

# The Adhesive Sourcebook

2017 VOLUME 20

Your Source for

LOCTITE® PRODUCTS FOR DESIGN, ASSEMBLY, MANUFACTURING AND MAINTENANCE









# Why Adhesives?

Welcome to the 2017 edition of The Adhesive Sourcebook. This comprehensive guide to LOCTITE® products is designed to simplify your adhesive selection process. Each section includes helpful decision trees, product descriptions, properties charts, and related dispensing equipment to provide you with a total solution.

For more than 60 years, the LOCTITE® brand has helped countless companies increase reliability, reduce downtime, and improve manufacturing processes. LOCTITE® is the trusted choice for engineered, high-performance adhesive, sealant and coating solutions. Our expansive product portfolio offers solutions for the most demanding design, manufacturing and maintenance challenges.

### **BENEFITS OF ADHESIVES**

LOCTITE® adhesives are a superior alternative to mechanical fastening and joining methods for almost every application. Here are a few examples:

- 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

### **BACKED BY HENKEL**

The LOCTITE® brand is backed by the resources of Henkel, the leading solution provider for adhesives, sealants and functional coatings worldwide. Henkel offers much more than quality adhesives – we work as a partner with customers to help solve their toughest challenges. Henkel's resources include:

**Engineering Services:** 10 R&D centers worldwide staffed by 3,000 design, application and manufacturing reliability professionals

**Innovation:** More than 30% of our sales come from products launched in the past five years

Complete Equipment Line: Dispensing and curing equipment that can be easily integrated into your manufacturing process

**Global Support:** With a presence in more than 70 countries, Henkel can provide support worldwide.



U.S.: 1-800-LOCTITE (562-8483) Canada: 1-800-263-5043 na.henkel-adhesives.com/loctite www.equipment.loctite.com







## **The Adhesive Sourcebook 2017**

Your Source for

# LOCTITE® PRODUCTS FOR DESIGN, ASSEMBLY, MANUFACTURING & MAINTENANCE



# **ENHANCEMENTS**

### **New Product Names**

As you review the 2017 Adhesive Sourcebook, you may notice that some of our product names have changed. This is the result of a Henkel program to simplify our global brand portfolio. All our products are now grouped under five main technology brands: LOCTITE®, BONDERITE®, TECHNOMELT®, TEROSON® and AQUENCE®. As part of this process, some product names and labels have changed.

To find a product quickly, you can refer to the **Cross Reference Index on pg. 209** for a list of legacy product names and the corresponding new names.

While some of our product names may be different, you will still receive the same quality LOCTITE® adhesives and sealants that you know and trust.

If you have any questions, please contact us at 1-800-LOCTITE (562-8483).

### 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

### na.henkel-adhesives.com/loctite

In addition to support from your local representative, our website, **na.henkel-adhesives.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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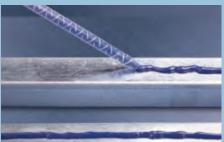
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**Index by Chemistry** 

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# **Bonding**

**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 na.henkel-adhesives.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.</li>
- 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	ADHESIVE CATEGORY								
CONSIDERATIONS	CYANOACRYLATES	EPOXIES	HOT MELTS	LIGHT CURE	SILICONES	ELASTOMERS	URETHANES	2-PART Acrylics	2-STEP ACRYLICS
BENEFITS	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
LIMITATIONS	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
TEMPERATURE RESISTANCE									
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)
ENVIRONMENTAL RESISTANCE									
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
ADHESION TO SUBSTRATES									
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
OVERLAPPING SHEAR STRENGTH	High	High	Low	High	Low	Medium	Medium	High	High
PEEL STRENGTH	Low <sup>3</sup>	Medium	Medium	Medium	Medium	Medium	Medium	High	Medium
TENSILE STRENGTH	High	High	Low	High	Medium	Medium	Medium	High	High
ELONGATION/FLEXIBILITY	Low	Low	High	Medium	High	High	High	Medium	Medium
HARDNESS	Rigid	Rigid	Semisoft	Semirigid	Soft	Soft	Soft	Semirigid	Semirigid
PROCESS				ADHE	SIVE CATEGOI	RY			
CONSIDERATIONS	CYANOACRYLATES	EPOXIES	HOT MELTS	LIGHT CURE	SILICONES	ELASTOMERS	URETHANES	2-PART ACRYLICS	2-STEP ACRYLICS
NUMBER OF COMPONENTS	1 or 2	2	1	1	1 or 2	1 or 2	1 or 2	2	2
CURE TEMPERATURE	Room Temperature	Room Temperature	Room Temperature <sup>4</sup>	UV/Visible	Room Temperature	Room Temperature	Room Temperature	Room Temperature	Room Temperature
FIXTURE TIME									
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
FULL CURE TIME	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
GAP FILL									
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
DISPENSING/MIXING EQUIPMENT REQUIRED	NO	YES	YES	NO	NO	NO	YES	YES	NO
LIGHT CURE VERSIONS AVAILABLE	YES	YES	NO	YES	YES	NO	NO	NO	YES

Cyanoacrylates have very good moisture resistance on plastics.

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. Elevated temperatures are required to dispense liquid Hot Melt Adhesives.
 Urethane Hot Melts require 24 hours for full cure.

### **FREE BONDING GUIDES**

LOCTITE® Design Guides help you select the proper LOCTITE® adhesive for bonding Metals, Plastics, Rubbers and Thermoplastic Elastomers. Visit na.henkel-adhesives.com/loctite and click on Literature, then select Bonding to view the guides or request copies.



ADDITIONAL RESOURCES

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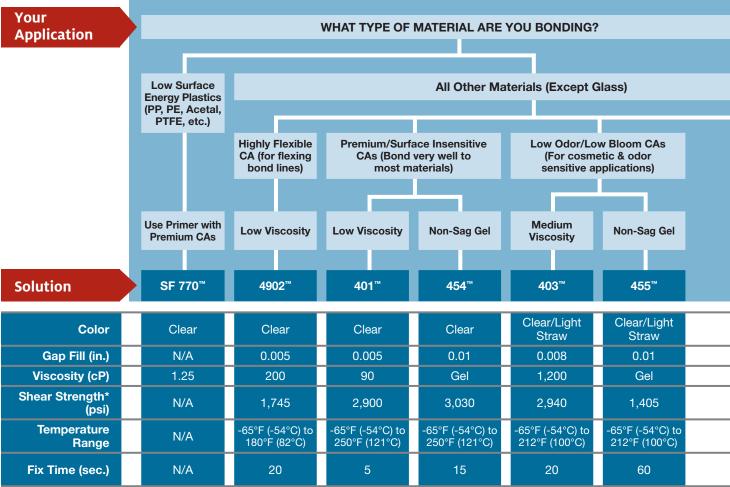
Hourued liquid adhesives may cause stress cracking of certain thermoplastics, e.g., polycarbonate, acrylic and polysulfone. Special products and process techniques are available. Consult the LOCTITE® Design Guide to Bonding Plastics (LT-2197) or contact 1-800-LOCTITE (562-8483) for more information.

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

# **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





### Product Description

### LOCTITE® SF 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.

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.

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.

Package Size 40104 3 a 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 300 g cartridge 231962 850 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.

Package Size 40340 20 a bottle 40361

### 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
23588	850 g cartridge

#### \* Grit-blasted steel.

- \*\* Polycarbonate to polycarbonate.
- † Full cure = 24 hours without UV exposure.
- At 0.002 in. gap.
- ADDITIONAL **PRODUCT** AVAILABLE
  - SF 7951™ Nonflammable Primer

### ADDITIONAL **PRODUCT**

AVAILABLE			
4903™	Increased modulus		

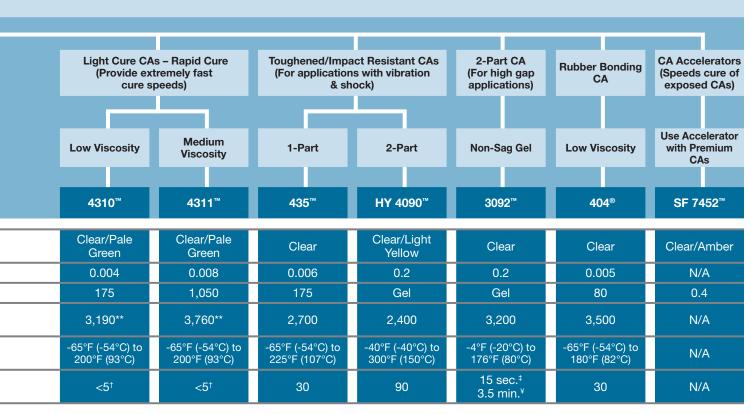
ADDITIONAL PRODUCT AVAILABLE			
431™	Medium viscosity		
406™	Wicking viscosity		

ADDITIONAL PRODUCTS AVAILABLE				
408™	Wicking viscosity			
460™	Low viscosity			









### LOCTITE® 4310™ 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™ 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® HY 4090™ Structural 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® HY 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® 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® SF 7452™ 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

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

- Strong strength of a structural adhesive
- Fast speed of an instant adhesive
- High impact and vibration resistance 3x more than instant adhesives
- he benefits of LOCTITE® HY 4090
   Temperature resistance to 300°F
  - Fills gaps up to 0.2"
    Bonds multiple substrates metals, plastics, rubbers, etc.

PROD AVAIL	UCTS
7113™	Longer or

Attails	- TO LL
	Longer on part life
	Instant Adhesive

# **Cyanoacrylate Adhesives**

### **Loctite® Cyanoacrylate Adhesive Properties Chart**

LOC	TITE® PRO	DUCT	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
	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
POSE	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
GENERAL-PURPOSE SURFACE INSENSITIVE	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
GENER	454™		45404 21925 45440 1337712 45474 45478 231962	3 g tube 10 g syringe 20 g tube 30 g syringe 200 g tube 300 g cartridge 850 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 23588	10 g syringe 200 g tube 850 g cartridge	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
LOW	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
ODOR / LOW BL	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
S D MOT	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
	4306™		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
IT CURE	4310™		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
LIGHT (	4311™		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
ш	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
FLEXIBLE	4903™		1875847	20 g bottle	Flexing bond lines, Increased modulus	Clear	0.004	CA/ Epoxy Hybrid	200	1,670	-65°F (-54°C) to 180°F (82°C)	Fixture – 15 sec. Full – 24 hrs.	1	ISO 10993
	HY 4090™		1915601	50 g dual cartridge	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™		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
TOUGHENED	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
<u></u>	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	N/A
	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
SENSITIVE	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
SUBFACE INSENSITIVE	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			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

\*\* Varies with substrates.

= Indicates Worldwide Availability U.S.: 1-800-LOCTITE (562-8483)

<sup>‡</sup> Data generated using polycarbonate.

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

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

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

## **Loctite® Cyanoacrylate Adhesive Properties Chart**

	OCTITE®	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
MALLY	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
TOUGHENED THERMALLY Resistant	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
TOUGHE R	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
	382™	20420 38240 38261	20 g kit <sup>‡</sup> 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®	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 <sup>™</sup>	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
GENERAL-PURPOSE	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
AL-PU	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
GENER	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™	12292 20419 12294	20 g bottle 20 g kit# 1 lb. bottle	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
	454™	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**

LO	LOCTITE® PRODUCT ITEM PACKAGE TYPE & SIZE		COLOR	VISCOSITY (cP)	BASE	ON-PART Life	DRY TIME	APPLICATION	AGENCY APPROVALS		
		SF 712™	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
-	ORS	SF 7109™	22440 23034	1.75 fl. oz. bottle 1 quart can	Clear/Amber	3	Perfluorocarbon	1 minute	<5 seconds	All cyanoacrylates	N/A
PREPARATION	ACCELERATORS	SF 7113™	19605 19606 1806199	1.75 fl. oz. bottle 1 gallon can 313 lb. drum	Clear	0.4	Heptane	24 hours	<1 minute	All cyanoacrylates	N/A
SURFACE PRE	AC	SF 7452™	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	SF 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
	PRIIV	SF 7951™	27858	1.75 fl. oz. bottle	Colorless, Slightly Hazy	0.7	Perfluorocarbon and Chlorobenzotrifluoride	8 hours	30 seconds	All cyanoacrylates	N/A

# 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.



	LOCTITE	® PRODUCT		ITE	M NUMBE	:R	USED	TO DISPENSE	P	ACKAGE TYPES & SIZES	VISCOS	SITY RANGE	CONSUMABLES – DISPENSE ACCESSORIES
	BOTTLE DISPENSING												
)RS	7	CA VOLUMETRIC HAN	D PUMP	1506477	•		Cyanoacr	ylates	20 g	or 1 fl. oz. bottle	0.009 – 0.0	002 g	Dispense Tips and Accessories – Pages 174-175
ATC	die 6	SOFT SQUEEZE BOTTI	.ES	98345			All Fluids		2 fl. (	oz. packages	Low to Me	dium	Dispense Tips and
글	100			98346			All Fluids		4 fl. (	oz. packages			Accessories – Pages 174-175
AP				98347			All Fluids		8 fl. (	oz. packages	1		
昷	SYRINGE DISPENSING												
HANDHELD APPLICATORS	×	10 ML GEL CA SYRING DISPENSER	GE	1233800	)		Any fluid 10 ml syr		10 m	ll syringe	Low to Hig	h	Dispense Tips and Accessories – Pages 174-175
	1-14	30 ML MANUAL SYRII Applicator	NGE	1544934			Any fluid syringe, ii 25 ml syr		30 m	ll syringe	Low to Hig	h	Dispense Tips and Accessories – Pages 174-175
	LOCTITE® PF	RODUCT	ITEM NUMBER	ТҮ	PE	VISCOSI	TY RANGE	DISPENSE PATTERNS	US	ED TO DISPENSE	STROKE ADJUSTMENT	ACTUATION	CONSUMABLES – DISPENSE ACCESSORIES
	LOW VISCOSITY CYANG	ACRYLATE APPLICATOR						· · · · · ·					
HANDHELD VALVES	, Marin Contraction of the Contr	LV HAND-HELD Applicator	97130	Pneun	natic	Low		Drop, Dot, Bead		dhesives, Retaining nds, Threadlockers	Yes	Foot	Dispense Tips and Accessories – Pages 174-175
룦	PINCH TUBE APPLICAT	ORS											
HAND	20	VARI-DROP™ APPLICATORS	97131 97132	Pinch	Tube	Low to N	Medium	Drop, Dot, Bead	Instant A Compour	dhesives, Retaining nds, Threadlockers	Yes	Finger	Dispense Tips and Accessories – Pages 174-175
	LOCTITE® PRODUCT ITEM NUMBER		Т	YPE	VISCOS	ITY RANGE	DISPENSE PATTERNS	US	ED TO DISPENSE	STROKE ADJUSTMENT	SUCK-BACK	CONSUMABLES – DISPENSE ACCESSORIES	
	HIGH PRECISION VALVE		HOMBEN					TATTEMO			ABOOOTIMENT		Acceptance
	1	STATIONARY APPLICATOR VALVE	97113 97114	High Precis	ion	Low to Medium		Drop, Dot, Bead	Instant A	nt Adhesives, dhesives, Retaining nds, Threadlockers	Yes	Yes	Dispense Tips and Accessories – Pages 174-175
	HIGH PERFORMANCE D	IAPHRAGM VALVES											
VALVES	1	VA10 MICRO Diaphragm valve	1611449	High Perfor Diaphi	mance ragm			Drop, Dot, Bead, Microdot	Instant Adhesives		Yes	No	Dispense Tips and Accessories – Pages 174-175
AV	The state of	VA15 DIAPHRAGM VALVE	1730181	High Perfor Diaphi	mance ragm	Low to	Medium	Drop, Dot, Bead		and Other Moisture Adhesives	Yes	No	
	44	CYANOACRYLATE DISPENSE VALVE	98013	High Perfor Diaphi	mance ragm	Low to	Medium	Drop, Dot, Bead	Compour	dhesives, Retaining nds, Threadlockers	Yes	No	
	0.0	LIGHT CURE DISPENSE VALVE	98009						Light Cur	e Adhesives			
	LOCTITE®	PRODUCT		ITEM NUMBER		SURE LATION	U	SED TO DISPENS	SE	PACKAGE TYPES & SIZE	S VISCOSITY RANGE	LOW LEVEL SENSING	CONSUMABLES – DISPENSE ACCESSORIES
	PNEUMATIC CARTRIDG	E DISPENSING											
CARTRIDGE DISPENSING		300 ML PNEUMATIC CARTRIDGE DISPENS RETAINER	ING	98319A	98319A 0 to 60 ps		Anaerobio	oacrylates, c Gasketing, e/Acrylics, Silid	cones	300 ml cartridges	Low to Medium	No	Cartridge Accessories – Page 175
RIDGE DI	4	HD10 300 ML PNEUM CARTRIDGE DISPENS		1714379	0 to 60	psi	Anaerobio	oacrylates, c Gasketing, e/Acrylics, Silid	cones	300 ml cartridges 250 ml tubes	Medium to High	No	
CARTI	H	300 ML CARTRIDGE F	PUSHER	98022	8022 0 to 50 psi		Gasketing	pacrylates, Ana I, Light Cure/A Posity Silicones	crylics,	300 ml cartridges 250 ml tubes	Medium	Yes	

