, 2:1 mix ratios – B Cartridges.
	1573153 1573151	10 1,000	50 ml Square Mix Nozzle, Taper Tip, 4.8" overall length, 5.3 mm inner dimension, 24 elements; 1:1, 2:1 mix ratios – B Cartridges.
	1573141 1573142	10 1,000	50 ml Square Mix Nozzle, Taper Tip, 4.8" overall length, 5.3 mm inner dimension, 24 elements; 4:1, 10:1 mix ratios – B Cartridges.
	1197606	10	50 ml Mix Nozzle, Taper Tip, 2.4" overall length, 2.5 mm inner diameter, 16 elements; 1:1, 2:1 mix ratios – B + S Cartridges.
	1434516	5	50 ml CA Mix Nozzle, Taper Tip, 2.4" overall length, 2.5 mm inner diameter, 16 elements; 4:1, 10:1 mix ratios – B + S Cartridges.
	1440017	100	50 ml Mix Nozzle, Taper Tip, 3.0" overall length, 3.2 mm inner diameter, 16 elements; 1:1, 2:1 mix ratios – B Cartridges.
	1329200	100	50 ml Mix Nozzle, Taper Tip, 3.0" overall length, 3.2 mm inner diameter, 16 elements; 4:1, 10:1 mix ratio – B + S Cartridges.
	1440016	100	50 ml Mix Nozzle, Taper Tip, 3.8" overall length, 4.2 mm inner diameter, 16 elements; 1:1, 2:1 mix ratios – B Cartridges.
	1440018	100	50 ml Mix Nozzle, Taper Tip, 3.8" overall length, 4.2 mm inner diameter, 16 elements; 4:1, 10:1 mix ratios – B + S Cartridges.
	1573146 1573145	10 1,000	50 ml Mix Nozzle, Stepped Tip, 4.4" overall length, 5.4 mm inner diameter, 16 elements; 1:1, 2:1 mix ratios – B Cartridges.
	1573144 1573143	10 1,000	50 ml Mix Nozzle, Stepped Tip, 5.2" overall length, 6.5 mm inner diameter, 16 elements; 1:1, 2:1 mix ratios – B Cartridges.
	1573149 1573147	10 1,000	50 ml Mix Nozzle, Stepped Tip, 6.2" overall length, 6.5 mm inner diameter, 20 elements; 1:1, 2:1 mix ratios – B Cartridges.
	1034575	10	50 ml-B Mix Nozzle, Stepped Tip, 6.2" overall length, 6.5 mm inner diameter, 20 elements; 10:1 mix ratio – B Cartridges.

# Consumables – Dispense Accessories




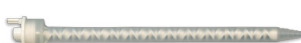









## LOCTITE® Brand Static Mix Nozzles & Accessories (continued)

LOCTITE® PRODUCT	ITEM NUMBER	PACKAGE QUANTITY	DESCRIPTION
MIX NOZZLES FOR 200 ML & 400 ML DUAL (C STYLE) CARTRIDGES			
	606052 804261	10 1,500	200/400 ml Square Mix Nozzle, Luer/Stepped Combo Tip, 5.0" overall length, 5.3 mm inner dimension, 24 elements; 1:1, 2:1, 4:1 mix ratios.
	720226 848088	10 1,000	200/400 ml Square Mix Nozzle, Stepped Tip, 5.1" overall length, 7.5 mm inner dimension, 24 elements; 1:1; 2:1 mix ratios.
	874905 875472	10 500	200/400 ml Square Mix Nozzle, Threaded Bell End, 114.5 mm inner dimension, 187 mm overall length, 24 elements; 1:1, 2:1 mix ratios.
	720173 1053262	10 2,000	200/400 ml Mix Nozzle, Stepped Tip, 7.3" overall length, 6.3 mm inner diameter, 24 elements; 1:1, 2:1 mix ratios.
	720174 720222	10 1,500	200/400 ml Mix Nozzle, Stepped Tip, 8.8" overall length, 8 mm inner diameter, 24 elements; 1:1, 2:1 mix ratios.
	720177 930705	10 1,000	200/400 ml Mix Nozzle, Stepped Tip, 10.9" overall length, 10 mm inner diameter, 24 elements; 1:1, 2:1 mix ratios.
	773794	50	200/400 ml Mix Nozzle, Stepped Tip, 7.4" overall length, 0.188" inner diameter, 32 elements; 1:1, 2:1 and 4:1 mix ratios.
	989518	10	200/400 ml Mix Nozzle, Stepped Tip, 9.0" overall length, 0.188" inner diameter, 48 elements; 1:1, 2:1 and 4:1 mix ratios.
	918088	10	200/400 ml Mix Nozzle, Luer Tip, Slip Luer, 9.5" overall length, 0.25" inner diameter, 32 elements; 1:1 and 2:1 mix ratios.
	1032026 1098256	10 1,200	200/400 ml Mix Nozzle, 11.3" overall length, 8 mm inner diameter, 32 elements; 1:1, 2:1 mix ratios.
	98672 98430	10 500	200/400 ml Mix Nozzle, Stepped Tip, 14.2" overall length, 9.3 mm inner diameter, 40 elements; 1:1, 2:1 mix ratios.
	98367	1,000	200/400 ml Snap Tip Mix Nozzle, 9.3" overall length, 9.3 mm inner diameter, 24 elements; 1:1, 2:1 mix ratios.
	1228790	1,000	200/400 ml Stepped Tip Mix Nozzle, 8.5" overall length, 13 mm inner diameter, 18 elements; 1:1, 2:1 mix ratios.
	243335	6	200/400 ml Mix Nozzle, Stepped Tip, 9.1" overall length, 13 mm inner diameter, 18 elements; 1:1, 2:1 mix ratios – Rapid Rubber.
	1065306	500	200/400 ml Mix Nozzle, Stepped Tip, 11.2" overall length, 9.3 mm inner diameter, 30 elements; 1:1, 2:1 mix ratios.
	1065313	500	200/400 ml Mix Nozzle, Stepped Tip, 11.6" overall length, 16.8 mm inner diameter, 24 elements; 1:1, 2:1 mix ratios.


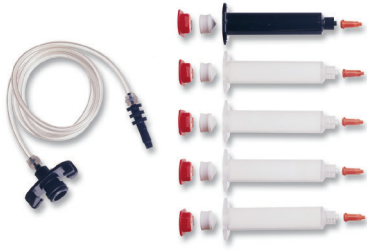




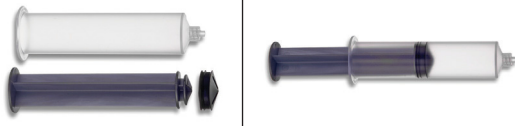



## LOCTITE® Brand Static Mix Nozzles & Accessories (continued)

LOCTITE® PRODUCT	ITEM NUMBER	PACKAGE QUANTITY	DESCRIPTION
<b>MIX NOZZLES FOR 200 ML &amp; 400 ML DUAL (F STYLE) CARTRIDGES</b>			
	1573130 1573139	10 1,000	200/400 ml Square Mix Nozzle, Taper Tip, 5.2" overall length, 5.3 mm inner dimension, 24 elements; 1:1, 2:1 mix ratios – F Cartridges.
	1573133 1573140	10 1,000	200/400 ml Square Mix Nozzle, Stepped Tip, 5.4" overall length, 5.3 mm inner dimension, 24 elements; 1:1, 2:1 mix ratios – F Cartridges.
	1573132 1573134	10 1,000	200/400 ml Square Mix Nozzle, Stepped Tip, 7.1" overall length, 10.7 mm inner dimension 24 elements; 1:1, 2:1 mix ratios – F Cartridges.
	1573135 1573131	10 1,000	200/400 ml Mix Nozzle, Stepped Tip, 7.6" overall length, 6.3 mm inner diameter, 24 elements; 1:1, 2:1 mix ratios – F Cartridges.
	1573138 1573136	10 1,000	200/400 ml Mix Nozzle, Stepped Tip, 9.2" overall length, 8.0 mm inner diameter, 24 elements; 1:1, 2:1 mix ratios – F Cartridges.
	1084255	10	200/400 ml 4:1 and 490 ml 10:1 Mix Nozzle, 9.2" overall length, 8 mm inner diameter, Stepped Tip, 24 elements – F Cartridges.
	1084092 1084093	10 900	200/400-F ml Cartridge Mix Nozzle, 11.2" overall length, 10 mm inner diameter, Stepped Tip, 24 elements; 4:1, 10:1 mix ratios – F Cartridges.
<b>MIX NOZZLES FOR 300 ML SINGLE AXIS DUAL CARTRIDGES</b>			
	1100962	3	300 ml Single-Axis Cartridge Mix Nozzle, Threaded Tip, 10" overall length, 11.2 mm inner diameter; 20 elements.
	1100963	3	300 ml Single Axis Cartridge Mix Nozzle, Threaded Tip, 15.3" overall length, 14.3 mm inner diameter; 19 elements.
<b>SPRAYABLE CERAMIC MIX NOZZLES</b>			
	1248606	10	200/400 ml Spray Tip Mix Nozzle, 0.25" inner diameter, 24 elements for use with sprayable ceramic materials.
<b>MIX NOZZLES ADAPTERS</b>			
	720175 970655	10 2,000	Luer-Lok Adapter for 6 mm and 8 mm Stepped Tip Mix Nozzles, allows for Dispense Needle Attachment (10 pack). Mix Nozzles and Dispense Needles sold separately.



## LOCTITE® Brand Syringe Accessories

LOCTITE® PRODUCT	Item Number	Description	Contents
	98656 98657 97208 97245	3 ml Syringe Air Line Adapter 5 ml Syringe Air Line Adapter 10 ml Syringe Air Line Adapter 30 ml and 55 ml Syringe Air Line Adapter	2 Air Line Adapters – Common to all part numbers (Syringe Barrel sold separately)
	984650	Air Line Filter for Syringe Dispensing to prevent product back-flow	1 Filter Assembly with 2 Hose Crimps
	97216	10 ml Syringe Starter Kit	5 Caps 5 Pistons 4 Clear Barrels 1 Black Barrel 5 Tips 1 Air Line Adapter
	97294	30 ml Syringe Starter Kit	
	98416	55 ml Syringe Starter Kit	
	97207	10 ml Clear Syringe Barrel Kit	20 Barrel Caps, 40 Pistons, 40 Barrels, 40 Barrel Tips
	97244	30 ml Clear Syringe Barrel Kit	10 Barrel Caps, 20 Pistons, 20 Barrels, 20 Barrel Tips
	98314	55 ml Clear Syringe Barrel Kit	5 Barrel Caps, 10 Pistons, 10 Barrels, 10 Barrel Tips
	97263	10 ml Black Syringe Barrel Kit for UV Adhesives	20 Barrel Caps, 40 Pistons, 40 Barrels, 40 Barrel Tips
	97264	30 ml Black Syringe Barrel Kit for UV Adhesives	10 Barrel Caps, 20 Pistons, 20 Barrels, 20 Barrel Tips
	98315	55 ml Black Syringe Barrel Kit for UV Adhesives	5 Barrel Caps, 10 Pistons, 10 Barrels, 10 Barrel Tips
	Various	Clear or Black 3, 5, 10, 30 and 55 ml Piston/ Syringe Combination Packages	See page 182 for Syringe and Piston options and item numbers.
	Various	Dark Amber Syringe and Piston options	Available upon request. Please contact your LOCTITE® Sales Representative or contact us at <a href="http://www.equipment.loctite.com">www.equipment.loctite.com</a> .
	Various	LOCTITE® Manual Syringe Kits	Each kit contains Plunger, Stopper and Clear Barrel, unassembled. See page 182 for Syringe and Piston options and item numbers.
	98501	LOCTITE® Applicator Holder for 10 ml, 30 ml and 55 ml Syringe Barrels (Red)	1 Holder (Syringe Barrel and Air Line Adapter sold separately)

## LOCTITE® Brand Syringe Accessories (continued)

LOCTITE® PRODUCT		Accessory Item Number	Description	Package Quantity
<b>Pneumatic Syringe Barrel and Piston Kits</b> <i>(Dark Amber Syringes are also available in the same packages. Call 860.571.5174 for special orders.)</i>	Pneumatic Syringe Barrel and Piston	98479	3 ml Syringe Barrel and Piston, Natural	50
		98480	3 ml Syringe Barrel and Piston, Natural	1,000
		98481	3 ml Syringe Barrel and Piston, Black	50
		98482	3 ml Syringe Barrel and Piston, Black	1,000
		98483	5 ml Syringe Barrel and Piston, Natural	50
		98484	5 ml Syringe Barrel and Piston, Natural	1,000
		98485	5 ml Syringe Barrel and Piston, Black	50
		98486	5 ml Syringe Barrel and Piston, Black	1,000
		98487	10 ml Syringe Barrel and Piston, Natural	50
		98488	10 ml Syringe Barrel and Piston, Natural	1,000
		98489	10 ml Syringe Barrel and Piston, Black	50
		98490	10 ml Syringe Barrel and Piston, Black	1,000
		98491	30 ml Syringe Barrel and Piston, Natural	50
		98492	30 ml Syringe Barrel and Piston, Natural	500
		98493	30 ml Syringe Barrel and Piston, Black	50
		98494	30 ml Syringe Barrel and Piston, Black	500
		98495	55 ml Syringe Barrel and Piston, Natural	250
		98496	55 ml Syringe Barrel and Piston, Natural	50
		98497	55 ml Syringe Barrel and Piston, Black	50
		98498	55 ml Syringe Barrel and Piston, Black	250
	Pneumatic Syringe Barrel Only	98655	3 ml Syringe Barrel, Black	1,000
		98557	3 ml Syringe Barrel, Natural	1,000
		98576	5 ml Syringe Barrel, Black	1,000
		98559	5 ml Syringe Barrel, Natural	1,000
		98578	10 ml Syringe Barrel, Black	1,000
		98561	10 ml Syringe Barrel, Natural	1,000
		98122	30 ml Syringe Barrel, Black	500
		98563	30 ml Syringe Barrel, Natural	500
	Pneumatic Pistons Only	98581	55 ml Syringe Barrel, Black	250
		98565	55 ml Syringe Barrel, Natural	250
		98125	3 ml Syringe Piston	1,000
		98584	5 ml Syringe Piston	1,000
		98127	10 ml Syringe Piston	1,000
		98587	30 / 55 ml Piston	1,000
<b>Manual Syringe Kits</b> <i>Each kit contains a plunger, stopper and barrel in the quantity indicated.</i>		1180639	3 ml Clear Manual Syringe Kit	10
		1176432	3 ml Clear Manual Syringe Kit	1,000
		1180638	6 ml Clear Manual Syringe Kit	10
		1176431	6 ml Clear Manual Syringe Kit	1,000
		1180637	10 ml Clear Manual Syringe Kit	10
		1180633	10 ml Clear Manual Syringe Kit	1,000
		1180636	35 ml Clear Manual Syringe Kit	10
		1180634	35 ml Clear Manual Syringe Kit	500
<b>Tubing</b>		97970	3/8" Black PTFE-Lined Feed Tube	33 ft.
		97972	1/4" Black PTFE-Lined Feed Tube	33 ft.
		981821	1/4" Clear Polyethylene Feed Tube	33 ft.
		981866	3/8" Clear Polyethylene Feed Tube	33 ft.
		981994	1/4" Clear Nylon Feed Tube for Pump-A-Bead™ II	33 ft.
		984688	Silicone Tubing for Dispense Valve Purging (10 Pack)	1 ft.
<b>986300 – Poppet Valve, Acetal Copolymer Body</b>		986025	Nozzle: 0.025" diameter	1
		986035	Nozzle: 0.035" diameter	1
		986060	Nozzle: 0.060" diameter	1
		986301	Valve Rebuild Kit	1

## LOCTITE® Brand Dispense Spare Parts

LOCTITE® PARENT PRODUCT	Accessory Item Number	Description	Package Quantity
<b>Tubing</b>	97970	3/8" Black PTFE-Lined Feed Tube	33 ft.
	97972	1/4" Black PTFE-Lined Feed Tube	33 ft.
	981821	1/4" Clear Polyethylene Feed Tube	33 ft.
	981866	3/8" Clear Polyethylene Feed Tube	33 ft.
	981994	1/4" Clear Nylon Feed Tube for Pump-A-Bead™ II	33 ft.
	984688	Silicone Tubing for Dispense Valve Purging (10 Pack)	1 ft.
<b>986300 – Poppet Valve, Acetal Copolymer Body</b>	986025	Nozzle: 0.025" diameter	1
	986035	Nozzle: 0.035" diameter	1
	986060	Nozzle: 0.060" diameter	1
	986301	Valve Rebuild Kit	1

## Your Source for LOCTITE® PRODUCTS FOR DESIGN, ASSEMBLY, MANUFACTURING & MAINTENANCE

LOCTITE® products are designed to meet the specifications and testing standards of a variety of agencies. The following is a list of products and standards to which such products may conform. Because such standards change or may be modified, no warranty is given regarding such compliance. The information provided below may be used, however, as a quick reference tool to aid in design or application. For up-to-the-minute information on agency approvals, or to inquire about additional agency approvals, please contact Henkel Technical Support at 1-800-LOCTITE (562-8483) with any inquiries. Last updated January 20, 2015.