	LOCTI	TE® PRODUCT	ITEM NUMBER	DISPENSE PATTERNS	USED TO DISPENSE	PACKAGE TYPES & SIZES	VISCOSITY RANGE	VACUUM Suck-Back	CONSUMABLES – DISPENSE ACCESSORIES
	VOLUMETRIC BOTTI	LE 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 174-175
	COMPLETE PRESSU	RE-TIME BOTTLE DISPENSE SYSTEM							
		BOND-A-MATIC® 3000 DISPENSER 0-15 psi	982719	Dot, Drop, Bead	Gel Adhesives, Instant Adhesives, Light Cure/ Acrylics. Retaining	250 ml bottle 1 lb. bottle 1 liter bottle	Low	N/A	Dispense Tips and Accessories – Pages 174-175
		BOND-A-MATIC® 3000 DISPENSER 0-100 psi	982722		Compounds, Threadlockers	2 kg bottle 200 g squeeze tube	Medium to High		Fayes 174-173
SME	SYRINGE DISPENSI	NG SYSTEMS							
DISPENSE SYSTEMS	. m	POSI-LINK™ DISPENSE SYSTEM	See Page 171	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 174-175
DISPE	,0	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	Low to Paste	Yes	Syringes – Pages 179-180
		DIGITAL SYRINGE DISPENSING SYSTEM	883976			55 ml syringe			
		SD10 DIGITAL SYRINGE DISPENSER	1514629						
	19	FOOT PEDAL DISPENSER	98050*						

 $<sup>^{\</sup>star} \ \ \text{Syringe Airline Adapter sold separately. Visit www.equipment.loctite.com for all available accessories.}$ 

	LOCTITE® PRODUCT			CONTROLLED OUTPUTS	NUMBER OF Dispense Valves	ADVANCING SLIDE	ROTOSPRAY™	ACCESSORIES
MULTIFUNCTION CONTROLLERS		DUAL CHANNEL AUTOMATIC CONTROLLER	97152	2	2 (Independent)	97119 – 100 mm	37110	Visit www.equipment.loctite.com for more information on
TROLL		SPRAY VALVE CONTROLLER	1406023	1	1	N/A	N/A	additional accessories.
		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	ITEM Number	PRESSURE REGULATION	USED TO DISPENSE	PACKAGE TYPES & SIZES	VISCOSITY RANGE	LOW LEVEL SENSING	CONSUMABLES – DISPENSE ACCESSORIES			
	INTEGRATED RESER	VOIR CONTROLLERS									
		AUTOMATIC DISPENSER Adhesives,					Yes	Dispense Tips and Accessories – Pages 174-175			
CONTROLLERS & RESERVOIRS	ET .		1390321	0 to 100 psi	Retaining Compounds, Threadlockers	2 kg bottle 200 g squeeze tube	Medium to High		rayes 174-173		
SER	RESERVOIRS										
8 R	- T	BOND-A-MATIC® 3000 RESERVOIR	982720	0 to 15 psi	Gel Adhesives, Instant Adhesives,	250 ml bottle 1 lb. bottle	Low to Medium	Yes	Dispense Tips and Accessories –		
LERS		3000 RESERVOIR	982726		Light Cure/Acrylics, Retaining Compounds,	1 liter bottle 2 kg bottle		No	Pages 174-175		
TROI	0 3			9827	982723	0 to 100 psi	Threadlockers	200 g squeeze tube	Medium to High	Yes	
CON			982727				torngii	No			
	重	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 169.

# **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?								
• •										
		General Bonding		Temperature a						
	Performance	e Assembly	Plastic-to- Plastic Bonding							
	Fast Set Time	Gap Filling	High Heat Resistance	UL 94V-0 Rating	High Temperature					
Solution	TECHNOMELT® PA 7460™	TECHNOMELT® PA 7804™	TECHNOMELT® 6009S™	TECHNOMELT® PA 7809FR™	TECHNOMELT® PA 7901™					
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**

### **TECHNOMELT®** PA 7460" **Hot Melt Adhesive**

### Sprayable

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

Package Size 83308 Polyshot 25 lb. pail

### **TECHNOMELT®** PA 7804<sup>™</sup> **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 Polyshot 25 lb. pail

### TECHNOMELT® 6009S™ **Hot Melt Adhesive**

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

Heat Resistant

### **Hot Melt Adhesive** Fire Retardant

**TECHNOMELT®** 

PA 7809FR™

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

### **TECHNOMELT®** PA 7901" **Hot Melt Adhesive**

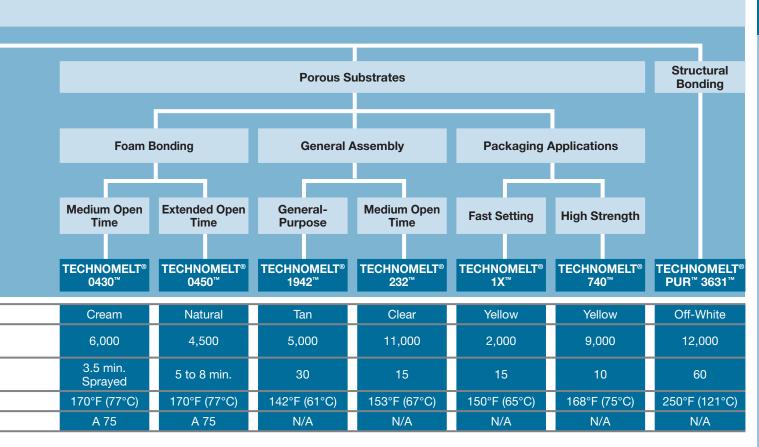
### Potting

Low viscosity polyamide used extensively for potting and encapsulating.

P/N	Package Size
83342	40 lb. carton pellets







### TECHNOMELT® 0430™ 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

### TECHNOMELT® 0450™ 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)

### TECHNOMELT® 1942™ 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

### TECHNOMELT® 232™ Hot Melt Adhesive Medium Open Time

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

Package Size

P/N

83239 40 lb. carton pellets 83245 Superstick (10 in.) 25 lb. carton 83247 Polyshot 35 lb. carton

# TECHNOMELT® 1X<sup>™</sup> Hot Melt Adhesive Fast Setting

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

Package Size

P/N

83358 40 lb. carton pellets 83360 Maxistick 35 lb. carton 83365 Superstick (10 in.) 25 lb. carton 83368 Polyshot 35 lb. carton

### TECHNOMELT® 740™ Hot Melt Adhesive High Strength

Fast setting adhesive recommended for packaging applications.

P/N Package Size
83264 Polyshot 35 lb.
carton

### TECHNOMELT® PUR™ 3631™ Hot Melt Adhesive

### High Strength

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

P/NPackage Size31291300 ml cartridge312795 gallon pail

# Hot Melt Adhesives







## **Loctite® 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
SED	TECHNOMELT® 0430™	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
POLYOLEFIN-BASED	TECHNOMELT® 0450™	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
POLY	TECHNOMELT® 6009S™	83372	40 lb. carton pellets	Natural	Fast set	8,100	210	25 seconds	300°F (149°C)	50	N/A	N/A
URETHANE— BASED	TECHNOMELT® PUR™ 3631™	31291 31279	300 ml cartridge 5 gallon pail	Off- White	High strength	12,000	1,800	60 seconds	250°F (121°C)	940	A 91	N/A
	TECHNOMELT® PA 7460™	83308	Polyshot 25 lb. pail	Pale Amber	Sprayable	6,700	N/A	30 seconds	210°F (99°C)	N/A	N/A	N/A
	TECHNOMELT® PA 7802™	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
POLYAMIDE-BASED	TECHNOMELT® PA 7804™	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
OLYAM	TECHNOMELT® PA 7805™	1863184	32 lb. carton pellets	Amber	Flexible	7,500	340	35 seconds	220°F (104°C)	800	A 70	N/A
Ь	TECHNOMELT® PA 7809FR™	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
	TECHNOMELT® PA 7901™	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® 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
	TECHNOMELT® 1X™	83358 83360 83365 83368	40 lb. carton pellets Maxistick 35 lb. carton Superstick (10 in.) 25 lb. carton Polyshot 35 lb. carton	Light Yellow	Fast setting	2,000	370	15	150°F (65°C)	90	N/A	N/A
	TECHNOMELT® 232™	83239 83245 83247	40 lb. carton pellets Superstick (10 in.) 25 lb. carton Polyshot 35 lb. carton	Clear	Medium open time	11,000	N/A	15	153°F (67°C)	N/A	N/A	N/A
	TECHNOMELT® 236™	83248	Superstick (10 in.) 35 lb. carton	Clear	Medium viscosity	8,500	213	25	140°F (60°C)	450	N/A	N/A
	TECHNOMELT® 740™	83264	Polyshot 35 lb. carton	Light Yellow	High strength	9,000	750	10	168°F (75°C)	75	N/A	N/A
EVA-BASED	TECHNOMELT® 740LV™	83374	Polyshot 35 lb. carton	Light Yellow	High temperature	3,500	700	10	155°F (68°C)	80	N/A	N/A
EVA-E	TECHNOMELT® 1942™	83267 83269 83274 83277	40 lb. carton pellets Maxistick 35 lb. carton Superstick (10 in.) 25 lb. carton Polyshot 35 lb. carton	Tan	General- purpose	5,000	250	30	142°F (61°C)	500	N/A	N/A
	TECHNOMELT® 4046™	83279	Polyshot 35 lb. carton	Tan	Extended open time	19,000	120	60	120°F (48°C)	1,400	A 22	N/A
	TECHNOMELT® COOLMELT™	83394	CoolMelt™ Maxistick 35 lb. carton	Off- White	Low temperature application	7,200	195	15	140°F (60°C)	800	N/A	N/A
	TECHNOMELT® QUIKPAC™	83398 83400	Maxistick 35 lb. carton Polyshot 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® 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

# Hot Melt 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.



LOCTITE	PRODUCT	ITEM NUMBER	STICK DIAMETER	DISPENSE Melt rate	DISPENSE POWER	DISPENSE TEMPERATURE	HOT MELT CHEMISTRY	HOT MELT NOZZLES & Accessories				
1/2 INCH SUPERS	TICK DISPENSERS											
1	HYSOL® 050A	916282	1/2 in. Superstick Sticks	4 lbs./hr.	Manual	383°F (195°C)	EVA/Polyolefin	Hot Melt Nozzles and Accessories – Page 1				
1	HYSOL® 050A-HT	1597635	1/2 in. Superstick Sticks	4 lbs./hr.	Manual	419°F (215°C)	Polyamide					
3/4 INCH MAXISTI	CK DISPENSERS											
SE .	HYSOL® 075	98033	3/4 in. Maxistick Sticks	9 lbs./hr.	Manual	360°F (182°C)	EVA	Hot Melt Nozzles and Accessories – Page				
	HYSOL® 075-LT	98034	3/4 in. Maxistick Sticks	5 lbs./hr.	Manual	249°F (121°C)	CoolMelt <sup>™</sup>					
1 ³/₄ INCH SPRAYPAC™ & POLYSHOT DISPENSERS												
A.	HYSOL® 175-AIR	98036	1 3/4 in. Polyshot Sticks	8 lbs./hr.	Electric	383°F (195°C)	EVA/Polyolefin	Hot Melt Nozzles and Accessories – Page				
-	HYSOL® 175-AIR-HT	98040	1 3/4 in. Polyshot Sticks	8 lbs./hr.	Electric	419°F (215°C)	Polyamide					
2	HYSOL® 175-SPRAY	98037	1 3/4 in. Polyshot Sticks	8 lbs./hr.	Electric	383°F (195°C)	EVA/Polyolefin					
-	HYSOL® 175-SPRAY-HT	98041	1 3/4 in. Polyshot Sticks	8 lbs./hr.	Electric	419°F (215°C)	Polyamide					
*	EQ HM22	2040430	1 3/4 in. Polyshot Sticks	8.25 lbs./hr.	Manual	383°F (195°C), 419°F (215°C)*, and 320°F (160°C)	EVA/Polyolefin and Polyamide					
URETHANE DISPE	NSER											
6	EQ HM18 REACTIVE URETHANE CARTRIDGE DISPENSER	2011543	N/A	3 lbs./hr.	Air	249°F (121°C)	Reactive Urethane	Hot Melt Nozzles and Accessories – Page				

<sup>\*</sup> The LOCTITE® Hysol® 175 Dispenser (manual electric) is supplied with both temperature modules.

For custom hot melt dispense nozzles, contact the Special Equipment Group of Henkel at 1-800-LOCTITE (562-8483).

**STRAIGHT FROM** The Source

LOC.	TITE® PRODUCT	ITEM NUMBER	DESCRIPTION	USED WITH		
	900	2049853	Nozzle with Adapter/Check Valve	2040430		
	23	1611450	Replacement Nozzle/Check Valve	1597635		
-	6	419115 (SINGLE PACK) 916050	Adapter/Check Valves for Nozzles	98035, 98036, 98040 916282		
	10	(5 PACK) 2049855 (SINGLE PACK)	_	2040430		
	421b	ANZ023N01	Standard Nozzle Adapter with Check Valve and Jam Nut	98033, 98034		
-	4	985225 (5 PACK) 2049852	1-Hole Nozzle 0.08" diameter cone tip (5 pack) 1-Hole Nozzle	98033, 98034, 98035, 98036, 98040 2040430		
			0.138" (5 pack)			
	66	985110	2-Hole Nozzle 0.06" diameter x 0.39" spacing	98033, 98034, 98035, 98036, 98040, 98544, 98545 2040430		
	8	985111	3-Hole Nozzle 0.06" diameter x 0.20" spacing	98033, 98034, 98035, 98036, 98040, 98544, 98545 2040430		
	<u> </u>	985112	Diagonal Extension Nozzle Tip = 0.14" diameter x 1.23" long	98033, 98034, 98035, 98036, 98040, 98544, 98545 2040430		
ξŠ	<u> </u>	985113	Needle Extension Nozzle Tip = 0.05" diameter x 1.32" long	98033, 98034, 98035, 98036, 98040, 98544, 98545 2040430		
HOT MELT NOZZLES & ACCESSORIES	<u></u>	985114	Spreader Extension Nozzle Tip = (0.09" x 0.25") x 1.32" long	98033, 98034, 98035, 98036, 98040, 98544, 98545 2040430		
ZLES & AO	4	985115	L-Nozzle 0.06" diameter x 0.85" offset	98033, 98034, 98035, 98036, 98040, 98544, 98545 2040430		
IELT NOZ	0	985122	Standard Medium Spray Nozzle 1.25" to 5" diameter pattern	98037, 98041		
HOT M	60	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		
				2011543		
	00	984262	Standard 1-Hole Nozzle 0.098" diameter cone tip, with integral check valve (includes protective cap)	98011 2011543		
		984263	Adapter/Check Valve for	98011		
	100		Specialty Nozzles	2011543		
		984264	Needle Jet Nozzle Tip = 0.051" diameter x 1.26" long	98011		
	<u> </u>		(requires 984263 adapter)	2011543		
	400	984268	3-Hole Nozzle 0.06" diameter x 0.20" spacing (requires 984263 adapter)	98011		
				2011543		
	0	984272	Injection Needle Nozzle with Integral Check ValveTip = 0.059" diameter x 0.197" long	98011 2011543		
	<b>8</b>	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



**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 Bonded to** Bonded to **Bonding to Plasticized Bonding to Silicone Plastic** Glass Metal **PVC** Medium Medium **Low Viscosity Flowable Paste High Viscosity** Viscosity **Viscosity Solution** AA 3107<sup>™</sup> AA 3974<sup>™</sup> SI 5056<sup>™</sup> SI 5050" AA 3494<sup>™</sup> AA 3525™ Chemistry Acrvlic Acrvlic Silicone Silicone Acrvlic Acrvlic Viscosity (cP) 500 2.400 2.200 325 g/min. 5.500 15.000 Clear/ Clear/Straw/ Translucent/ Clear/Pale Pale Straw/ Color **Translucent** Translucent Translucent Colorless Straw Translucent UV, Visible UV, Visible UV. Visible UV UV, Visible UV. Visible **Cure Type Fluorescent** Yes Yes No No No Yes Shear Strength (psi) 9001 1,910<sup>2</sup> 440<sup>1</sup> N/A $2.440^{3}$ $1,480^3$ **Elongation at** 100 125 260 220 170 190 Break (%)

### **Product** Description

#### LOCTITE® AA 3107™ **Light Cure Adhesive**

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

Package Size P/N 28466 1 liter bottle

### LOCTITE® AA 3974™ **Light Cure Adhesive**

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

Package Size 1135733 25 ml svringe 1135732 1 liter bottle

#### LOCTITE® SI 5056™ **Light Cure Adhesive**

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.

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

#### LOCTITE® SI 5050™ **Light Cure Adhesive**

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.

Package Size 1212165 40 lb. pail

#### LOCTITE® AA 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® AA 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 hottle

<sup>\*</sup> Made-to-order item

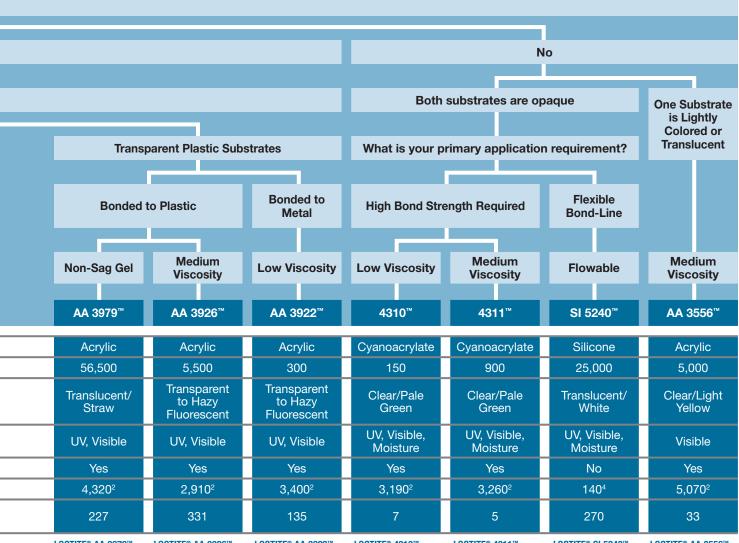
<sup>1</sup> Polycarbonate to PVC.

<sup>2</sup> Polycarbonate to polycarbonate.









### LOCTITE® AA 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® AA 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/NPackage Size3649225 ml syringe364931 liter bottle

### LOCTITE® AA 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™ Light Cure Adhesive 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

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

not reach.

### LOCTITE® 4311™ Light Cure Adhesive 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® SI 5240™ Light Cure Adhesive Self-Leveling/

# Noncorrosive A flowable UV/

A llowable ovy 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
 25 ml syringe

 1010320
 300 ml cartridge

 1010343\* 40 lb. pail

### LOCTITE® AA 3556™ 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/NPackage Size107222325 ml syringe10722221 liter bottle

# Light Cure Adhesives







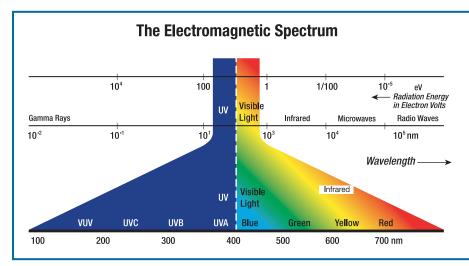
### **Loctite® Light Cure Adhesive Properties Chart**

LOC	CTITE® 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 DHESIVES	EA 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
EPO ADHE	EA 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
ATES S	4306™	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
CYANOACRYLATES ADHESIVES	4310™	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
CYAN A	4311™	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
	SI 5031™	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
	<b>SI 5033™</b> 40088 40089		300 ml cartridge 40 lb. pail	Translucent/ Colorless/ Fluorescent	Visible, ultraviolet, moisture, acetoxy	Glass, metal, ceramic	145 g/min. <sup>†</sup>	170	A 55	-65°F (-54°C) to 350°F (177°C)	N/A
SS	SI 5039™	40438 40439	300 ml cartridge 40 lb. pail	Translucent/ Colorless/ Fluorescent	Visible, ultraviolet, moisture, acetoxy	Glass, metal, ceramic	220 g/min. <sup>†</sup>	210	A 37	-65°F (-54°C) to 350°F (177°C)	N/A
DHESIVE	SI 5050™	1212165	40 lb. pail	Translucent	Ultraviolet	Glass, metal, ceramic	325 g/min. <sup>†</sup>	125	A 45	-65°F (-54°C) to 350°F (177°C)	N/A
SILICONE ADHESIVES	SI 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
S	SI 5083™	17528 17635	300 ml cartridge 40 lb. pail	Translucent/ Colorless	Ultraviolet, moisture, acetoxy	Glass, metal, ceramic	145 g/min. <sup>†</sup>	170	A 55	-65°F (-54°C) to 350°F (177°C)	N/A
	SI 5091™	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.
	SI 5240™	1010341 1010320 1010343*	25 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 200°F (177°C)	ISO 10993 Compliant

**ITEMS IN RED** = Source's PICK or NEW



<sup>\*</sup> Made-to-order item



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)
		AA 3554™		1072199	25 ml syringe	Clear/ Light Yellow	Visible	Polycarbonate, thermoplastic, polyvinyl chloride	300	7	D 77	-65°F (-54°C) to 300°F (149°C)	3,350³
	VISIBLE	AA 3555™		1072221 1072200	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
		AA 3556™		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
		AA 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
		AA 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
		AA 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
		AA 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
		AA 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
	IBLE	AA 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)	783 <sup>4</sup>
"	ULTRAVIOLETAVISIBLE	AA 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
<b>ACRYLIC ADHESIVES</b>	ULTR	AA 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
RYLIC A		AA 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
AC		AA 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
		AA 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
		AA 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
		AA 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
		AA 349™		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
		AA 363™		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
	ы	AA 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
	ULTRAVIOLEI	AA 3491™		28366 17944	25 ml syringe 1 liter bottle	Clear/ Pale Straw	Ultraviolet	Glass, metal	1,100	50	D 75	-65°F (-54°C) to 300°F (149°C)	1,450 <sup>1</sup> 700 <sup>3</sup>
		AA 3751™ AA 352™		21362 21363 35241	25 ml syringe 1 liter bottle 50 ml bottle	Clear/ Colorless	Ultraviolet Ultraviolet,	Various  Glass, metal	19,500	290	D 60	-65°F (-54°C) to 275°F (135°C) -65°F (-54°C)	2,4001
		AA 366™		35286 36631	1 liter bottle	Light Amber	heat, activator  Ultraviolet,	Glass, metal	7,500	240	D 45	to 275°F (135°C)	1,4501
		AN 300	<b>—</b>	12224	1 liter bottle	Light Amber	activator	alao, moul	7,000	L70	D 70	to 230°F (110°C)	1,700

**ITEMS IN RED** = *Source's* **PICK** or **NEW** 

- Grit-blasted steel.
   Grit-blasted steel to glass.
   Polycarbonate to polycarbonate.
- Extrusion rate, gram/minute, ¹/₀ in. orifice at 90 psi.
   Etched aluminum.
   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.



	LOCTITE® PRODUCT			USED TO DISPENSE	PACKAGE TYPE AND SIZES	MIX RATIOS	VISCOSITY RANGE	TYPE	CONSUMABLES – DISPENSE Accessories
	SYRINGE DISPENSING								
HANDHELD APPLICATORS	-4	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 174-175 Syringe Accessories – Pages 179-180

	LOCTITE® PRODUCT			TYPE	VISCOSITY RANGE	DISPENSE PATTERNS	USED TO DISPENSE	STROKE Adjustment	ACTUATION	CONSUMABLES – DISPENSE ACCESSORIES
	GENERAL-PURPOSE	APPLICATORS								
VALVES	0	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 174-175
HANDHELD \	0	PNEUMATIC HAND- HELD APPLICATOR	97112	Pneumatic	Low to Medium	Drop, Dot, Bead	Light Cure/Acrylics, Retaining Compounds, Threadlockers	Yes	Foot	
H	Ox	PNEUMATIC HAND- HELD APPLICATOR	97116	Pneumatic	Low to Medium	Drop, Dot, Bead	Light Cure/Acrylics, Retaining Compounds, Threadlockers	Yes	Finger	

	LOCTITE® P	RODUCT	ITEM Number	TYPE	VISCOSITY RANGE	DISPENSE PATTERNS	USED TO DISPENSE	STROKE Adjustment	SUCK-BACK	CONSUMABLES – DISPENSE ACCESSORIES
	HIGH PRECISION VAI	LVES								
	2	MICRO NEEDLE VALVE	98084	High Precision	Low to Medium	Drop, Dot, Bead, Microdot	Light Cure/Acrylics	Yes	No	Dispense Tips and Accessories – Pages 174-175
VALVES		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 PERFORMANCI	E DIAPHRAGM VALVES								
	1	VA10 MICRO DIAPHRAGM VALVE	1611449	High Performance Diaphragm	Low to Medium	Drop, Dot, Bead, Microdot	Instant Adhesives	Yes	No	Dispense Tips and Accessories – Pages 174-175
		LIGHT CURE DISPENSE VALVE	98009	High Performance Diaphragm	Low to Medium	Drop, Dot, Bead	Light Cure Adhesives	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 163**.

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

**STRAIGHT FROM** *The Source* 

	LOCT	TE® PRODUCT	ITEM Number	DISPENSE PATTERNS	USED TO DISPENSE	PACKAGE TYPES & SIZES	VISCOSITY RANGE	VACUUM SUCK-BACK	CONSUMABLES – DISPENSE ACCESSORIES				
	VOLUMETRIC BOTT	LE DISPENSING				•		•	•				
		BENCHTOP PERISTALTIC DISPENSER			Instant Adhesives, Light Cure/Acrylics, Retaining Compounds, Threadlockers	Any Bottle	0 to 5,000 cP	Programmable	Dispense Tips and Accessories – Pages 174-175				
	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	250 ml bottle 1 lb. bottle 1 liter bottle	Low	N/A	Dispense Tips and Accessories – Pages 174-175				
		BOND-A-MATIC® 3000 DISPENSER 0-100 psi	982722		Compounds, Threadlockers	2 kg bottle 200 g squeeze tube	Medium to High		rayes 1/4-1/3				
SIN	SYRINGE DISPENSING SYSTEMS  POSI-LINK™ DISPENSE SYSTEM See Dot. Drop. Gel Adhesives, Instant Prepackaged Low to Yes Dispense Tips and												
DISPENSE SYSTEMS		POSI-LINK™ DISPENSE SYSTEM		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 174-175				
DISPE	, 9	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	Low to Paste	Yes	Syringes – Pages 179-180				
		DIGITAL SYRINGE DISPENSING SYSTEM	883976			55 ml syringe							
		SD10 DIGITAL SYRINGE DISPENSER	1514629										
	19	FOOT PEDAL DISPENSER	98050*										

 $<sup>^{\</sup>star} \ \ \text{Syringe Airline Adapter sold separately. Visit www.equipment.loctite.com for all available accessories.}$ 

	LOCTITE®	PRODUCT	ITEM Number	PRESSURE REGULATION	USED TO DISPENSE	PACKAGE TYPE & SIZES	VISCOSITY RANGE	LOW LEVEL SENSING	CONSUMABLES – DISPENSE Accessories
	PNEUMATIC CARTRIDG	E DISPENSING							
DISPENSE SYSTEMS		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 175
	T	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	
	The	300 ML CARTRIDGE PUSHER		0 to 50 psi	Gel Cyanoacrylates, Anaerobic Gasketing, Light Cure/Acrylics, Low Viscosity Silicones	300 ml cartridges 250 ml tubes	Medium	Yes	