# Agency Listings

## NSF International

### NON-FOOD COMPOUND

LOCTITE® 222MS™ Threadlocker, Low Strength/Small Screw  
LOCTITE® 242™ Blue Threadlocker, Medium Strength  
LOCTITE® 262™ Threadlocker, Medium to High Strength  
LOCTITE® 290™ Threadlocker, Wicking Grade  
LOCTITE® 587™ Blue, High Performance RTV Silicone Gasket Maker  
LOCTITE® 5900® Flange Sealant, Heavy Body RTV Silicone  
LOCTITE® 7649™ Primer N™  
LOCTITE® Food Grade Anti-Seize  
LOCTITE® Food Grade Grease  
LOCTITE® ODC-Free Cleaner & Degreaser  
LOCTITE® ViperLube® Clear High Performance Synthetic Grease  
LOCTITE® ViperLube® High Performance Synthetic Grease  
LOCTITE® ViperLube® High Performance Synthetic Grease (aerosol)

### STANDARD 51

Superflex® RTV, Silicone Adhesive Sealants Clear

### STANDARD 61

LOCTITE® 55™ Pipe Sealing Cord  
LOCTITE® 242™ Blue Threadlocker, Medium Strength  
LOCTITE® 243™ Blue Threadlocker, Medium Strength  
LOCTITE® 263™ Red Threadlocker, High Strength  
LOCTITE® 290™ Threadlocker, Wicking Grade  
LOCTITE® 480™ Instant Adhesive, Black/Toughened  
LOCTITE® 518™ Flange Sealant  
LOCTITE® 561™ Pipe Sealant  
LOCTITE® 565™ Thread Sealant, Controlled Strength  
LOCTITE® 567™ Thread Sealant, High Temperature  
LOCTITE® 680™ Retaining Compound, Slip Fit/High Strength  
LOCTITE® 7649™ Primer N™  
LOCTITE® Dri 513™ Pre-Applied Thread Sealant  
LOCTITE® Fixmaster® Metal Magic Steel™  
LOCTITE® H3101™ Structural Adhesive  
LOCTITE® Nordbak® Brushable Ceramic Grease

## American Bureau of Shipping (ABS)

LOCTITE® 242™ Blue Threadlocker, Medium Strength  
LOCTITE® 262™ Threadlocker, Medium to High Strength  
LOCTITE® 404® Quick Set™ Instant Adhesive, General-Purpose  
LOCTITE® 454™ Instant Adhesive, Surface Insensitive Gel  
LOCTITE® 545™ Thread Sealant, Hydraulic/Pneumatic Fittings  
LOCTITE® 567™ Thread Sealant, High Temperature  
LOCTITE® 587™ Blue, High Performance RTV Silicone Gasket Maker  
LOCTITE® 620™ Retaining Compound, Slip Fit/High Temperature  
LOCTITE® 680™ Retaining Compound, Slip Fit/High Strength  
LOCTITE® Extend® Rust Treatment  
LOCTITE® Fixmaster® Aluminum Liquid  
LOCTITE® Fixmaster® Aluminum Putty  
LOCTITE® Fixmaster® Fast Set Steel Putty  
LOCTITE® Fixmaster® Flex 80™ Putty  
LOCTITE® Fixmaster® Marine Chocking  
LOCTITE® Fixmaster® Stainless Steel Putty  
LOCTITE® Fixmaster® Steel Liquid  
LOCTITE® Fixmaster® Steel Putty  
LOCTITE® Fixmaster® Wear-Resistant Putty  
LOCTITE® Marine Grade Anti-Seize  
LOCTITE® Nordbak® Pneu-Wear

## Navy Environmental Health Center (NEHC)

LOCTITE® Fixmaster® Aluminum Liquid  
LOCTITE® Fixmaster® Aluminum Putty  
LOCTITE® Fixmaster® Fast Set Steel Epoxy  
LOCTITE® Fixmaster® Fast Set Steel Putty  
LOCTITE® Fixmaster® Marine Chocking  
LOCTITE® Fixmaster® Stainless Steel Putty  
LOCTITE® Fixmaster® Steel Liquid  
LOCTITE® Fixmaster® Steel Putty  
LOCTITE® Fixmaster® Superior Metal  
LOCTITE® Fixmaster® Wear-Resistant Putty  
LOCTITE® Nordbak® Pneu-Wear  
LOCTITE® Nordbak® Wearing Compound

## Military Specifications (Mil Spec)

LOCTITE® 220™ Threadlocker, Wicking Grade/Low Strength  
LOCTITE® 222MS™ Threadlocker, Low Strength/Small Screw  
LOCTITE® 242™ Blue Threadlocker, Medium Strength  
LOCTITE® 262™ Threadlocker, Medium to High Strength  
LOCTITE® 271™ Threadlocker, High Strength  
LOCTITE® 277™ Threadlocker, High Strength/Large Threads  
LOCTITE® 290™ Threadlocker, Wicking Grade  
LOCTITE® 571™ Thread Sealant, Pipe Sealant HVV  
LOCTITE® 609™ Retaining Compound, Press Fit/General-Purpose  
LOCTITE® 635™ Retaining Compound, Slip Fit/High Strength/  
Slow Cure  
LOCTITE® 640™ Retaining Compound, Press Fit/Medium Strength/  
High Temperature  
LOCTITE® 675™ Retaining Compound, Press Fit/Medium Strength  
LOCTITE® 712™ Tak Pak® Accelerator  
LOCTITE® 5040™ RTV Silicone  
LOCTITE® 5045™ Flange Sealant  
LOCTITE® 7452™ Tak Pak® Accelerator  
LOCTITE® 7471™ Primer T™  
LOCTITE® 7649™ Primer N™

## Military Specifications (Commercial Item Description)

LOCTITE® 404® Quick Set™ Instant Adhesive, General-Purpose  
LOCTITE® 406™ Instant Adhesive, Surface Insensitive  
LOCTITE® 414™ Instant Adhesive  
LOCTITE® 415™ Instant Adhesive  
LOCTITE® 416™ Instant Adhesive  
LOCTITE® 420™ Instant Adhesive  
LOCTITE® 422™ Instant Adhesive  
LOCTITE® 430™ Instant Adhesive  
LOCTITE® 444™ Tak Pak® Instant Adhesive  
LOCTITE® 454™ Instant Adhesive  
LOCTITE® 493™ Instant Adhesive  
LOCTITE® 495™ Instant Adhesive  
LOCTITE® 496™ Instant Adhesive