	I OCTITI	** PRODUCT	ITEM	PRESSURE	USED TO DISPENSE	PACKAGE TYPES & SIZES	VISCOSITY	LOW LEVEL	CONSUMABLES – DISPENSE
	LUCITIE	PNUDUUI	NUMBER	REGULATION	USED TO DISPENSE	PAGRAGE TIPES & SIZES	RANGE	SENSING	ACCESSORIES
	INTEGRATED RESER	VOIR CONTROLLERS							
		INTEGRATED SEMI- AUTOMATIC DISPENSER	1390322	0 to 15 psi	Gel Adhesives, Instant Adhesives,	250 ml bottle 1 lb. bottle 1 liter bottle	Low to Medium	Yes	Dispense Tips and Accessories –
	(a)		1390321	0 to 100 psi Retaining Compounds, 2 kg		2 kg bottle 200 g squeeze tube	Medium to High	Yes	Pages 174-175
BS	RESERVOIRS								
RESERVOIRS	0	BOND-A-MATIC® 3000 RESERVOIR	982720	0 to 15 psi	Gel Adhesives, Instant Adhesives,	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 174-175
& RES			982726		Light Cure/Acrylics, Retaining Compounds, Threadlockers			No	
			982723	0 to 100 psi	THEAUIOCKEIS		Medium to High	Yes	
CONTROLLERS			982727					No	
CONT	重	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	
		EQ VA30 JET CONTROLLER	1850211	0 to 100 psi	Light Cure Adhesives	10, 30, 55 ml Syringes	Low to High	No	Use with LOCTITE® EQ VA30 Jet Valve – 1850212

**ITEMS IN RED** = Source's PICK or NEW

# 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.



	LOCTIT	E® 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	37110	Visit www.equipment.loctite.com for more information on additional accessories.
MULTIF		DIGITAL MULTIFUNCTIONAL CONTROLLER	1022006	3	3 (Independent)	N/A	In conjunction with Positive Displacement Pump – 983330	tuutuonat accessories.
SINGLE FUNCTION CONTROLLERS		DIGITAL DISPENSE CONTROLLER	97101	1	1	N/A	N/A	

	LOCTITE® PI	RODUCT	ITEM Number	LAMP TYPE	
	ENCLOSED CHAMBE	R AND FLOOD SYSTEMS	s		
B SYSTEMS	LOCCIPE	ZETA® 7401 UV Chamber	98039	400-watt Metal Halide	
LIGHT CURE UV BULB SYSTEMS		ZETA® 7411-S UV FLOOD SYSTEM	98413	400-watt Metal Halide	
LIGH		FOCUSED UV FLOOD CURING SYSTEM	1113131	400-watt Metal Halide	

	<b>LOCTITE®</b>	PRODUCT	ITEM Number	LAMP TYPE					
	CURE CONVEYOR	RS							
S		ZETA® 7415 UV BENCHTOP CONVEYOR	98003	300 W/in Electrodeless (sold separately)					
IGHT CURE SYSTEMS		UV CURING CONVEYOR	1241543	1800-watt Medium Pressure Mercury Arc Lamp					
CUR	LIGHT SOURCES								
LIGHT	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					

	LOC	CTITE® PRODUCT	ITEM NUMBER	WAVELENGTH	OPTIONS/ACCESSORIES	
	LIGHT METERS					
METERS	11/3	RADIOMETER DOSIMETER FOR VISIBLE LED AND UVV LIGHT	1265282	350 nm to 500 nm	Calibration services are available	
LIGHT MET		RADIOMETER DOSIMETER FOR UV LED AND UV A/B LIGHT	1390323	320 nm to 400 nm	Calibration services are available	
=	1	7020 UV SPOT RADIOMETER	1406024	280 nm to 400 nm	Calibration services are available	

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**STRAIGHT FROM** *The Source* 

### **WEAR EYE PROTECTION**

For proper eye protection, use LOCTITE® UV and visible light safety glasses.







	LOCTITE	® PRODUCT	ITEM NUMBER	WAVELENGTH	OPTIONS/ACCESSORIES	
	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  CUREJET™ QUAD CONTROLLER		N/A	Used with all CUREJET™ LEDs	
				N/A	Used with all CUREJET™ LEDs	
EMS	The state of the s	7700 LED LIGHT SOURCE		LED - 405 nm	OPTIONAL: Foot Switch – 98440; Holder – 98522; Radiometer Dosimeter for Visible LED and UVV Light – 1265282;	
SPOT/WAND SYSTEMS		7700-HD LED LIGHT SOURCE			Dosimeter Adapter – 1403405	
SP0T/W	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				
		EQ CL10 SINGLE LED CONTROLLER	1514636	N/A	ONE OF THE FOLLOWING IS REQUIRED – sold separately: 6 mm Spot Dia. 365 mm. 2.7 meter cable – 1538499 6 mm Spot Dia. 405 nm. 2.7 meter cable – 1746633	
		EQ CL10 QUAD LED CONTROLLER		N/A		
	P	EQ CL15 UV WAND SYSTEM	1661548	N/A	REQUIRES Light Guide 983677, 983684 or 951681 – sold separately	
		LED FLOOD CONTROLLER	1359255	N/A	Used with 1167582, 1167589 or 1167593	
EMS		LED FLOOD CURE, 375	1167582	LED – 375 nm	Used with 1359255 in conjunction with cable 13333333	
FLOOD/LINE SYSTEMS		LED FLOOD CURE, INDIGO®	1167589	LED – Indigo Wavelength	Used with 1359255 in conjunction with cable 13333333	
TOOD/I		LED FLOOD CURE, 405	1167593	LED – 405 nm	Used with 1359255 in conjunction with cable 13333333	
L.	10	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 169.

# Solvent-Based & Specialty Adhesives



### **Your Application**

To meet tough onthe-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

**Product** 

Description

WHAT TYPE OF APPLICATION PROCESS WOULD YOU PREFER? **Liquid Tube Application Aerosol Spray** Temperature Extremes, **Quick Early Maximum** Gasoline and Solvent-Free **All-Purpose** Strength Strength Kerosene Resistant Power Grab® Industrial MR 5414<sup>™</sup> MR 5412™ MR 5416™ MR 5426™ Construction **Adhesive** Black Yellow Clear Clear Clear Up to 180°F Up to 180°F Up to 120°F Up to 170°F Up to 120°F (82°C) (82°C) (49°C) (77°C) (49°C)

Color
Temperature Range
Fixture Time (min.)
Agency Approvals

# CFIA Listed LOCTITE® MR 5414™ Black Contact Adhesive

2 to 3

A professional, solventbased 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® MR 5412™ Contact Adhesive

2 to 3

**CFIA Listed** 

A fast drying, solventbased 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

20

N/A

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® MR 5426™ Maximum Strength Headliner Adhesive

15 to 20

N/A

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.

### LOCTITE® MR 5416™ All Purpose Spray Adhesive

15 to 20

N/A

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
LRACED	MR 5414™	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
SOI VENT-RASED	MR 5412™	30537	5 fl. oz. tube	Yellow Gel	Up to 180°F (82°C)				CFIA Listed
HESINES	MR 5426™	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	24 hours at ambient temperature	Foam, carpet, fabrics, plastics and rubber	N/A
SPRAV ANHESIVES	MR 5416™	30544	10.5 oz. net wt. aerosol	Clear Drying, Semitranslucent Foam	Up to 120°F (49°C)	strength.			N/A

### **Loctite® Specialty Adhesive Properties Chart**

LOC	TITE® PRODUCT	ITEM Number	PACKAGE Type/size	FEATURES	COLOR	VISCOSITY	SHEAR Strength (psi)	WORKING TIME (min.)	FIXTURE TIME (min.)	FULL CURE (hrs.)	MAXIMUM Temperature
SPECIALTY PRODUCT	POWER GRAB® INDUSTRIAL CONSTRUCTION ADHESIVE	1804373	300 ml cartridge	General-purpose construction adhesive	Clear	Paste	800*	15	20	24	120°F (49°C)

<sup>\*</sup> 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.

na.henkel-adhesives.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.

# **Elastomeric Adhesives for Bonding & Sealing**



Your Application	n		ARE YO	OU BONDING OR SEA	LING?				
			One-Part						
		General-Purpose Primerless Adhesion Fast Skinning							
Solution		TEROSON <sup>®</sup> MS 930 <sup>™</sup> NA	TEROSON® MS 5570™	TEROSON® MS 9360™	TEROSON® MS 9380™	TEROSON® MS 939™ NA			
Color		White, Grey, Black	White	Black	White	White, Grey, 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**

- · 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

### TEROSON® MS 930™ NA **Polymer Sealant**

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 make it ideal for high solvent and isocyanate-free.

#### Package Size\*

2138431	290 ml cartridge, blac
2138430	290 ml cartridge, whit
	290 ml cartridge, grey
	20 kg pail, black
	250 kg drum, black
2138427	250 kg drum, white
2138428	570 ml sausage, black
	570 ml sausage, white
2138424	570 ml sausage grey

### TEROSON® MS 5570™ **Elastic Adhesive**

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

### Package Size\*

1565679 300 ml cartridge, white 1567505\* 50 lb. pail 1578969\* 250 kg drum

### TEROSON® MS 9360™ **Elastic Adhesive**

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

#### P/N Package Size

2115386 300 ml cartridge, black

#### TEROSON® MS 9380™ **Elastic Adhesive**

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

### P/N Package Size

1898443 290 ml cartridge, white

### TEROSON® MS 939™ NA **Polymer Sealant**

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

2068378 290 ml cartridge, black 2069997 290 ml cartridge, white 2069400 290 ml cartridge, grey 2069991 22.68 kg pail, black 2069992 250 kg drum, black 2069989 570 ml sausage, black 2069988 570 ml sausage, white 2069990 570 ml sausage, grey

ADDITIONAL PRODUCTS AVAILABLE										
LOCTITE® PRODUCT	ITEM NUMBER	PACKAGE TYPE/SIZE	DESCRIPTION							
TEROSON® MS 9371™	700910	25 kg pail	B-component (hardener) for 2-component curing. TEROSON® MS 9371™ is an accelerator paste for TEROSON® adhesives and sealants.							
TEROSON® SB 450™	642844	1 liter bottle	Alcohol solution designed for cleaning and to improve adhesion (thin fluid, colorless).							

<sup>\*</sup> 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 9399™	SI 5600™	TEROSON <sup>®</sup> MS 5510 <sup>™</sup>	SI 593™ / SI 595™ / SI 594™	SI 5049™	TEROSON <sup>®</sup> MS 9320™					
		VA/Inite Course								
White, Black	Black, Grey, Almond	White, Grey, Black, Clear	Black, Clear, White	Clear, White	Grey					
-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)					
2-Component Mix	2-Component Mix	Moisture	Moisture	Moisture	Moisture					
435	250	250	115	115	260 (b)					

### TEROSON® MS 9399™ **Elastic Adhesive**

A two-component adhesive for elastic bonding where the curing rate of onecomponent 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
32081733	3 400 ml dual cartridge,
	black
2081666	400 ml dual cartridge,
	white
2037227	29 kg pail, part A,
	black
1306968	29 kg pail,

part B, black

### LOCTITE® SI 5600™ **Silicone Adhesive 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

### TEROSON® MS 5510™ **Elastic 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.

F/IN	rackage 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®** SI 593™ Black /

SI 595™ Clear / SI 594™ White

### **Silicone Adhesive Sealant**

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

### LOCTITE® SI 593™ Black

P/N	Package Size
59330	80 ml tube, black
59375	300 ml cartridge, black
40464	190 ml can, black

#### LOCTITE® SI 595™ Clear

P/N	Package Size
1266142	0.5 oz. tube**, clear
59530	80 ml tube, clear
59575	300 ml cartridge, clear
40481	190 ml can, clear

### LOCTITE® SI 594™ White

P/N	Package Size
59430	80 ml tube, white
59475	300 ml cartridge, white
40466	190 ml can, white

### LOCTITE® SI 5049™ **Silicone Adhesive 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	/N Package Size							
1311327	300 ml cartridge, clear							
1312042	300 ml cartridge, white							

### TEROSON® MS 9320™ **Elastic Adhesive**

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**

	OCTITE® RODUCT	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 STRENGTH <sup>2</sup> (psi)	STATIC MIXER	AGENCY APPROVAL
	SI 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	Volume						10 111111.						
		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	volunie						TO IIIIII.						
		922544	400 ml dual cartridge											250 874905 UL for 250 874905 N/A 250 874905 N/A 250 874905 N/A 250 874905 N/A 260 874905 UL 94		
ш		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		UL Listed for U.S.	
NOOI	SI 5604™	Part A - 41327 Part B - 1112888	440 lb. drum 575 lb. drum	Black/ 4:1 A:B by	High adhesion, fast fixture	Unlimited	N/A	-40°F to 450°F (-40°C to 232°C)	Two- part	Tack- Free –	1.40	A 40	200	250	874905	UL Listed for U.S.
RTSII		1138258	400 ml dual cartridge	volume						10 min.						
E, 2-PA		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
<b>NONCORROSIVE, 2-PART SILICONE</b>		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
ONCO	SI 5605™	1250155	400 ml dual cartridge	A:B by p volume a	General- purpose, high adhesion, fast fixture, noncorrosive,	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	N/A
Z		Part A - 1253201* Part B - 1251677	4.5 gallon pail 3.5 gallon pail													
		Part A - 1253202** Part B - 1250758	440 lb. drum 575 lb. drum		easy gunning											
	SI 5606™	1250154	400 ml dual cartridge	Grey/ 4:1 A:B by	General- purpose, high	Unlimited	N/A	-40°F to 450°F (-40°C to 232°C)	Two- part	Tack- Free –	1.375	A 38	170	260	874905	UL 94 HB
		Part A - 1253201* Part B - 1250755	4.5 gallon pail 3.5 gallon pail	volume	adhesion, fast fixture, noncorrosive,					15 min.						
		Part A - 1253202** Part B - 1250156	440 lb. drum 575 lb. drum		easy gunning											
	SI 5607™	1252929	400 ml dual cartridge	Grey/ 2:1 A:B by	General- purpose, high	Unlimited	N/A	-40°F to 450°F (-40°C to 232°C)	Two- part	Tack- Free –	1.425	A 43	150	225	874905	N/A
		Part A - 1253201* Part B - 1250756	4.5 gallon pail 3.5 gallon pail	volume	adhesion, fast fixture, noncorrosive,					45 min.						
		Part A - 1253202** Part B - 1250757	440 lb. drum 575 lb. drum		easy gunning											

LOCTITE® PRODUCT			ITEM Number	PACKAGE Type/size	COLOR	CONSISTENCY	OIL RESISTANCE	TEMPERATURE RANGE (INTERMITTENT)	SEALING TIME	AGENCY APPROVALS
GASKETS		SI 5049™	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
TING GAS		TEROSON® MS 5510™	1562042 1567697* 1578972*	300 ml cartridge 50 lb. pail 250 kg drum	White	Paste	Not recommended for oils or fuels	-40°F to 200°F (-40°C to 93°C)	1 to 7 days	N/A
FOR EXISTING	NONCORROSIVE		1562040 1567698* 1578971*	300 ml cartridge 40 lb. pail 190 kg drum	Clear					
ESSINGS	NONCOF		1560557 1567663* 1579002*	300 ml cartridge 50 lb. pail 250 kg drum	Black					
SEALANTS/DRESSINGS			1562044 1567506* 1579070*	300 ml cartridge 50 lb. pail 250 kg drum	Grey					
SEA		TEROSON® MS 939™	2068378 2069991	290 ml cartridge 22.68 kg pail	Black	Paste	Not recommended for oils or fuels	-40°F (-40°C) to 200°F (93°C)	1 to 7 days	N/A

LOCTITE® PRODUCT		ITEM Number			CONSISTENCY	OIL RESISTANCE	TEMPERATURE RANGE (INTERMITTENT)	SEALING TIME	AGENCY APPROVALS
SIVE	SI 593™	59330 59375 40464	80 ml tube Black 300 ml cartridge 190 ml can		Paste	N/A	-65°F to 450°F (-54°C to 232°C)	Tack-Free – 30 min. Full Strength – 24 hrs.	CFIA Listed
SILICONE ADHESIVE SEALANT	SI 595™	1266142 59530 59575 40481	0.5 oz. tube** 80 ml tube 300 ml cartridge 190 ml can	Clear					UL Listed for U.S., NSF/ANSI 51, CFIA
SILIC	SI 594™	59430 59475 40466	80 ml tube 300 ml cartridge 190 ml can	White					CFIA Listed

### **ITEMS IN RED** = *Source's* PICK or NEW

<sup>\*</sup> Made-to-order item. \*\* Varies with substrates. ¹ Extrusion rate at 73°F, 3.5 mm diameter, 3 bar, for 15 seconds. ² Grit-blasted steel. ¹ SI 5600™ Series — Part A (1253201) can be used with SI 5605™, SI 5606™, SI 5607™ — Part B (3.5 gallon pail). ™ SI 5600™ Series — Part A (1253202) can be used with SI 5605™, SI 5606™, SI 5607™ — Part B (575 lb. drum). \*\* Uncarded tubes, sold as full cases of 100 pieces.