## Federal Food, Drug & Cosmetic Act

### 21 C.F.R. § 175.105

LOCTITE® 1942™ Hysol® Hot Melt Adhesive

### 21 C.F.R. § 175.300

LOCTITE® 2046™ Threadlocker

## Federal Institute for Materials Research and Testing, Germany (BAM)

LOCTITE® Thread Sealant for Oxygen Compatible Systems

## International Organization for Standardization

### ISO 10993 COMPLIANT

LOCTITE® M-06FL™ Hysol® Urethane Adhesive  
LOCTITE® M-11FL™ Hysol® Medical Device Urethane Adhesive  
LOCTITE® M-21HP™ Hysol® Medical Device Epoxy Adhesive  
LOCTITE® M-31CL™ Hysol® Medical Device Epoxy Adhesive  
LOCTITE® M-121HP™ Hysol® Medical Device Epoxy Adhesive  
LOCTITE® 431™ Instant Adhesive  
LOCTITE® 435™ Instant Adhesive  
LOCTITE® 713™ Medical Device Accelerator  
LOCTITE® 3201™ Light Cure Adhesive, Polycarbonate/  
Thermoplastics  
LOCTITE® 3211™ Light Cure Adhesive, Polycarbonate/  
Thermoplastics  
LOCTITE® 3301™ Light Cure Adhesive, Plastic/Metal  
LOCTITE® 3311™ Light Cure Adhesive, Plastic/Metal  
LOCTITE® 3321™ Light Cure Adhesive, Plastic/Metal  
LOCTITE® 3341™ Light Cure Adhesive, Plasticized Substrates  
LOCTITE® 3345™ Light Cure Adhesive, Glass/Metal  
LOCTITE® 3381™ Light Cure Adhesive, Flexible/Plastics  
LOCTITE® 3552™ Indigo® Light Cure Adhesive  
LOCTITE® 3553™ Indigo® Light Cure Adhesive  
LOCTITE® 3554™ Indigo® Visible Light Cure Adhesive  
LOCTITE® 3555™ Indigo® Visible Light Cure Adhesive  
LOCTITE® 3556™ Indigo® Visible Light Cure Adhesive  
LOCTITE® 3911™ Light Cure Adhesive  
LOCTITE® 3912™ Light Cure Adhesive  
LOCTITE® 3913™ Light Cure Adhesive  
LOCTITE® 3921™ Light Cure Adhesive, Plastic/Metal  
LOCTITE® 3922™ Light Cure Adhesive, Plastic/Metal  
LOCTITE® 3924AC™ Light Cure Adhesive, Plastic/Metal  
LOCTITE® 3926™ Light Cure Adhesive, Plastic/Metal  
LOCTITE® 3933™ Light Cure Adhesive  
LOCTITE® 3936™ Light Cure Adhesive  
LOCTITE® 3941™ Light Cure Adhesive, High Performance/  
Various Substrates  
LOCTITE® 3942™ Light Cure Adhesive, High Performance/  
Various Substrates  
LOCTITE® 3943™ Light Cure Adhesive, High Performance/  
Various Substrates  
LOCTITE® 3944™ Light Cure Adhesive  
LOCTITE® 3971™ Light Cure Adhesive, Plasticized Substrates  
LOCTITE® 3972™ Light Cure Adhesive, Plasticized Substrates  
LOCTITE® 3974™ Light Cure Adhesive  
LOCTITE® 3979™ Light Cure Adhesive  
LOCTITE® 3981™ Hysol® Epoxy Adhesive, High Performance/  
Various Substrates  
LOCTITE® 3982™ Hysol® Epoxy Adhesive, High Performance/  
Various Substrates  
LOCTITE® 3984™ Hysol® Epoxy Adhesive, High Performance/  
Various Substrates  
LOCTITE® 4011™ Medical Device Instant Adhesive  
LOCTITE® 4013™ Medical Device Instant Adhesive  
LOCTITE® 4014™ Medical Device Instant Adhesive  
LOCTITE® 4031™ Medical Device Instant Adhesive  
LOCTITE® 4061™ Medical Device Instant Adhesive  
LOCTITE® 4081™ Medical Device Instant Adhesive  
LOCTITE® 4161™ Medical Device Instant Adhesive  
LOCTITE® 4206™ Medical Device Instant Adhesive  
LOCTITE® 4304™ Flashcure® Light Cure Adhesive  
LOCTITE® 4305™ Flashcure® Light Cure Adhesive  
LOCTITE® 4306™ Flashcure® Light Cure Adhesive, Instant  
LOCTITE® 4307™ Flashcure® Light Cure Adhesive, Instant





# Agency Listings

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Agency Listings

LOCTITE® 4310™ Flashcure® Light Cure Adhesive  
 LOCTITE® 4311™ Flashcure® Light Cure Adhesive  
 LOCTITE® 4541™ Medical Device Instant Adhesive  
 LOCTITE® 4601™ Medical Device Instant Adhesive  
 LOCTITE® 4851™ Medical Device Instant Adhesive, Flexible  
 LOCTITE® 4861™ Medical Device Instant Adhesive, Flexible  
 LOCTITE® 4981™ Medical Device Instant Adhesive  
 LOCTITE® 5055™ Silicone Adhesive Sealant  
 LOCTITE® 5056™ Silicone Adhesive Sealant  
 LOCTITE® 5240™ Nuva-Sil® Medical Device Sealant  
 LOCTITE® 5248™ Nuva-Sil® Medical Device Silicone Adhesive  
 LOCTITE® 7451™ Medical Device Accelerator  
 LOCTITE® 7701™ Medical Device Adhesive Primer

## UL Classified/Listed for U.S.

LOCTITE® 271™ Threadlocker, High Strength  
 LOCTITE® 515™ Flange Sealant  
 LOCTITE® 561™ Pipe Sealant  
 LOCTITE® 565™ Thread Sealant, Controlled Strength  
 LOCTITE® 567™ Thread Sealant, High Temperature  
 LOCTITE® 5091™ Nuva-Sil® Silicone Potting Compound, High Adhesion  
 LOCTITE® 5600™ Silicone Sealant  
 LOCTITE® 5640™ Silicone Potting Compound  
 LOCTITE® 7809FR™ Hysol® Hot Melt Adhesive, Polyamide  
 LOCTITE® 5606™ Silicone  
 LOCTITE® 3364™ Urethane  
 LOCTITE® 5611F™ Silicone

LOCTITE® 5611S™ Silicone  
 LOCTITE® E-40EXP™ Epoxy  
 LOCTITE® 5604™ Silicone  
 TEROSON® MS 930™ Adhesive  
 TEROSON® MS 939™ Sealant

## ULC Classified for Canada

LOCTITE® 565™ Thread Sealant, Controlled Strength  
 LOCTITE® 567™ Thread Sealant, High Temperature

## CSA International

LOCTITE® 565™ Thread Sealant, Controlled Strength

## CANADIAN FOOD INSPECTION AGENCY (CFIA)

### Product with Letters of No Objection from the Canadian Food Inspection Agency for Food Plant use in Canada

LOCTITE® 220™ Threadlocker, Wicking Grade/Low Strength  
 LOCTITE® 222MS™ Threadlocker, Low Strength/Small Screw  
 LOCTITE® 242™ Threadlocker, Medium Strength  
 LOCTITE® 243™ Blue Threadlocker, Medium Strength  
 LOCTITE® 248™ Threadlocker, Medium Strength/Removable  
 LOCTITE® QuickTape® 249™ Blue Threadlocker Tape, Medium Strength  
 LOCTITE® 262™ Threadlocker, Medium to High Strength  
 LOCTITE® 263™ Red Threadlocker, High Strength  
 LOCTITE® 266™ Threadlocker, High Strength/High Temperature  
 LOCTITE® 268™ Threadlocker, High Strength  
 LOCTITE® 271™ Threadlocker, High Strength  
 LOCTITE® 272™ Threadlocker, High Strength/High Temperature  
 LOCTITE® 290™ Threadlocker, Wicking Grade  
 LOCTITE® 330™ Depend® Adhesive, No-Mix  
 LOCTITE® 380™ Black Max® Instant Adhesive, Toughened  
 LOCTITE® 401™ Instant Adhesive, Surface Insensitive  
 LOCTITE® 404™ Quick Set™ Instant Adhesive, General-Purpose  
 LOCTITE® 410™ Instant Adhesive, Black/Toughened  
 LOCTITE® 414™ Instant Adhesive  
 LOCTITE® 416™ Instant Adhesive  
 LOCTITE® 422™ Instant Adhesive  
 LOCTITE® 435™ Instant Adhesive  
 LOCTITE® 454™ Instant Adhesive, Surface Insensitive Gel  
 LOCTITE® 518™ Flange Sealant  
 LOCTITE® 545™ Thread Sealant, Pneumatic/Hydraulic  
 LOCTITE® 548™ Flange Sealant  
 LOCTITE® 554™ Thread Sealant, Refrigerant Sealant  
 LOCTITE® 561™ Pipe Sealant  
 LOCTITE® 564™ Thread Sealant, General Purpose  
 LOCTITE® 565™ Thread Sealant, Controlled Strength  
 LOCTITE® 567™ Thread Sealant, High Temperature  
 LOCTITE® 569™ Thread Sealant, Hydraulic Sealant  
 LOCTITE® 587™ Blue, High Performance RTV Silicone Gasket Maker  
 LOCTITE® 592™ Thread Sealant, Slow Cure  
 LOCTITE® 598™ Black, High Performance RTV Silicone Gasket Maker  
 LOCTITE® 609™ Retaining Compound, Press Fit/General-Purpose  
 LOCTITE® 620™ Retaining Compound, Slip Fit/High Temperature  
 LOCTITE® 638™ Retaining Compound, Slip Fit/Maximum Strength  
 LOCTITE® 641™ Retaining Compound, Press & Slip Fit/Controlled Strength  
 LOCTITE® 660™ Retaining Compound, Press Fit Repair  
 LOCTITE® 680™ Retaining Compound, Slip Fit/High Strength  
 LOCTITE® 712™ Tak Pak® Accelerator  
 LOCTITE® 770™ Primer  
 LOCTITE® 2047™ Threadlocker, High Strength/High Lubricity, Large Bolts  
 LOCTITE® 2620™ Threadlocker, High Strength/Ultra High Temperature  
 LOCTITE® 2760™ Threadlocker, Primerless/High Strength  
 LOCTITE® 4210™ Thermal Resistance  
 LOCTITE® 4212™ Series Thermal Resistant Gel  
 LOCTITE® 5699™ Grey, High Performance RTV Silicone Gasket Maker  
 LOCTITE® 5900™ Flange Sealant, Heavy Body RTV Silicone

LOCTITE® 5905™ Flange Sealant, RTV Silicone  
 LOCTITE® 5910™ Flange Sealant, RTV Silicone  
 LOCTITE® 5920™ Copper, High Performance RTV Silicone Gasket Maker  
 LOCTITE® 7088™ Primer  
 LOCTITE® 7471™ Primer T™  
 LOCTITE® 7649™ Primer N™  
 LOCTITE® Aviation Gasket Sealant  
 LOCTITE® Belt Dressing & Conditioner  
 LOCTITE® Big Foot® Acrylic Pedestrian Grade  
 LOCTITE® Big Foot® Heavy Duty Pedestrian Grade  
 LOCTITE® Big Foot® Low Profile Pedestrian Grade  
 LOCTITE® Big Foot® Vehicular Grade  
 LOCTITE® Big Foot® Zero V.O.C.  
 LOCTITE® C5-A® Copper Anti-Seize Stick  
 LOCTITE® Chisel® Gasket Remover  
 LOCTITE® Chisel® MC-Free Paint Stripper  
 LOCTITE® Cold Galvanizing Compound  
 LOCTITE® Color Guard®, Black  
 LOCTITE® Color Guard®, Blue  
 LOCTITE® Color Guard®, Red  
 LOCTITE® Color Guard®, Yellow  
 LOCTITE® Contact Adhesive, Yellow  
 LOCTITE® Contact Adhesive, Black  
 LOCTITE® Extend® Rust Treatment  
 LOCTITE® Fixmaster® Aluminum Liquid  
 LOCTITE® Fixmaster® Aluminum Putty  
 LOCTITE® Food Grade Anti-Seize  
 LOCTITE® Nordbak® Brushable Ceramic, Grey  
 LOCTITE® Nordbak® Brushable Ceramic, Red  
 LOCTITE® Nordbak® Brushable Ceramic, White  
 LOCTITE® Nordbak® Chemical Resistant Coating  
 LOCTITE® Fixmaster® Deep Pour Grout  
 LOCTITE® Fixmaster® Fast Cure Epoxy, Mixer Cups  
 LOCTITE® Fixmaster® Poxypak™  
 LOCTITE® Fixmaster® Fast Set Grout  
 LOCTITE® Fixmaster® Fast Set Steel Epoxy  
 LOCTITE® Fixmaster® Fast Set Steel Putty  
 LOCTITE® Fixmaster® Floor Fill  
 LOCTITE® Fixmaster® General-Purpose Epoxy, Mixer Cups  
 LOCTITE® Fixmaster® High Performance Quartz  
 LOCTITE® Fixmaster® Magna-Crete™  
 LOCTITE® Fixmaster® Marine Chocking (Green)  
 LOCTITE® Nordbak® Fast Cure Pneu-Wear  
 LOCTITE® Nordbak® Pneu-Wear  
 LOCTITE® Fixmaster® Stainless Steel Putty  
 LOCTITE® Fixmaster® Steel Liquid  
 LOCTITE® Fixmaster® Steel Putty  
 LOCTITE® Fixmaster® Superior Metal  
 LOCTITE® Fixmaster® Underwater Repair Epoxy  
 LOCTITE® Fixmaster® Wear-Resistant Putty  
 LOCTITE® Food Grade Anti-Seize  
 LOCTITE® Food Grade Grease  
 LOCTITE® Heavy Duty Anti-Seize

LOCTITE® Silicone Lubricant, Non-Aerosol  
 LOCTITE® Form-A-Thread® Stripped Thread Repair  
 LOCTITE® Gasket Sealant 1  
 LOCTITE® High Temperature Gasket Maker  
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 LOCTITE® 6C™ Hysol® Epoxy Adhesive  
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 LOCTITE® 9340™ Hysol® Epoxy Adhesive  
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 LOCTITE® E-05CL™ Hysol® Epoxy Adhesive, Toughened  
 LOCTITE® E-120HP™ Hysol® Epoxy Adhesive, Ultra Strength  
 LOCTITE® E-20HP™ Hysol® Epoxy Adhesive, Fast Setting  
 LOCTITE® E-20NS™ Hysol® Epoxy Adhesive, Metal Bonder  
 LOCTITE® E-30CL™ Hysol® Epoxy Adhesive, Glass Bonder  
 LOCTITE® E-40FL™ Hysol® Epoxy Adhesive, Flexible  
 LOCTITE® E-60HP™ Hysol® Epoxy Adhesive, Toughened  
 LOCTITE® E-60NC™ Hysol® Epoxy Adhesive, Electrically Noncorrosive  
 LOCTITE® E-90FL™ Hysol® Epoxy Adhesive, Flexible  
 LOCTITE® U-05FL™ Hysol® Urethane Adhesive, High Strength  
 LOCTITE® U-10FL™ Hysol® Urethane Adhesive  
 LOCTITE® Instant Gasket  
 LOCTITE® Maxi-Coat™, Aerosol  
 LOCTITE® Maxi-Coat™, Liquid  
 LOCTITE® Natural Blue® Biodegradable Cleaner & Degreaser  
 LOCTITE® Natural Blue® Biodegradable Cleaner & Degreaser, Fragrance-Free  
 LOCTITE® Non-Chlorinated Parts Cleaner  
 LOCTITE® No More Leaks™ Plastic Pipe Sealant  
 LOCTITE® O-Ring Making Kit  
 LOCTITE® Pipe Repair Kit  
 LOCTITE® Pro Strength Degreaser  
 LOCTITE® Pro Strength Parts Cleaner  
 LOCTITE® Pro Strength Varnish Remover  
 LOCTITE® Silver Grade Anti-Seize  
 LOCTITE® Silver Grade Anti-Seize, Stick  
 LOCTITE® Silver Grade Anti-Seize, Aerosol  
 LOCTITE® Solvo-Rust® Super Penetrating Oil  
 LOCTITE® Superflex® RTV Silicone Adhesive Sealant, Black  
 LOCTITE® Superflex® RTV Silicone Adhesive Sealant, White  
 LOCTITE® Superflex® RTV Silicone Adhesive Sealant, Clear  
 LOCTITE® Superflex® Red High Temp RTV, Silicone Adhesive Sealant  
 LOCTITE® Thread Sealant With PTFE  
 LOCTITE® Urethane Sealant  
 LOCTITE® ViperLube® Clear High Performance Synthetic Grease  
 LOCTITE® ViperLube® High Performance Synthetic Grease  
 LOCTITE® ViperLube® High Performance Synthetic Grease, Aerosol



Your Source for  
**LOCTITE® PRODUCTS**  
**FOR DESIGN, ASSEMBLY,**  
**MANUFACTURING &**  
**MAINTENANCE**

**HAVE A QUESTION NOT ANSWERED HERE?**  
Henkel Adhesive and Sealant Product Specialists are available to assist you with new product designs, or to help you re-engineer an existing application for improved performance and cost savings. They can also set up testing of your parts at the Henkel Customer Engineering Center. For application assistance, call 1-800-LOCTITE (562-8483) within Canada, call 1-800-263-5043; or, contact us through the web at [www.henkelna.com/loctite](http://www.henkelna.com/loctite).

# 185 Technical Reference

## DUROMETER HARDNESS

Durometer hardness is a property presented on Technical Data Sheets that shows how hard the resin is in the cured state. A durometer gauge is the actual measuring device consisting of a small drill or blunt indenter point under pressure. Different measurement scales are used for different materials depending on how soft or hard the material. The following chart compares three different graduated measurement scales and relates hardness values to some common objects as well as LOCTITE® brand products.

SHORE A	SHORE D	ROCKWELL M	REFERENCE OBJECT	LOCTITE® PRODUCT
30	–	–	Art Gum Eraser	5140™
40	–	–	Pink Pearl Eraser	5900®
50	15	–	Rubber Stamp	–
60	–	–	Pencil Eraser	5699™
70	30	–	Rubber Heel	–
80	–	–	Rubber Sole	–
90	45	–	Typewriter Roller	366™
100	55	–	Pipe Stem	3106™
–	74	0	Textbook Cover	334™
–	78	32	Douglas Fir Plywood	–
–	82	63	–	E-60HP™
–	86	95	Hardwood Desktop	–
–	90	125	Glass or Formica	–

The higher the number within each scale, the harder the material. Shore readings are typically used for plastics. Shore A is for softer materials; Shore D is for harder materials. Rockwell M readings are typically used for metals.