Elastomeric Equipment

# TEROSON® Elastomeric Adhesive & Sealant Properties Chart

TER	OSON® PRODUCT	ITEM Number	PACKAGE Type/size	COLOR	EXTRUSION RATE <sup>1</sup> (g min.)	CURE METHOD	SKIN TIME (min.)	TEMPERATURE RANGE	SHORE HARDNESS	TENSILE Strength² (psi)	ELONGATION AT BREAK (%)	SHEAR STRENGTH ON STEEL (psi)
	TEROSON® MS 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
	TEROSON® MS 9360™	2115386	300 ml cartridge	Black	90	Moisture	12	-40°F (-40°C) to 200°F (93°C)	A 55	475	225	425
	TEROSON® MS 9399™	2081733 2081666	400 ml dual cartridge 400 ml dual cartridge	Black White	N/A	Two- Component	25	-40°F (-40°C) to 200°F	A 60	435	130	290
	TEROSON® MS 9399™ PART A	2037227	29 kg pail	Black		Static Mix	(93°C)	(93°C)				
83	TEROSON® MS 9399™ PART B	1306968	29 kg pail	Black								
DHESIV	TEROSON® MS 9320™	1899447	300 ml cartridge	Grey	NA	Moisture	10 to 20	-22°F (-30°C) to 194°F (90°C)	30	260 (b)	300	200
NERIC A	TEROSON® MS 9380™	1898443	290 ml cartridge	White	NA	Moisture	5 to 10	-40°F (-40°C) to 212°F (100°C)	65	580 (b)	120% (b)	360
ELASTOMERIC ADHESIVES	TEROSON® MS 930™ NA†	2138431 2138430 2138429 2138423 2138422 2138427 2138428 2138425 2138424	290 ml cartridge 290 ml cartridge 290 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™ NA†	2068378 2069997 2069400 2069991 2069992 2069989 2069988 2069990	290 ml cartridge 290 ml cartridge 290 ml cartridge 22.68 kg pail 250 kg drum 570 ml sausage 570 ml sausage 570 ml sausage	Black White Grey Black Black Black 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** 

# **Elastomeric Equipment**

	LOCTITE	® PRODUCT	ITEM NUMBER	PRESSURE REGULATION	USED TO DIS	SPENSE	PACKAGE TYPE & SIZES	VISCOSITY RANGE	LOW LEVEL SENSING	CONSUMABLES – DISPENSE ACCESSORIES
	MANUAL CARTRID	GE DISPENSING								
	MANUAL CARTRIDGE APPLICATOR 300 ML		1093940	N/A	Henkel Constructi Adhesives, Caulki in 10 oz. caulking	ng products	300 ml cartridges	Medium to High	N/A	Cartridge Accessories – Page 175
	PNEUMATIC CARTE	RIDGE DISPENSING								
NSING	T	HD10 300 ML PNEUMATIC CARTRIDGE DISPENSER	1714379	Anaei		Gel Cyanoacrylates, Anaerobic Gasketing, Light Cure/Acrylics, Silicones		Medium to High	No	Cartridge Accessories – Page 175
CARTRIDGE DISPENSING	1	HIGH PRESSURE 300 ML BENCHTOP CARTRIDGE DISPENSER	1046901	0 to 725 psi	o 725 psi Silicone, Polyurethane, MS Polymer Adhesives		290 ml cartridges 300 ml cartridges 310 ml cartridges		Yes	Use with High Pressure Dispense Valve (sold separately) – see below
CARTR	of	SOFT PRESS HAND HELD PNEUMATIC APPLICATOR		0 to 125 psi	Adhesive Packaged in Soft Packs		Soft Pack	Low to High	N/A	582416 – Soft Press Pneumatic Applicator Nozzle (1)
	*	TEROSON® MULTIPRESS TELESCOPIC DISPENSER	142241	0 to 145 psi	Sprayable SMP Ad	lhesives	300 ml Cartridge	Low to High	N/A	547882 – Pneumatic Spray Applicator Nozzle Kit (12)
	7	TEROSON® POWERLINE 300 ML DISPENSER		0 to 100 psi	MS Polymer Polyurethane		300/310 ml Cartridge	Medium to Very High	N/A	Cartridge Accessories – Page 175
	LOCTITE®	PRODUCT	ITEM Number	ТҮРЕ	VISCOSITY RANGE	DISPENSE PATTERNS	USED TO DISPENSE	STROKE Adjustment	SUCK-BACK	CONSUMABLES – DISPENSE ACCESSORIES
	HIGH VISCOSITY FLU	ID & PASTE VALVES								
VALVES	-	VA26 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 174-175
Ą	- Carrie	HIGH PRESSURE DISPENSE VALVE – 150 BAR	1153502	High Viscosity Fluid and Paste Valves	500,000 to 2,000,000 cP Bead		Silicones, MS Polymers, Urethanes	Yes	No	Dispense Tips and Accessories – Pages 174-175

<sup>\*</sup> Made-to-order item. \*\* Uncarded tubes, sold as full cases of 100 pieces. † Agency approval: UL Classified/Listed for the U.S.

# **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

**Solution** 

# ARE YOU BONDING MAGNETS? Yes **Ultra-Fast High Temperature Gap Filling High Toughness** Resistance **Fixture**

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 Strength¹ (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	SF 7387™	Two-Part External	SF 7387™	SF 7387™	

### **Product Description**

### LOCTITE® AA 331™ Adhesive

AA 331™

### **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.

### Package Size

1057673 25 ml syringe 1057674\*1 liter bottle 1062124\*10 liter pail

### LOCTITE® AA A-671™ Adhesive

AA A-671<sup>™</sup>

### **Gap Filling**

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

### Package Size

1256488 4,000 ml kit (adhesive/activator) 1256501 19 liter pail, adhesive 1255709 19 liter pail, activator

### LOCTITE® AA 392™ **Adhesive**

### Fast Fixture/Toughened

AA 392™

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® AA 334™ **Adhesive**

### High Temperature

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

AA 334™

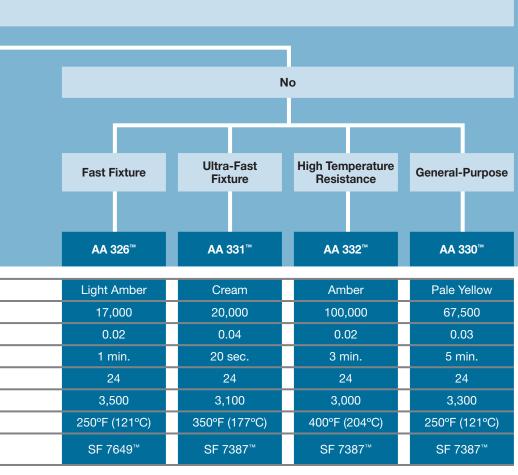
P/N	Package Size
33403	25 ml syringe
22470	200 ml cartridge

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









# 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 SF 7387™, SF 7075™ and SF 7649™ – are specially engineered curing agents for structural adhesives.



### LOCTITE® AA 326™ 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® SF 7649™.

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

#### LOCTITE® AA 331™ 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® AA 332™ Adhesive

### High Temperature

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

P/NPackage Size3320125 ml syringe33275300 ml cartridge332901 liter bottle

### LOCTITE® AA 330™ 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

 1699005
 250 ml kit

 1689700
 250 ml tube

 1689437
 300 ml cartridge

 1689439
 1 liter bottle

# **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 Strength <sup>1</sup> (psi)	TEMPERATURE RESISTANCE <sup>2</sup>	RECOMMENDED ACTIVATOR
	AA 312™	03333 00144	10 ml kit <sup>3</sup> 50 ml kit <sup>4</sup>	General-Purpose, Ultra-fast Fixture	Clear to Amber	1,000	0.003	1 minute	24	>2,490	250°F (121°C)	SF 736™
	AA 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)	SF 7075 <sup>™</sup> or SF 7387 <sup>™</sup>
	AA 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)	SF 7387 <sup>™</sup> or SF 7075 <sup>™</sup>
SE	AA 326™	32629 32685	50 ml bottle 1 liter bottle	Fast Fixture	Light Amber	17,000	N/A	1 minute	24	2,200	250°F (121°C)	SF 7649™
GENERAL PURPOSE	AA 330™	1691394 1690727 1691005 1689700 1689437 1689439	3 ml kit <sup>5</sup> 25 ml kit <sup>6</sup> 250 ml kit <sup>7</sup> 250 ml kit <sup>7</sup> 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)	SF 7387™
	AA 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)	SF 7387™
	AA 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)	SF 7387™
	AA 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	Green	30,000	0.100	30 to 60 seconds	24	2,500 to 3,000	401°F (205°C)	Two-Part External Mix
ONDING	AA 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
MAGNET BONDING	AA 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)	SF 7387 <sup>™</sup> or SF 7380 <sup>™</sup>
M	AA 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)	SF 7387™
	AA 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 Stee
- Product is heat aged at temperature and tested at 72°F (22°C). Product maintained ≥ 75% of its initial strength.
- $^{\scriptscriptstyle 3}$   $\,$  10 ml bottle of LOCTITE® AA 312  $^{\scriptscriptstyle TM}$  and 40 g aerosol can of
- LOCTITE® SF 736™ Activator

  4 50 ml bottle of LOCTITE® AA 312™ and 6 oz. aerosol can of LOCTITE® SF 736™ Activator
- 5 Contains 2.5 ml tube of LOCTITE® 330™ Adhesive and 0.6 ml ampule of LOCTITE® SF 7387™ Activator.
- <sup>6</sup> Contains 25 ml syringe of LOCTITE® 330™ Adhesive and 25 g aerosol can of LOCTITE® SF 7387™ Activator.
- Contains 250 ml tube of LOCTITE® 330™ Adhesive and 128 g of LOCTITE® SF 7387™ Activator.

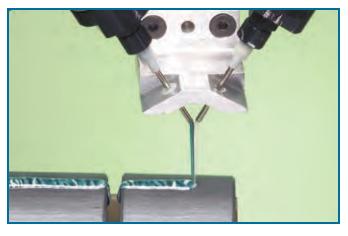
### **LOCTITE® Activator & Primer Properties Chart**

LOCTITE® PRODUCT		DUCT	ITEM	PACKAGE TYPE & SIZE	COLOR	VISCOSITY (cP)	BASE	ON-PART LIFE	DRY TIME	APPLICATION	AGENCY APPROVALS
40	SF 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
ACTIVATORS	SF 7380™		19822 19824 19907	1 liter can 1.75 fl. oz. bottle 1 gallon	Light Brown	43	No solvent	2 hours	None	Structurals	N/A
ACT	SF 7387™		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	SF 7649™		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.



LOCTI	LOCTITE® PRODUCT ITEM NUI		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
The state of the s	10 / 30 ML SYRINGE	98192	Any fluid in a 10 ml syringe	10 ml syringe (3 pack)	Low to High	N/A	N/A
and the same of	MANUAL PLUNGERS	98193	Any fluid in a 30 ml syringe	30 ml syringe (3 pack)	Low to riigh	IV/A	IV/A
TUBE DISPENSING – EAS	SY AND EFFECTIVE TUBE DISPENSI	<b>IG</b>					
	50 ML-F TUBE SQUEEZE DISPENSER	1083845	Any 50 ml tube	50 ml tubes	Low to High	N/A	N/A
PRESSURE-TIME BOTTL	E DISPENSE SYSTEMS – VERSATILE	SYSTEMS FOR	DISPENSING A WIDE RANGE OF	PRODUCTS IN A VARIETY O	F ADHESIVE BOTTL	E 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  250 ml bottle 1 lb. bottle	Low	0 to 15 psi	No
	BOND-A-MATIC® 3000 DISPENSER	982722			Medium to High	0 to 100 psi	No
	INTEGRATED SEMIAUTOMATIC	1390322	Gel Adhesives, Instant Adhesives, Light		Low to Medium	0 to 15 psi	Yes
M.	DISPENSER	1390321	Cure Acrylics, Retaining Compounds, Threadlockers	2 kg bottle 200 g squeeze tube	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
W.	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	TYPE VISCOSITY DISPENSE PATTERNS USED TO DISPENSE		STROKE Adjustment	SUCK-BACK	CONSUMABLES – DISPENSE ACCESSORIES	
HIGH PRECISION VAL	VES								
1	STATIONARY	97113	High Precision	Low to Medium	Drop, Dot, Bead	Gel Instant Adhesives, Instant Adhesives,	Yes	Yes	Dispense Tips and Accessories –
A	APPLICATOR VALVE	97114	g r rooioioii			Retaining Compounds, Threadlockers	100		Pages 174-175
HIGH VISCOSITY FLU	ID AND PASTE VALVES								
-	VA26 DISPENSE VALVE – 50 BAR	1960414	High Viscosity Fluid	10,000 to 1,000,000 cP	. Drop,	Silicones, MS Polymers, Urethanes	Yes	Yes	Dispense Tips and Accessories – Pages 174-175
-	HIGH PRESSURE DISPENSE VALVE – 150 BAR	1153502	and Paste Valves	500,000 to 2,000,000 cP	Bead			No	

#### ADDITIONAL ACCESSORIES SOLD SEPARATELY



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 169.