## MATHEMATICAL CONVERSIONS

The following are some common conversions that might be helpful when using LOCTITE® products:

- 1 milliliter (ml) = 1 cubic centimeter (cc)
- 1,000 ml = 1 liter
- 29.5 ml = 1 fl. oz.
- 3.78 liters = 1 gallon
- 473 ml = 1 pint
- 454 grams (g) = 1 lb.
- 947 ml = 1 quart
- 1 kilogram (kg) = 2.2 lbs.
- Weight to Volume: grams ÷ specific gravity = cc (ml)
- Volume to Weight: cc (ml) x specific gravity = grams
- Density = specific gravity x 0.99823
- Centipoise (cP) = centistokes x density (at a given temperature)
- Temperature: degrees F - 32 x 0.556 = degrees C  
degrees C x 1.8 + 32 = degrees F
- Square Inches to Square Feet: ÷ by 144
- Square Feet to Square Inches: x by 144
- In./lbs. ÷ 12 = ft./lbs.
- Ft./lbs. x 12 = in./lbs.
- 16 in.-oz. = 1 in.-lb.
- 192 in.-oz. = 1 ft.-lb.

## AREA COVERAGE

### Flat Parts:

Length x Width x Bondline Thickness x 16.4 = cc/ml requirement per part

### Non-threaded Cylindrical Parts:

Diameter x Engagement Length x Bondline Thickness (on radius/per side)  
x 3.14 x 16.4 = cc/ml requirement per part

### Potting/Encapsulating Applications:

Area (3.14 x R2) x Potting Depth x 16.4 = cc/ml requirement per part

For no induced gap, make the bondline thickness figure 0.001 in.; 16.4 is a constant for converting cubic inches to cubic centimeters.



# Technical Reference

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Technical Reference

## SHELF LIFE

### **What is the Henkel shelf life policy for LOCTITE® branded products?**

The shelf life period for the majority of LOCTITE® branded products is indicated by the “use by” date on the package.

For optimal storage, maintain product at a temperature between 8°C (46°F) to 21°C (70°F). Storage below 8°C (46°F) or greater than 28°C (82°F) can adversely affect product properties. UNOPENED cyanoacrylate products must be stored under refrigerated conditions at 2°C (36°F) to 8°C (46°F). Storage below 2°C (36°F) or greater than 8°C (46°F) can adversely affect product properties. Unopened cyanoacrylate products should be brought to ambient temperature before the package is opened. Once opened, the product should be left at ambient temperature. Products requiring storage at conditions other than those specified here are labeled accordingly.

Material removed from containers may be contaminated during use. Do not return product to original containers. Henkel cannot assume responsibility for product that has been contaminated or stored under conditions other than as recommended. This policy supersedes all previous policies regarding shelf life and storage of LOCTITE® branded products.

Contact Customer Service at 1-800-LOCTITE (562-8483) if you need additional information.



## VISCOSITY

Viscosity is a product property associated with all LOCTITE® adhesive/sealants. Viscosity is defined as a measure of the resistance of a fluid to flow (usually through a specific orifice). A measure of this fluid “thickness” is expressed in centipoise values. The higher the number, the thicker the product. Thicker products are less flowable and, in most cases, will fill a larger gap if necessary. The following chart relates viscosity to some products we are all familiar with:

PRODUCT	APPROXIMATE VISCOSITY IN CENTIPOISE (cP)	LOCTITE® CYANOACRYLATES	LOCTITE® ANAEROBICS
Water at 70°C	1 to 5	408™	–
Blood	10 to 20	–	290™
Antifreeze	20	406™	–
Motor Oil SAE 10 or Corn Oil	50 to 100	401™	609™
Motor Oil SAE 30 or Maple Syrup	150 to 200	435™	272™
Motor Oil SAE 40 or Castor Oil	250 to 500	4203™	263™
Motor Oil SAE 60 or Glycerin	1,000 to 2,000	403™	243™
Corn Syrup or Honey	2,000 to 3,000	410™	635™
Blackstrap Molasses	5,000 to 10,000	411™	277™/620™
Chocolate Syrup	10,000 to 25,000	454™/455™	545™
Ketchup or Mustard	50,000 to 70,000	409™	–
Tomato Paste or Peanut Butter	500,000	–	567™
Shortening or Lard	1,000,000 to 2,000,000	–	660™
Caulking Compound	5,000,000 to 10,000,000	–	518™
Window Putty	100,000,000	–	–

Some products are considered thixotropic. This describes materials that are gel-like at rest but fluid when agitated. Ketchup is a good example that exhibits this property. LOCTITE® thixotropic products include LOCTITE® 243™ and 263™ Threadlockers.

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**FOR DESIGN, ASSEMBLY,**  
**MANUFACTURING &**  
**MAINTENANCE**

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## Engineering Services

Engineering Services

Henkel Corporation offers complete engineering services for projects demanding expertise and support beyond the limits of our standard technical services. As a result, our engineers and scientists can quote the following value-added services:

- On-site engineering assistance
- Joint product development programs
- Prototype testing, fixture preparation and consultation
- Contract lab services and testing
- Custom formulations



In today's volatile and fluid market landscape, a manufacturer's survival and success are directly related to its technical capability. Rapidly emerging, innovative processes and materials mandate an unprecedented breadth and depth of engineering savvy. Not every company can house the equipment and engineering staff necessary to compete in today's marketplace.

### **THE ENGINEERING SERVICES GROUP OF HENKEL UNDERSTANDS THE NECESSITY OF PARTNERING WITH MANUFACTURERS AND SHARING THIS EXPERTISE WITH THE INDUSTRY THROUGH COST-EFFECTIVE, CUSTOM-TAILORED PROGRAMS.**

These programs range from specialized field teams that evaluate specifications and in-line process requirements, to the development of adhesives, and the design, construction and implementation of dispensing and curing systems. Whether you need competent recommendations on chemical properties, or a full-blown, turnkey process line, the engineering services group of Henkel can provide solutions through the seamless integration of mechanical, electrical, industrial manufacturing, and chemical engineering teams.

The Application Engineering Lab plays host to a battery of testing equipment. Here, experienced technicians conduct a multitude of tests, such as surface contamination, deforming, fixture, tensile and peel strengths.

### **TAKE ADVANTAGE OF OUR RESOURCES**

To access these and other Engineering Services, contact our Adhesive and Sealant Specialists at **1-800-LOCTITE (562-8483)**. Immediate technical assistance is available from 8 a.m. to 5 p.m. ET, Monday through Friday.

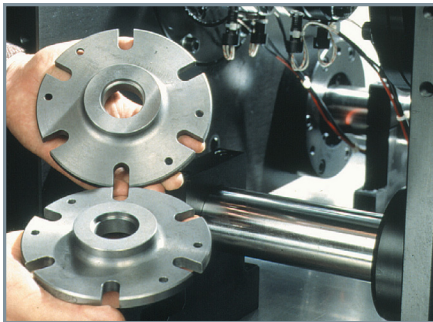
**STRAIGHT FROM** *The Source*



## Engineering Services

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Engineering Services



### **CUSTOM TEST FIXTURES AND PROTOCOLS CAN BE DEVELOPED TO MEET SPECIFIC END-USE REQUIREMENTS**

Crucial in the engineering process is determining whether the customer's application and the adhesive criteria can withstand the gauntlet of rigorous strength tests performed by Henkel. Custom test fixtures and protocols can be developed to meet specific end-use requirements.



### **OUR PROTOTYPING CAPABILITY PROVIDES VALUABLE DATA REGARDING THE FEASIBILITY OF FULL-SCALE MANUFACTURE**

Engineers specializing in LOCTITE® products are frequently called upon to provide process simulations of customer parts on short production runs, such as gasketing. Our prototyping capability provides valuable data regarding the feasibility of full-scale manufacture.



### **MANUFACTURERS CAN GAIN CONFIDENCE IN THE DURABILITY AND LONGEVITY OF AN ASSEMBLY IN THE FIELD**

Our engineers can also create environmental conditions that simulate, and even exceed, the most severe conditions. With heat aging, salt fog, humidity and thermal cycling chambers, our engineers can provide manufacturers with confidence in the durability and longevity of an assembly in the field.



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**MAINTENANCE**



# OEM Training Services

- Educate your engineers on how to cut costs, improve quality and increase production through the integration of adhesives into the new product design process.
- Each instructional event touches on the wide array of LOCTITE® product solutions including adhesives and sealants, dispensing and curing equipment, as well as the unmatched technical support of our product specialists.

## PRODUCT WORKSHOPS

### LOCTITE OEM Workshop

Full- or half-day on-site product training customized to address specific design needs at your manufacturing location.

### LOCTITE OEM Customer Training School

Full- or half-day off-site training designed specifically for design, process, material and manufacturing engineers responsible for assemblies involving the use of adhesives.

## INDUSTRY WORKSHOPS

### Designing Pumps with Adhesives Seminar

Two- to four-hour training on adhesives, coatings, lubricants and the performance improvements that their implementation provides to pump manufacturers.

### Designing Electric Motors with Adhesives Seminar

This half-day seminar reviews in detail the many ways motor manufacturers are using adhesives and sealants to improve performance, reduce costs and enhance manufacturability. The seminar includes many hands-on demonstrations and real-world case histories.

### Medical Advanced Workshop

A four- to seven-hour off-site program providing solutions to medical device manufacturers on design and assembly challenges. The workshop is designed specifically for material, manufacturing and design engineers, and includes hands-on demonstrations of adhesives and equipment.

### Medical Technology On-Site Seminar

Select from a menu of seven of the most requested medical device adhesive topics or create a customized seminar to meet your specific requirements. Courses are conducted at your location, and include instruction, hands-on demonstrations, samples, and technical guides.

**HENKEL OFFERS MANY OTHER WORKSHOPS, WHICH CAN BE CUSTOMIZED TO PROVIDE LOCTITE TRAINING FOR VARIOUS INDUSTRIES AND DEVICES.**

## SERVICES

### Plant Survey

A detailed manufacturing process evaluation performed by a Henkel Adhesive and Sealant Specialist to identify and document potential cost savings and process improvements.



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**MANUFACTURING &**  
**MAINTENANCE**

## MRO Training Services

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MRO Training Services

- All of the following services will teach your maintenance personnel how to save time, reduce costs, improve safety in your plant, and increase the reliability of your equipment.

### PRODUCT WORKSHOPS

#### LOCTITE Maintenance Workshop

Two hours of on-site product training customized to your facility's needs. Optional cost documentation process available.

#### LOCTITE Pump Rebuild Workshop

Two to four hours of product training on how Loctite® products can improve pump reliability and reduce common failures. Includes pump rebuild manual.

#### LOCTITE Maintenance Customer Training School

Full- or half-day product training with review of common maintenance challenges and the appropriate LOCTITE® product solutions.

### MANUFACTURING RELIABILITY TRAINING

#### Manufacturing Reliability Training (MRT)

Four hours of CEU-accredited training on mechanical basics, failure fundamentals and the role of machinery adhesives in equipment reliability. Includes training manual and product tool kit.

### SERVICES

#### Documented Cost Savings

Offers a process for validating and documenting cost savings realized as a result of LOCTITE Workshops or Maintenance Reliability Training.

#### Engineering Assistance

Henkel offers many other services, including air leak surveys, pump rebuild assistance and flooring application assistance. In addition, Henkel offers an optional cost documentation process with the MRT programs and Maintenance Workshop listed above.

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# CAN'T FIND A LOCTITE® PRODUCT?

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37732	524540	39541	233154	40140	135429	41145	135446
37733	524541	39549	233169	40161	135430	41161	135447
38004	232834	39554	233179	40270	708253	41205	864067
38050	135423	39561	233194	40271	708252	41254	868350
38061	135424	39566	233203	40340	135433	41255	868371
38181	531668	39579	233230	40361	233675	41256	868372
38210	534429	39587	233246	40404	735868	41327	873058
38212	534431	39589	233250	40405	735869	41343	873167
38240	135425	39592	233256	40408	735891	41379	877568
38261	135426	39598	233268	40409	735892	41386	877630
38535	556966	39633	243335	40438	742348	41404	233780
38584	566703	39636	233307	40439	742350	41450	233801
38588	568127	39643	233317	40462	743517	41461	233803
38760	579879	39712	233354	40463	743518	41550	135449
38761	579880	39715	233360	40464	743519	41561	233842
38762	579893	39893	233496	40465	743520	41650	135452
38956	618144	39894	233499	40466	743541	41661	209589
39156	640804	39895	1786074	40478	743912	41732	899188
39186	645093	39896	233501	40479	743913	42050	135455
39202	680522	39897	233503	40481	743915	42061	233914
39210	648433	39901	233507	40482	743916	42250	233927
39211	648435	39904	226665	40505	756302	42261	233929
39250	232855	39916	223407	40512	757008	42540	135461
39275	232857	39917	219293	40594	769864	43004	233973
39280	135427	39944	233524	40604	233684	43050	233978
39341	675961	39945	233526	40640	135436	43061	233980
39342	675962	39947	233530	40661	237295	45404	233998
39366	678872	39950	233537	40724	793595	45440	135462
39395	232860	39958	233553	40792	802649	45474	234004
39397	232864	39960	233557	40840	135441	45478	88525
39398	232866	39964	233565	40861	233742	46040	135463
39401	232872	39966	233569	40870	826124	46061	234020
39406	232882	39970	233577	40888	828622	46548	234044
39413	232895	39984	252175	40889	829325	46551	135465
39426	232922	39985	233605	40900	831721	46561	234046
39431	232932	39986	265625	40904	233744	48040	135466
39439	232949	39995	233626	40945	135442	48061	234048
39444	232959	39996	233628	40969	837532	49504	234072
39463	232996	39997	233630	40974	233754	49550	135467
39468	233006	39998	233632	40994	840057	49561	209591

LEGACY ITEM NUMBER	IDH NUMBER	LEGACY ITEM NUMBER	IDH NUMBER	LEGACY ITEM NUMBER	IDH NUMBER	LEGACY ITEM NUMBER	IDH NUMBER
49650	234156	51299	234302	59530	160809	82253	235503
49661	209747	51346	234313	59575	193999	82255	209805
49850	135469	51360	234317	59830	234609	83000	398425
49861	142607	51387	234323	59875	135508	83001	398426
50965	135473	51388	234325	59891	135509	83006	398429
51001	234192	51517	209756	60905	234667	83007	398430
51002	234194	51531	135479	60921	135511	83014	398433
51003	1786073	51572	234341	60931	135512	83015	398434
51004	234198	51580	88541	60941	135513	83019	398436
51005	234200	51605	234347	60943	209763	83020	473132
51006	234202	51606	209758	62005	234768	83022	398437
51007	160796	51607	234349	62015	234772	83024	398438
51008	234204	51608	234351	62040	135514	83025	398439
51009	234207	51609	234353	62070	135515	83032	398444
51011	234209	51817	209759	62085	234787	83038	475398
51031	135474	51831	135481	66010	209765	83041	398448
51041	234225	51845	135482	66040	135527	83045	398449
51048	234227	54505	234428	68005	1835212	83069	398454
51049	226696	54531	135486	68015	1835205	83075	398455
51050	1852755	54541	195662	68035	1835201	83086	420332
51074	234240	54941	1661866	68060	1835196	83094	398458
51084	234244	55441	135489	68090	1835206	83104	398459
51094	234246	56507	234438	75430	234981	83105	470411
51102	234248	56531	88551	75448	160802	83113	420338
51115	234251	56541	88552	75465	234984	83114	398461
51116	234253	56543	234440	76732	199012	83127	398465
51117	234255	56566	234442	76759	135541	83128	398466
51144	234259	56571	234444	76764	235005	83129	398467
51145	226801	56707	234451	76775	235009	83130	420341
51146	234262	56747	135491	76820	235018	83131	416033
51147	234263	56765	234458	76871	135542	83133	475441
51152	234269	56790	234469	77124	235028	83134	475442
51211	209750	56931	135492	77164	135543	83142	398469
51213	209752	56941	209605	77175	209768	83176	398470
51221	198792	58031	88565	79040	135544	83179	398471
51242	209753	58730	135504	80206	235086	83183	1377391
51243	234280	58775	234590	80209	235092	83200	1373425
51245	303543	58791	234592	80964	235270	83201	1377344
51246	234282	59214	88567	81246	209795	83206	1377777
51252	209754	59231	209761	81251	1906177	83216	398479
51269	234284	59241	88568	81252	1865406	83217	398480
51270	234286	59243	209762	82039	209802	83239	420348
51272	234288	59330	193996	82046	235479	83245	420350
51273	234290	59375	193997	82093	235487	83247	420351
51277	234292	59430	135506	82249	235502	83248	475498
51286	1852753	59475	193998	82251	209804	83264	420356