# **Two-Part Acrylic Adhesives**

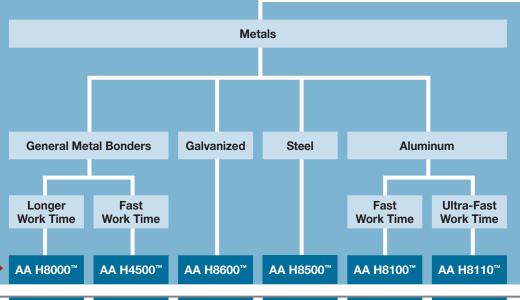


# **Your Application**

- · 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

**Solution** 

# ARE YOU BONDING METALS OR PLASTICS/COMPOSITES?



Color		Green		Grey	Blue	Grey	(	Green	П	Yellow	
Viscosity (cP)	1	90,000	4	5,000	86,000	60,000	18	85,000		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 Strength <sup>1</sup> (psi)		3,140³	(	3,100	3,355	3,380	3	3,090 <sup>3</sup>		2,475³	
Impact Strength⁵ (J)		23		12	10	14		2 <sup>3</sup>		10³	
Peel Strength¹ (pli)		45		58	35 <sup>4</sup>	92		45		48³	

# **Product Description**

#### **LOCTITE®** AA H8000™ Adhesive

### Tough Metal Bonder

Exhibits excellent peel strength on multiple substrates, especially aluminum.

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

#### **LOCTITE®** AA H4500™ Adhesive

# Fast Work Time

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

P/N	Package Size
2061020	50 ml dual
	cartridge
2060848	490 ml dual
	cartridge

#### **LOCTITE®** AA H8600™ Adhesive

### Galvanized Steel Bonder

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

P/N	Package Size
2060835	400 ml dual
	cartridge
20571963	5 gallon pail,
	adhesive
38761*	5 gallon pail,

activator

### Adhesive Ultra-Tough Steel Bonder

**LOCTITE®** 

AA H8500™

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

P/N	Package Size
2069980	490 ml dual
	cartridge
40888*	5 gallon pail,
	activator
2069982*	5 gallon pail,
	adhesive

over-clamping.

### **LOCTITE®** AA H8100™ Adhesive

# Aluminum Bonder Exhibits excellent

strength on aluminum. Package Size

1056942 50 ml dual cartridge 1056943 490 ml dual cartridge

### **LOCTITE®** AA H8110™ Adhesive Ultra-Fast Aluminum Bonder

Aluminum bonder fixtures in 5 minutes.

Package Size 1371355 50 ml dual 1371361 490 ml dual cartridge

Made-to-order item.

<sup>†</sup> Working time = maximum time before assembly of parts to ensure proper wetting.

Steel

<sup>&</sup>lt;sup>2</sup> High density polyethylene.

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

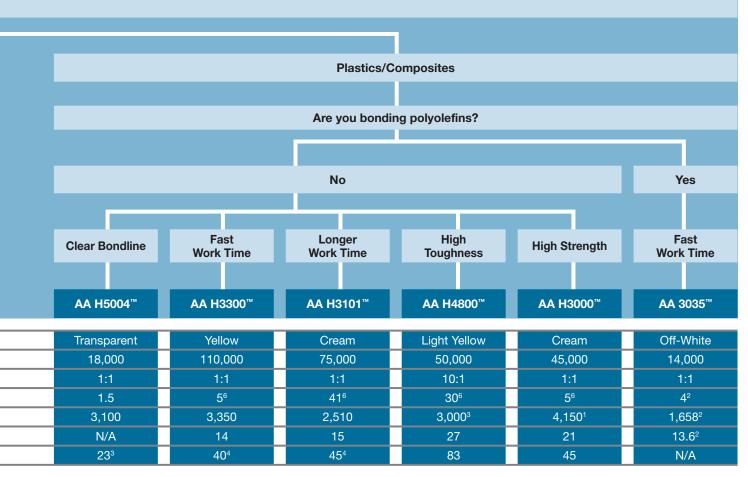
<sup>5</sup> Grit-blasted mild steel.

<sup>6</sup> Polyethylene.









#### LOCTITE® AA H5004™ Adhesive

# Clear Bondline

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

Package Size

1384596 50 ml dual cartridge

#### LOCTITE® AA H3300™ 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 40 lb. pail, activator

#### LOCTITE® AA H3101™ Adhesive

# Extended Work Life

A medium viscosity structural adhesive ideal for bonding a variety of substrates.

#### NSF/ANSI 61 Certified.

2018429 400 ml dual cartridge

Package Size 2018435 50 ml dual cartridge

### LOCTITE® AA H4800™ **Adhesive**

# **Toughened**

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

Package Size

2060831 50 ml dual cartridge 2061246 490 ml dual cartridge

### LOCTITE® AA H3000™ 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® AA 3035™ 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

# **Two-Part Acrylic Adhesives**







# **LOCTITE® Two-Part Acrylic Adhesive Properties Chart**

LO	CTITE® PRODUCT	ITEM NUMBER	PACKAGE TYPE/SIZE	FEATURES	COLOR	VISCOSITY (cP)	MIX RATIO	WORK TIME <sup>5</sup> (min.)	SHEAR STRENGTH <sup>1</sup> (psi)	IMPACT Strength <sup>6</sup> (joules)	PEEL STRENGTH <sup>1</sup> (pli)
	AA H3151™	2025105 2020048	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	N/A
	AA H4500™	2061020 2060848	50 ml "S" dual cartridge 490 ml "F" dual cartridge	Fast Work Time	Grey	45,000	10:1	15	3,100	12	58
	AA 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	45
	AA H8010™	40594*	490 ml "F" dual cartridge	Gap Control	Grey	200,000	10:1	35	2,175	29	89
SS.	AA H8100™	1056942 1056943	50 ml "S" dual cartridge 490 ml "F" dual cartridge	Fast Work Time	Green	190,000	10:1	15	2,880 3,090³	11	45
ONDE	AA 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>	483
METAL BONDERS	AA H8500™	2069980 40888* 2069982*	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	92
_	AA H8510™	2069983	490 ml "F" dual cartridge	Extended Work Time	Grey	45,000	10:1	30	2,175 1,900³	>14	104
	AA H8600™	2060835 2057196* 38761*	400 ml "F" dual cartridge 5 gallon pail, adhesive 5 gallon pail, activator	Medium Work Time	Blue	86,000	2:1	25	≥1,800⁴	10	35⁴
	AA H8610™	2057561	400 ml "F" dual cartridge	Fast Work Time	Off- White	105,000	2:1	11	1,800 4,180 <sup>4</sup>	>14	55
	AA H8700™	2060847 2060839	50 ml "B" dual cartridge 400 ml "F" dual cartridge	Paint-Bake Compatible	Blue	40,000	2:1	40	2,175 2,870³	14	34
	AA 3035™	1677288	50 ml "B" dual cartridge	Fast Fixture Time	Off-White	14,000	1:1	<b>4</b> <sup>2</sup>	1,658²	13.6^2	N/A
	AA H3000™	83001 83000	50 ml "A" dual cartridge 400 ml "C" dual cartridge	High Strength	Cream	45,000	1:1	57	4,150	21	45
SS.	AA H3101™	2018435 2018429	50 ml "A" dual cartridge 400 ml "C" dual cartridge	Medium Work Time	Cream	75,000	1:1	417	2,510	15	35
PLASTIC & COMPOSITE BONDERS	AA 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	57	3,350	14	404
OMPOS	AA H4000™	83025	490 ml "F" dual cartridge	Non-Sag	Pale Yellow	130,000	10:1	30	2,2003	10	49
TIC & C	AA H4100™	83032	490 ml "F" dual cartridge	Ultra-Fast Work Time	Pale Yellow	100,000	10:1	N/A	3,140	N/A	5
PLAS	AA H4200™	83038	490 ml "F" dual cartridge	Fast Work Time	Pale Yellow	90,000	10:1	9	4,020	>29	76
	AA H4800™	2060831 2061246	50 ml "S" dual cartridge 490 ml "F" dual cartridge	Impact Resistant	Light Yellow	50,000	10:1	30	3,930	27	83
	AA H5004™	1384596	50 ml "A" dual cartridge	Clear, Fast Work Time	Transparent	18,000	1:1	1.5	3,100	N/A	23

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

<sup>&</sup>lt;sup>4</sup> Galvanized steel.

Working time = maximum time before assembly.
 Grit-blasted steel.
 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 <a href="https://www.equipment.loctite.com">www.equipment.loctite.com</a>.



### **LOCTITE® PRODUCT**

ADHESIVE PACKAGE Type/size	HANDHELD APPLICATORS	DISPENSER ITEM NUMBER	EQUIPMENT TYPE	VISCOSITY RANGE	MIX RATIOS	RECOMMENDED MIX NOZZLE ITEM NUMBER	PIECES PER PACK
TWO-PART DISPENSING							
50 ML "A" DUAL	T	98472	Manual	Low to High	1:1, 1:2, 2:1	98455	10
CARTRIDGE		97042	Pneumatic	Low to High	1:1, 1:2, 2:1	98455	10
50 ML "B" DUAL	T	98472	Manual	Low to High	1:1, 2:1	1573149	10
CARTRIDGE		97042	Pneumatic	Low to High	1:1, 2:1	1573149	10
50 ML "S" DUAL	-1	1034026	Manual	Low to High	10:1	1034575	10
CARTRIDGE	-1/2	1493310	Pneumatic	Low to High	10:1	1034575	10
400 ML "C" DUAL	=7°	983438	Manual	High to Paste	1:1, 2:1	720174	10
CARTRIDGE	-5	983439	Pneumatic	High to Paste	1:1, 2:1	720174	10
400 ML "F" DUAL	200	983438	Manual	High to Paste	1:1, 2:1	1573138	10
CARTRIDGE	1	984211	Conversion Kit (Manual)	High to Paste	4:1	720177	10
400 ML "F" DUAL		983439	Pneumatic	High to Paste	1:1, 2:1	1573138	10
CARTRIDGE	-3	984210	Conversion Kit (Pneumatic)	High to Paste	4:1	720177	10
490 ML "F" DUAL	=7°	985246	Manual	High to Paste	10:1	1084092	10
490 ML "F" DUAL CARTRIDGE	-5	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.

ADDITIONAL RESOURCES

See pages 176-178 for more LOCTITE® Mix Nozzles or visit www.equipment.loctite.com.

**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 163**.

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

- **STRAIGHT FROM** *The Source* 

# **Epoxy Adhesives**



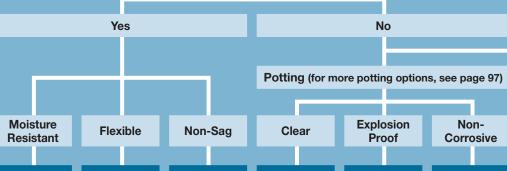
# **Your Application**

- · 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?



# **Solution**

## EA E-05MR<sup>1</sup>

## EA E-05CL™

### EA E-00NS™

# EA E-30CL™

# EA E-40EXP

# EA E-60NC™

Color	Clear	Clear	Translucent	Clear	Black	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	3,000²	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®** EA E-05MR™ **Adhesive**

### Moisture Resistant

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

Package Size
50 ml dual
cartridge
400 ml dual
cartridge
5 gallon pail,
resin
5 gallon pail,

### **LOCTITE®** EA E-05CL™ **Adhesive**

### **Flexible**

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

50 ml dual
cartridge
400 ml dual
cartridge
46 lb. pail
46 lb. pail

Package Size

#### I OCTITE® EA E-00NS™ **Adhesive**

# Non-Sag A fast fixturing,

thixotropic, nonsag epoxy which cures at room temperature to form a translucent, rigid and machinable bondline. Well suited for use on vertical

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

### **LOCTITE®** EA E-30CL™ Adhesive

### Clear

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

rackage Size
50 ml dual
cartridge
200 ml dual
cartridge
400 ml dual
cartridge

## **LOCTITE®** EA E-40EXP™ Adhesive

### **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®** EA E-60NC™ Adhesive

## Noncorrosive/ **Potting**

An electronicsgrade potting compound with a 60-minute work life. Black, opaque, low viscosity with excellent curethrough depth.

P/N	Package Siz
29324	50 ml dual
	cartridge
29325	200 ml dual
	cartridge
29326	400 ml dual
	cartridge
29327*	47 lb. pail,
	resin
29328*	40 lb. pail,
	hardener

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

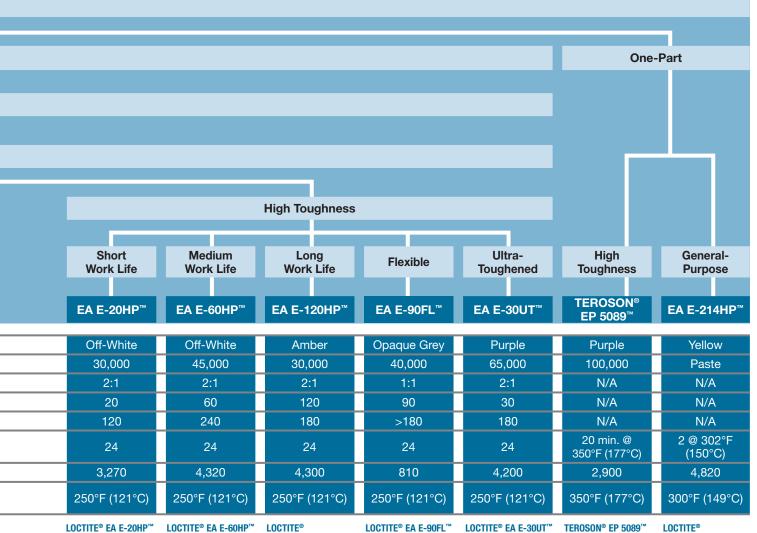
Grit blasted steel.

<sup>&</sup>lt;sup>2</sup> Aluminum.









# LOCTITE® EA E-20HP™ Adhesive

# High Performance

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

P/N	Package Siz
29314	50 ml dual
	cartridge
29315	200 ml dual
	cartridge
29316	400 ml dual
	cartridge
29317	46.5 lb. pail,
	resin
29318	48 lb. pail,
	hardener

### LOCTITE® EA E-60HP™ **Adhesive**

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

Package Size

29319	50 ml dual
29321	cartridge 400 ml dua
29322*	cartridge 43 lb. pail,
29323*	resin 42 lb. pail,
	hardener

### **LOCTITE® EA E-120HP™** Adhesive

P/N

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

29353	50 ml dual
	cartridge
29354	200 ml dual
	cartridge
29355	400 ml dual
	cartridge
29356*	44 lb. pail, res
29357*	40 lb. pail,
	hardener

# **Adhesive** Flexible

Package Size

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

## LOCTITE® EA E-90FL™ Adhesive **Ultra-Tough**

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

P/N	Package Siz
1078234	50 ml dual cartridge

An epoxy that

provides exceptional

the most demanding

fracture toughness

characteristics for

structural bonding

requirements.