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LEGACY ITEM NUMBER	IDH NUMBER	LEGACY ITEM NUMBER	IDH NUMBER	LEGACY ITEM NUMBER	IDH NUMBER	LEGACY ITEM NUMBER	IDH NUMBER
83267	420357	96495	209669	97412	235610	98100	693474
83269	420358	96604	235605	97413	209820	98114	585564
83274	416016	96675	428557	97422	235611	98115	506204
83277	416035	96676	428791	97423	209821	98122	506252
83279	420362	96677	432774	97443	235613	98125	506458
83308	420368	97001	88631	97453	235614	98127	506491
83316	420370	97006	88633	97463	235615	98128	606025
83319	420371	97042	476898	97473	209822	98163	585580
83321	420372	97101	961819	97483	235617	98164	570564
83326	1863185	97111	88642	97484	235618	98165	585582
83328	420375	97112	88643	97541	548167	98166	570565
83330	398484	97113	88644	97572	237301	98167	585583
83332	1863184	97114	88645	97970	142645	98168	570566
83338	416015	97116	142635	97972	142646	98169	570567
83340	471918	97130	444643	98003	158531	98170	570568
83342	420377	97131	194420	98004	218283	98171	585584
83349	420379	97132	215996	98009	218280	98172	570569
83354	420381	97135	215846	98011	218278	98173	570570
83356	420382	97136	215848	98013	318654	98174	570571
83358	420383	97141	548168	98022	478490	98175	585585
83360	420384	97152	1275665	98033	420489	98176	570572
83365	420387	97207	88656	98034	420490	98177	585586
83368	420389	97208	88657	98035	420491	98178	570573
83372	475559	97215	135560	98036	420492	98179	569729
83374	475561	97216	303605	98037	420493	98180	570574
83394	420392	97221	88660	98039	478495	98181	606027
83398	420393	97222	88661	98040	419094	98192	677280
83400	420394	97223	88662	98041	420494	98193	739983
83675	420482	97224	88663	98050	504753	98196	585587
83676	420483	97225	88664	98061	570551	98197	570579
95551	235572	97226	88665	98062	544248	98198	585588
95555	235573	97227	88666	98063	544246	98199	855986
95724	235579	97228	88667	98064	505651	98200	585637
96092	209816	97229	142640	98065	570552	98201	570580
96102	235582	97230	142641	98066	544226	98208	570585
96121	303595	97231	142642	98067	505653	98209	570586
96131	303596	97232	142643	98068	505659	98210	570587
96153	236388	97233	88672	98069	569711	98211	545281
96321	209818	97244	88677	98070	505671	98212	570588
96322	269078	97245	88678	98071	606023	98213	570589
96332	235597	97248	218275	98074	506148	98214	585650
96363	235598	97261	88727	98080	506149	98215	570590
96373	235599	97262	218288	98082	506200	98216	569743
96392	235600	97263	218287	98084	534301	98217	570591
96433	235601	97264	218286	98085	585002	98218	542204
96443	209668	97294	508102	98090	764500	98219	570592

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98220	662212	98266	569746	98392	600971	98483	774651
98221	855987	98267	570622	98393	600972	98484	774640
98222	542208	98268	570623	98394	600973	98485	774639
98223	570593	98269	570624	98396	600974	98486	774638
98224	542205	98270	585656	98397	600975	98487	774658
98225	570594	98271	570625	98398	567209	98488	774657
98226	585651	98272	553444	98399	600976	98489	774636
98227	570595	98273	570626	98400	600977	98490	774635
98228	135564	98283A	801476	98401	600978	98491	757103
98229	570596	98291A	801468	98402	600979	98492	736396
98230	542206	98299A	801460	98403	600982	98493	774634
98231	570598	98314	583952	98404	601000	98494	774633
98232	570599	98315	583954	98405	601001	98495	717764
98233	570600	98316	569764	98406	830680	98496	757100
98234	585653	98318	590762	98408	752665	98497	774632
98235	570601	98319A	945900	98413	630560	98498	774610
98236	570602	98320	585888	98414	608966	98499	717765
98237	570603	98321	590776	98415	583808	98501	756316
98238	570604	98322	590777	98416	583955	98520	743155
98239	570605	98326	577150	98424	601003	98522	756315
98240	542209	98327	585942	98425	601007	98548	769914
98241	570606	98328	577151	98430	631391	98557	862865
98242	570607	98329	585943	98439	687636	98559	806314
98243	606028	98336	569768	98440	647174	98561	854801
98244	542220	98343	590994	98441	806034	98563	854803
98245	570608	98345	570628	98444	778273	98565	862864
98246	570609	98346	570629	98445	721277	98576	862863
98247	570610	98347	570630	98446	727052	98578	854804
98248	542222	98357	591001	98447	752667	98581	862861
98249	570611	98364	833984	98448	727051	98584	862850
98250	570612	98367	570635	98449	752666	98587	854800
98251	570613	98371	606051	98454	720225	98595	806038
98252	542224	98372	235622	98455	720230	98606	862749
98253	570614	98373	606052	98456	720173	98610	805478
98254	569745	98374	804261	98457	720174	98611	806854
98255	570615	98377	756477	98458	720175	98612	806855
98256	542229	98379	756475	98459	720177	98622	833940
98257	570616	98382	209676	98464	720222	98623	833982
98258	585654	98383	209824	98466	720223	98624	830710
98259	570617	98385	600941	98472	720228	98625	830709
98260	542230	98386	600947	98473	720227	98626	830708
98261	570618	98387	600951	98474	720226	98627	830707
98262	585655	98388	600955	98479	774656	98628	830706
98263	570619	98389	600957	98480	774655	98629	830705
98264	570620	98390	600958	98481	774654	98632	826190
98265	570621	98391	600959	98482	774652	98641	841636

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LEGACY ITEM NUMBER	IDH NUMBER	LEGACY ITEM NUMBER	IDH NUMBER	LEGACY ITEM NUMBER	IDH NUMBER
98642	841635	981866	218328	985225	418307
98646	841639	981994	218327	985246	478600
98647	841631	982644	478510	985249	470572
98652	853836	982719	209685	985397	478603
98653	848088	982720	478513	986000	209687
98655	862849	982722	218323	986025	478604
98656	862839	982723	435042	986035	224019
98657	863232	982726	478516	986060	215995
98658	862838	982727	478517	986300	218300
98659	862837	982880	218322	986301	307033
98660	862834	983330	243343	989268	743219
98661	862831	983436	218483	989269	743220
98667	874905	983437	218315	989516	773794
98668	875472	983438	218312	989518	774127
98671	911007	983439	218311	989763	864176
98672	884683	983509	856044	989771	864180
98687	916050	984261	478554	989777	864513
98693	235625	984262	478555	989787	867896
98732	209825	984263	478556	989788	867895
98733	209826	984264	478557	989789	867897
98742	235626	984268	478561	989852	864512
98743	209827	984272	570646	997367	486729
98853	209681	984650	630561	998390	218293
98992	235628	984688	478570	998400	209688
99112	235631	984832	478574		
99361	235632	985110	478581		
99365	235633	985111	478582		
99545	235637	985112	478583		
99626	235638	985113	416691		
99912	235641	985114	478584		
99913	219292	985115	478585		
99914	235642	985122	570665		
980160	218334	985211	478587		
981821	218330	985216	478588		

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Rust, corrosion, galling, or seizing on metal threaded and unthreaded assemblies	Anti-Seize Compounds
Slippery pedestrian/vehicular areas	Anti-Slip Coatings
Damaged conveyor belts	Belt Repair/Urethanes
Fastening and joining	Bonding – Acrylic, Cyanoacrylate, Epoxy & Urethane, Hot Melt
Worn surfaces/damaged parts	Epoxies
Cracked floors, restoring old concrete, bonding to concrete/set anchor bolts, mount equipment	Flooring & Grout
Leaks – gasket, oil, transmission, coolant	Gasketing & Sealing
Friction, heat, or wear between solid metal surfaces	Lubricants
Backlash, key wallowing, spun bearings, shaft alignment, wear	Retaining Compounds
Vibrational loosening	Threadlocking
Leaks – air, hydraulic, fouled valves	Thread Sealing
Worn or corroded surfaces – material handling equipment	Wearing Compounds



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2015 VOLUME 19

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