# TEROSON® EP 5089™ 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

# **EA E-214HP™** Adhesive

### General-Purpose/ Heat Cure

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

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

# **Epoxy Adhesives**







# **LOCTITE®** Epoxy Adhesive Properties Chart

L	OCTITE® 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
	EA 1C™	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)
	EA 0151™	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)
	EA 9340™	83104 83105	EPK 2.7 oz. kit 5 lb. kit	Non-Sag	Grey	Paste	1:1	90	>180	24	2,300²	>180°F (82°C)
	EA 9430™	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)
	EA 9460 <sup>™</sup>	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	3,5004	250°F (121°C)
	EA 9462™	83142	50 ml "A" dual cartridge	High Strength	Beige	70,000	1:1	55	>180	24	4,180	250°F (121°C)
	EA E-20HP™	29314 29315 29316 29317 29318	50 ml "A" dual cartridge 200 ml "C" dual cartridge 400 ml "C" dual cartridge 46.5 lb. pail, resin 48 lb. pail, hardener	Easy Mix, Toughened	Off-White	30,000	2:1	20	120	24	3,270	250°F (121°C)
RMANC	EA E-20NS™	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)
HIGH PERFORMANCE	EA E-30CL™	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)
_	EA E-30UT™	1078234	50 ml "A" dual cartridge	Ultra-Tough	Purple	65,000	2:1	30	180	24	4,200	250°F (121°C)
	EA E-40EXP™	1511653 1511896 1511897	200 ml "C" dual cartridge 5 gallon pail, part A 5 gallon pail, part B	Extended Work Life	Black	24,000	2:1	40	N/A	24	3,000	250°F (121°C)
	EA E-40FL™	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)
	EA E-40HT™	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)
	ЕА Е-60НР™	29319 29321 29322* 29323*	50 ml "A" dual cartridge 400 ml "C" dual cartridge 43 lb. pail, resin 42 lb. pail, hardener	High Performance	Off-White	45,000	2:1	60	>180	24	4,320	250°F (121°C)
	EA E-60NC™	29324 29325 29326 29327* 29328*	50 ml "A" dual cartridge 200 ml dual cartridge 400 ml "C" dual cartridge 47 lb. pail, resin 40 lb. pail, hardener	Extended Work Life, Noncorrosive	Black	8,000	1:1	60	>180	24	2,630	250°F (121°C)
	EA E-90FL™	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)
	EA E-120HP™	29353 29354 29355 29356* 29357*	50 ml "A" dual cartridge 200 ml "C" dual cartridge 400 ml "C" dual cartridge 44 lb. pail, resin 40 lb. pail, hardener	High Temperature/ Chemically Resistant	Amber	30,000	2:1	120	>180	24	4,300	N/A

- Made-to-order item. Grit-blasted steel. Etched aluminum.
- Work life = time for viscosity to double; Working time = maximum time before assembly (steel).
   Block Sheer grit-blasted mild steel.

# **LOCTITE® Epoxy Adhesive Properties Chart**

L	OCTITE® 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
	EA 608™	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)
	EA 615™	83094	EPK 3.2 oz. kit	Fast Fixture	Light Blue	200,000	1:1	10	25	24	3,825	180°F (82°C)
FAST FIXTURE	EA E-00CL™	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)
FAS	EA E-00NS™	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)
	EA E-05CL™	29299 29301 29302* 29303*	50 ml "A" dual cartridge 400 ml "C" dual cartridge 46 lb. pail, resin 46 lb. pail, hardener	Fast Fixture	Clear	2,500	1:1	3	30	24	1,430	180°F (80°C)
	EA E-05MR™	1086598 1086599*	50 ml "A" dual cartridge 400 ml "C" dual cartridge	Moisture- Resistant	Ultra-Clear	25,000	1:1	5	15	24	3,380	250°F (121°C)
	EA 3982™	36767	30 ml syringe	Fluorescent, Heat Cure	Off-White	8,000	N/A	N/A	N/A	0.5 @ 257°F (125°C)	5,8304	250°F (121°C)
	EA 3985™	40870 34731*	1 liter bottle 50 lb. 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)
ONE-PART	TEROSON® EP 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)
ONE	EA 9432NA™	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)
	EA E-214HP™	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)
	EA E-910™	1501093	5 gallon pail	Low Cure Temperature, Fast Fixture	Green	40,000	N/A	N/A	N/A	1 @ 176°F (80°C)	2,000²	300°F (149°C)

- Made-to-order item. Grit-blasted steel. Aluminum.

- Work life = time for viscosity to double; Working time = maximum time before assembly (steel).
   Block Sheer 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 <a href="https://www.equipment.loctite.com">www.equipment.loctite.com</a>.



LOCTI	<b>LOCTITE® PRODUCT</b> r		USED TO PACKAGE TYPES DISPENSE & SIZES		VISCOSITY RANGE	CONSUMABLES – DISPENSE ACCESSORIES	
SYRINGE DISPENSING –	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 174-175 Syringe Accessories – Pages 179-180	
10/30 ML SYRINGE		98192	Any fluid in a 10 ml syringe	10 ml syringe (3 pack)		N/A	
Parameter of the Parame	MANUAL PLUNGERS	98193	Any fluid in a 30 ml syringe	30 ml syringe (3 pack)	Low to mgn	N/A	

	LOCTITE®	PRODUCT	ITEM Number	PRESSURE REGULATION	USED TO DISPENSE	PACKAGE TYPE & SIZES	VISCOSITY RANGE	LOW LEVEL Sensing	CONSUMABLES – DISPENSE ACCESSORIES
	PNEUMATIC CARTRIE	OGE 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 175
SYSTEMS	W.	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	
DISPENSE SYSTEMS	P	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	

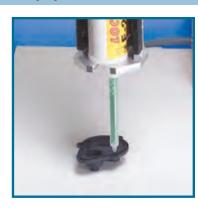
LOCTITE	LOCTITE® PRODUCT ITEM NUMBERS			VISCOSITY RANGE	DISPENSE PATTERNS	USED TO DISPENSE	STROKE Adjustment	SUCK-BACK	CONSUMABLES – DISPENSE Accessories
HIGH VISCOSITY FLU	IID AND PASTE VALVES								
2	VA26 DISPENSE VALVE – 50 BAR	1960414	High Viscosity Fluid	10,000 to 1,000,000 cP	Drop, Bead	Silicones,	Yes	Yes	Dispense Tips and Accessories – Pages 174-175
2 1	HIGH PRESSURE DISPENSE VALVE – 150 BAR	1153502	and Paste Valves	500,000 to 2,000,000 cP		MS Polymers, Urethanes		No	

### **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 176-178 for more LOCTITE® Mix Nozzles or visit www.equipment.loctite.com.





	LOCTITI	® PRODUCT	ITEM Number	USED TO DISPENSE	PACKAGE TYPE & SIZES	MIX RATIOS	VISCOSITY RANGE	TYPE	CONSUMABLES – DISPENSE Accessories
	TWO-PART DISPENSIN	G							
	-	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 –
	1		1034026		S-50 dual cartridge	10:1			Pages 176-178
	-	50 ML DUAL CARTRIDGE PNEUMATIC APPLICATOR	97042	Two-Component Epoxies, Urethanes, Methacrylates	50 ml dual cartridge	1:1, 2:1	Low to High	Pneumatic	
RS	-17	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	
ATO	A	200 ML/400 ML DUAL CARTRIDGE MANUAL APPLICATORS	983436	Two-Component Epoxies,	200 ml dual cartridge	1:1, 2:1	High to	Manual	
HANDHELD APPLICATORS	-7		983438	Urethanes, Methacrylates	400 ml dual cartridge	1:1, 2:1	Paste		
AP			985246		490 ml dual cartridge	10:1			
量		200 ML/400 ML DUAL	983437	Two-Component Epoxies, Urethanes, Methacrylates	200 ml dual cartridge	1:1, 2:1	High to Paste	Pneumatic	
夏		CARTRIDGE PNEUMATIC APPLICATORS	983439	Orethalies, Methaci yiales	400 ml dual cartridge	1:1, 2:1			
主	Æ		985249		490 ml dual cartridge	10:1			
	-5	400 ML DUAL CARTRIDGE PNEUMATIC APPLICATOR	1500890	Two-Component Epoxies, Urethanes, Methacrylates	400 ml dual cartridge	1:1, 2:1	High	Pneumatic	
	A	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 163**.

Can't find what you're looking for? Visit 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

**Solution** 

# WHAT ARE YOU BONDING? General-General-Composites Metal **Plastic Purpose Purpose** UK 1351 **UK 1366** UK U-09FL™ UK U-05FL™ UK 3364<sup>™</sup> **B25**<sup>T</sup> B10"

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 (mins.)	50	30	10	5	5
Fixture Time (mins.)	75	35	120	180	30
Cure Time (hrs.)	72	72	72	72	72
Shear Strength** (psi)	2,360	1,550	1,460	930 <sup>†</sup>	2,800 <sup>†</sup>

# **Product Description**

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

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

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.

Package Size 1668032 415 ml cartridge

# **LOCTITE®** UK U-09FL™ **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

# UK U-05FL™ Adhesive

**LOCTITE®** 

# 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® UK 3364™ **Adhesive**

# General-Purpose

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

P/N Package Size 1166733 50 ml dual cartridge

Made-to-order item.

<sup>†</sup> Grit-blasted steel.

# **LOCTITE® Polyurethane Adhesive Properties Chart**

LOC	TITE® 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
METAL	UK 1366 B10™	1668032	415 ml cartridge	Metal Bonder, Flexible	Green	34,000	4:1	30	35	72	1,550
PLASTIC	UK U-09FL™	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
PLA	UK U-09LV™	38588	50 ml "A" dual cartridge	Low Viscosity, Medium Work Life	Clear	1,000	1:1	10	>180	72	1,146 <sup>†</sup>
GENERAL PURPOSE	UK U-05FL™	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†
음 문 문	UK 3364™	1166733	50 ml "A" dual cartridge	General-Purpose, Flame Resistant	Black	5,000	1:2	5	30	72	2,800 <sup>†</sup>

LO(	TITE® 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	UR 3370™	1535077 1538161 1552178 1552179 1535036 1675274 1550231* 1550221* 153076 1538160 1550213 1548600 1552177	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 300 ml cartridge 20 oz. sausage 5 gallon pail 485 lb. drum 29 oz. cartridge	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
	UR 7001™	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**

	LOCTITI	E® PRODUCT	ITEM Number	USED TO DISPENSE	PACKAGE TYPE & SIZES	MIX RATIOS	VISCOSITY RANGE	TYPE	CONSUMABLES – DISPENSE ACCESSORIES
	TWO-PART DISPENSIN	G							
	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 –
	1		1034026		S-50 dual cartridge	10:1			Pages 176-178
		50 ML DUAL CARTRIDGE PNEUMATIC APPLICATOR	97042	Two-Component Epoxies, Urethanes, Methacrylates	50 ml dual cartridge	1:1, 2:1	Low to High	Pneumatic	
HANDHELD APPLICATORS	-17	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	
교	2	200 ML/400 ML DUAL 983436 CARTRIDGE MANUAL 983438 APPLICATORS	983436	Two-Component Epoxies, Urethanes, Methacrylates	200 ml dual cartridge	1:1, 2:1	High to Paste	Manual	
DA	-7		Oreunanes, weunact ylates	400 ml dual cartridge	1:1, 2:1	1 dott			
덮	~ •		985246		490 ml dual cartridge	10:1			
S	-	200 ML/400 ML DUAL	983437	Two-Component Epoxies,	200 ml dual cartridge	1:1, 2:1	High to	Pneumatic	
로		CARTRIDGE PNEUMATIC APPLICATORS	983439	Urethanes, Methacrylates	400 ml dual cartridge	1:1, 2:1	Paste		
	£		985249		490 ml dual cartridge	10:1			
	-5	400 ML DUAL CARTRIDGE PNEUMATIC APPLICATOR	1500890	Two-Component Epoxies, Urethanes, Methacrylates	400 ml dual cartridge	1:1, 2:1	High	Pneumatic	
		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	

49







# **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

GOOD bank? for bosonics

**ADDITIONAL RESOURCES** 

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

# 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 na.henkel-adhesives.com/loctite.

**STRAIGHT FROM** *The Source* 







# **Coatings**

# **SURFACE RESTORATION MADE EASY!**

# STOP RUST DEAD WITH LOCTITE® SF 754™ RUST TREATMENT



Brush or spray SF 754<sup>™</sup>
Rust Treatment onto any
wire-brushed or sanded surface.
Leave on some rust. SF 754<sup>™</sup>
Rust Treatment goes on white.
Turns black in 10 minutes.



1 Year: Even under continuous high humidity, SF 754™ Rust Treatment still looks new.



6 Months: SF 754™ Rust Treatment continues to prevent rust even with constant water/salt spray contact.



18 Months Later: SF 754<sup>™</sup> Rust Treatment still keeps old rust from coming back. Prevents new rust from starting.



# **PERFORMANCE CHARACTERISTICS**

SF 754™ Rust Treatment's unique capability makes it ideal for maintenance use in applications where sandblasting is not practical or economical. SF 754™ 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 SF 754™ Rust Treatment coating before finish application.

SF 754<sup>™</sup> 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 two years of outdoor exposure. Protection is enhanced with SF 754<sup>™</sup> Rust Treatment plus an overcoat such as epoxy, alkyd, urethane, or chlorinated rubber.

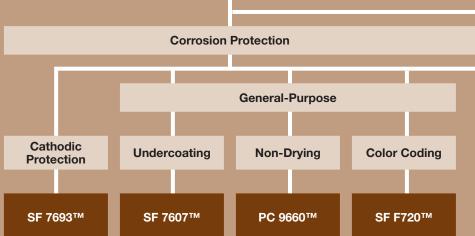
# **Protective Coatings**



# **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



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**

### **COATING HINTS**

Solution

- 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® SF F720<sup>™</sup> Thinner can be used to remove cured LOCTITE® SF F720<sup>™</sup> Coating.
- LOCTITE® SF F720™ Coating colors can be mixed to make different colors.

### LOCTITE® SF 7693™ 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 ozonedepleting compounds. Won't yellow, chalk or peel.

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

### LOCTITE® SF 7607™ 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® PC 9660™ Heavy-Duty Rustproofing

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/NPackage Size5121112 oz. net wt. aerosol512131 gallon can

### LOCTITE® SF F720™ Tough Rubber Coating

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

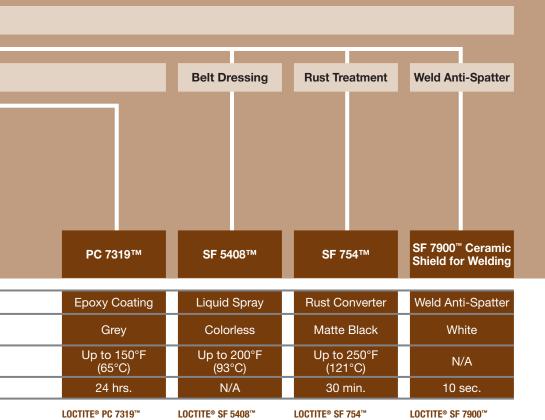
A solvent-based, modified thermoplastic liquid coating that dries to a durable, flexible, rubber-like protective coating on parts and equipment. Dip, spray or brush to apply. Great for tools, metals, electrical connections, masonry, wood, conveyors, glass, rope and fabric.

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









# 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.

Package Size 96092 11 lb. kit

# **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.

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

# **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.

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# **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.

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

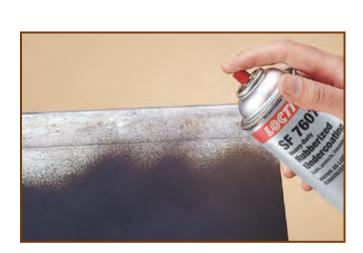
# **Protective Coatings**

# **LOCTITE® Protective Coating Properties Chart**

L(	OCTITE® PRODUCT	ITEM Number	PACKAGE Type/size	COLOR	TEMPERATURE	DRY TIME	FULL CURE	COVERAGE	APPLICATION METHOD	AGENCY Approvals
lGS	SF F720™ 34979 14.5 fl. oz. can 34980 1 gallon can Black		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	
R COATII		34982 34983	14.5 fl. oz. can 1 gallon can	Blue						
LIQUID RUBBER COATINGS		34985	14.5 fl. oz. can	Red						
LIQU		34988 34989	14.5 fl. oz. can 1 gallon can	Yellow						
ATMENT	SF 754™	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
RUST TREATMENT		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	
	SF 7607 <sup>™</sup>	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
	PC 9660™	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
OATINGS	SF 7693™	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
SPECIALTY COATINGS	SF 5408™	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
SPE	PC 7319™	96092	11 lb. kit	Grey	Up to 150°F (65°C) wet; >200°F (93°C) dry	28 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 Particle Size Small Particle/Slurry** PC 7227™ PC 7317™ PC 7255™ PC 7222™ PC 7228™ Grey or White Dark Grey Grey Green 225°F (107°C) 200°F (93°C) 200°F (93°C) 250°F (121°C)

# Working Time\* Cure Time\*

**Product Description** 

**Maximum Temperature** 

Color

Solution

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

#### LOCTITE® PC 7317™ Nordbak® Pneu-Wear

30 min.

6 hrs.†

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® PC 7227™, PC 7228™ Nordbak® Brushable Ceramic

30 min.

24 hrs.

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

 997367\*\* Grey 12 lb. kit

LOCTITE® PC 7228™ Nordbak® Brushable Ceramic

P/N Package Size 96443 White 2 lb. kit

### LOCTITE® PC 7255™ Nordbak® Sprayable Ceramic

40 min.

6 hrs.

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® PC 7222™ Nordbak® Wear Resistant Putty

30 min.

6 hrs.

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

<sup>\*</sup> At 77°F (25°C).

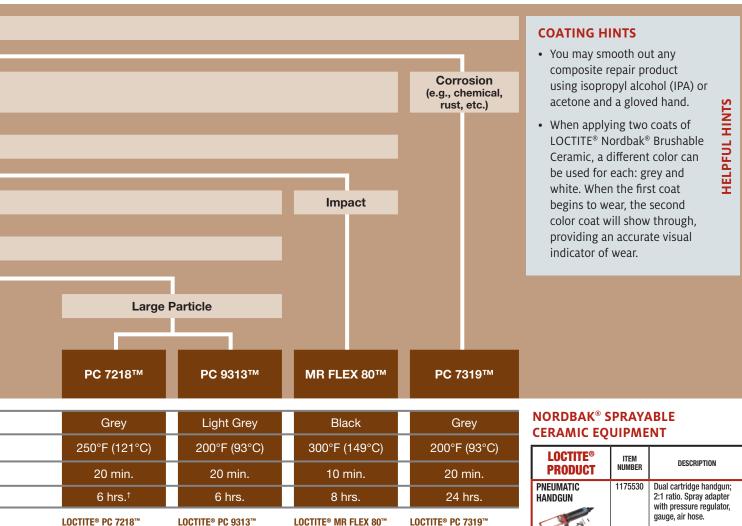
<sup>\*\*</sup> Made-to-order item.

<sup>†</sup> Cure time can be reduced to 2-3 hours with cure accelerator.









#### LOCTITE® PC 7218™ 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® PC 9313™ 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® MR FLEX 80° Urethane Repair 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® PC 7319™ 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 11 lb. kit

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
SPRAYABLE CERAMIC MIX NOZZLES	1248606	Mix nozzle 6.4 mm/24 elements include orifice restrictor OR4

# **Wear-Resistant Coatings**

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

		1	1	COVERAGE		MAVIMINA	·	T	WODENINO	FUNCTIONAL	MIV DATIC	1
	LOCTITE® PRODUCT	ITEM Number	PACKAGE Type/size	COVERAGE (FT <sup>2</sup> @ 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)	
NOIS	PC 7218™	1324008 1323940	5 lb. kit 25 lb. kit	1.75 8.7	Grey	250	16,000	D 90	30	7‡	2:1	
ABRAS	PC 7230™	99112	25 lb. kit	8.7	Grey	450	15,000	D 90	30	N/A	4:1	
RTICLE	PC 7339™ NORDBAK®	96392	25 lb. kit	8.7	Red	550	N/A	D 90	30	N/A	2.5:1	
RGE PA	PC 9599 <sup>™</sup>	96373	6 lb. kit	2.3	Blue	225	10,000	D 90	10	3	2:1	
COARSE/LARGE PARTICLE ABRASION	PC 7357™	1324571	6 lb. kit	2.3	Grey	250	13,000	D 90	25	8	2:1	
COA	PC 9331™	41343	25 lb. kit	8.75	Grey	250	16,000	D 90	30	7	2:1	
	PC 7317™	98383 98382	3 lb. kit 25 lb. kit	8.7	Grey	250	15,000	D 85	30	6 §	4:1	
ASION	PC 7303™	98372	25 lb. kit	8.7	Grey	450	15,000	D 90	30	N/A	4:1	
FINE PARTICLE ABRASION	PC 7338™	96332	25 lb. kit	8.7	Red	550	N/A	D 90	30	N/A	2:1	
ARTIC	PC 7455™	96363	6 lb. kit	2.3	Blue	225	12,000	D 90	10	3	2:1	
FINE P	PC 7473™ NORDBAK® FAST Cure Pneu-Wear	1117828***	25 lb. kit	9.6	Blue	225	12,000	D 90	10	3	2:1	
	PC 7222™	98742 98743	1 lb. kit 3 lb. kit	0.37 1.11	Grey	225	11,600	D 89	30	6	2:1	
NCE	PC 7227™	98733 98732 997367***	2 lb. kit 6 lb. kit 12 lb. kit	12* 36* 72*	Grey	200	10,180	D 85	30	24	2.75:1	
TURBULE	PC 7228™	96443	2 lb. kit	12*	White	200	10,866	D 85	30	24	2.8:1	
LIQUID/SLURRY TURBULENCE	PC 7255™	1389509	900 ml cartridge	37	Green	230	15,400	D 86	40	6	100:50	
LIQUI	PC 7234™	96433 997369***	2 lb. kit 12 lb. kit	12* 72*	Red	550	14,800	D 88	120	N/A	2.6:1	
WEAR	PC 9313™	1327836	25 lb. kit	8.75	Grey	250	12,000	D 85	30	6	2:1	
IMPACT WEAR RESISTANCE	MR FLEX 80™	97423 97422	1 lb. kit 6 lb. kit	94** 560**	Black	180	N/A	A 88	10	8	2.5:1	
Y WEAR ANCE	PC 9628™	98992	25 lb. kit	277 in. <sup>3</sup>	Grey	225	15,000	D 90	30	6	2:1	
SPECIALTY WEAR RESISTANCE	PC 7363™	1324544	20 lb. kit	20 <sup>††</sup>	Beige	200	14,000	D 88	60	12	1:1	
SPECIALTY COATINGS	PC 7319 <sup>™</sup>	96092	11 lb. kit	75 sq. ft. at 20 ml thickness	Grey	150 wet/ >200 dry	9,840	D 85	20	16	2.3:1	

**ITEMS IN RED** = Source's PICK or NEW

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

<sup>\* 20</sup> 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<sup>™</sup>Mearing Compound Cure Accelerator, item number 1728412 (see page 56)

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

 $<sup>\</sup>triangle \ \ \textbf{Good Choice} \qquad \blacktriangle \ \ \textbf{Preferred Choice}$ 







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									Δ	Δ	<b>A</b>	Δ	<b>A</b>
3.9:1	N/A					<b>A</b>				Δ	Δ	<b>A</b>	Δ	<b>A</b>
2.85:1	N/A					<b>A</b>				Δ	Δ	<b>A</b>	Δ	<b>A</b>
2:1	N/A									Δ	Δ	<b>A</b>	Δ	<b>A</b>
2:1	N/A	Δ	<b>A</b>								Δ	Δ	Δ	Δ
2:1	N/A	Δ	<b>A</b>											
4:1	ABS, CFIA, NEHC, NAVSEA	<b>A</b>	Δ							<b>A</b>	<b>A</b>	Δ	<b>A</b>	Δ
4:1	N/A	<b>A</b>	Δ			<b>A</b>				<b>A</b>	<b>A</b>	Δ	<b>A</b>	Δ
2.27:1	N/A	<b>A</b>	Δ			<b>A</b>				<b>A</b>	<b>A</b>	Δ	<b>A</b>	Δ
2.27:1	CFIA	<b>A</b>	Δ				<b>A</b>			<b>A</b>	<b>A</b>	Δ	<b>A</b>	Δ
2:1	N/A				Δ			Δ		<b>A</b>	<b>A</b>	Δ	<b>A</b>	Δ
4.8:1	CFIA, NSF				Δ			<b>A</b>		Δ				
4.5:1	CFIA				Δ			<b>A</b>		Δ				
100:50	N/A							<b>A</b>		Δ				
4.25:1	N/A				Δ	<b>A</b>		<b>A</b>		Δ				
2:1	N/A			<b>A</b>										
2.6:1	ABS			<b>A</b>										
6.8:1	N/A	Δ	Δ		Δ						<b>A</b>		<b>A</b>	
1:1.25	N/A			Δ					<b>A</b>					
3.4:1	CFIA													

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# Flooring & Concrete Repair

59	FLOORING & CONCRETE REPAIR
61	Anti-Slip Coatings
63	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® concrete repair products and LOCTITE® floor coating systems provides 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 charts in this section 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 na.henkel-adhesives.com/loctite.

**STRAIGHT FROM** *The Source* 







# 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® primers

# Solution

# DO YOU HAVE PEDESTRIAN OR VEHICULAR TRAFFIC?

# Pedestrian Traffic

Barefoot Traffic, Highly Flexible, UV Resistance/ Outdoor Applications Light Pedestrian Traffic, Enhanced Cleanability, Indoor Applications

Asphalt, Outdoor or Flexible Applications

Light Rolling or Heavy Pedestrian Traffic

PC 6233<sup>™</sup> Flexible Low Profile Exterior Grade PC 6317<sup>™</sup> Low Profile Pedestrian Grade PC 6255™ Acrylic Pedestrian Grade PC 6261<sup>™</sup> Heavy Duty Pedestrian Grade

Color	Black/Grey	Black/Grey/ Safety Yellow	Black/Grey	Black/Grey/ Safety Yellow
Coverage per Gallon (ft.²/meter²)	70 ft. <sup>2</sup> (6.5 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® PC 6253™ Acrylic Primer	LOCTITE® PC 7641™ Water-Based Epoxy Primer/Sealer	LOCTITE® PC 6253™ Acrylic Primer	LOCTITE® PC 7641™ Water-Based Epoxy Primer/Sealer
Recommended Primer on Metal Surfaces	LOCTITE® PC 7643™ Metal Primer	LOCTITE® PC 7643™ Metal Primer	LOCTITE® PC 7643™ Metal Primer	LOCTITE® PC 7643™ Metal Primer
Profile Illustration			Addan sadda	Addan sadda

# **Product Description**

### **USE A PRIMER**

Use a primer before applying any anti-slip coating to increase adhesion and seal porosity on concrete surfaces. See the Recommended Primers above for assistance in choosing the right primer for your application.

### LOCTITE® PC 6233™ 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

1354766 1 gallon can, grey 1352349 1 gallon can, black

#### LOCTITE® PC 6317™ Low Profile Pedestrian Grade

A two-component coating that combines waterborne 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® PC 6317™ 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® PC 6255™ 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® PC 6261™ 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

**HELPFUL HINTS** 







# **LOCTITE® Anti-Slip Properties Chart**

LO	CTITE® PRODUCT	ITEM Number	PACKAGE Type/size	COLOR	COVERAGE	MIX RATIO BY WEIGHT/VOLUME (RESIN : HARDENER)	MIXTURE TEMP.	WORK TIME (MIN.)	FUNCTIONAL CURE (HOURS)*
	PC 6317™ 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>	5.25:1/3.5:1	140°F	60	24/72
TINGS	PC 6233™ FLEXIBLE LOW PROFILE EXTERIOR GRADE	1354766 1352349	1 gal. can 1 gal. can	Grey Black	70 ft. <sup>2</sup> Single Component gallon		140°F	N/A	24/72
ADHESIVES/COATINGS	PC 6261™ 1602679 HEAVY DUTY 1602121 PEDESTRIAN GRADE 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
ADHE	PC 6311™ VEHICULAR GRADE	1602678 1602674 1625203	1 gal. kit 1 gal. kit 5 gal. kit	Black Grey Grey	40 ft.² per gallon	17.6:1 / 8.9:1	140°F	120	12/48
	PC 6315™ ZERO V.O.C.	1624641 1716378	1 gal. kit 1 gal. kit	Black Grey	35 ft.² per gal.	8.5:1 / 3.75:1	140°F	60	24/72
	PC 6255™ 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
ERS	PC 7643™ METAL PRIMER	1624642	1 gal. kit	Grey	250 ft. <sup>2</sup>	5.25:1/3.1	140°F	240	12
S/SEAL	PC 6253™ ACRYLIC PRIMER	1620703	1 gal. pail	Clear	250 ft. <sup>2</sup>	Single Component	140°F	N/A	1 to 2
PRIMERS/SEALERS	PC 7641™ WATER-BASED EPOXY PRIMER/ SEALER	1617851 1617855	1 gal. kit 5 gal. kit	Clear	320 ft. <sup>2</sup>	1:1 / 3:1	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.

# Vehicular Traffic

Heavy Rolling Equipment Traffic

Heavy Vehicular Traffic in Odor-Sensitive Areas

PC 6311<sup>™</sup> Vehicular Grade

PC 6315<sup>™</sup> Zero V.O.<u>C.</u>

Black/Grey

Black/Grey

40 ft.2 (3.7 m2)

35 ft.2 (3.3 m2)

120

60

LOCTITE® PC 7641™ Water-Based Epoxy Primer/Sealer LOCTITE<sup>®</sup> PC 7641<sup>™</sup> Water-Based Epoxy Primer/Sealer

LOCTITE® PC 7643<sup>11</sup> Metal Primer LOCTITE® PC 7643™ Metal Primer

#### LOCTITE® PC 6311™ 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® PC 6315™ Zero V.O.C.

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

P/N Package Size

1624641 1 gallon kit, black 1716378 1 gallon kit, grey

# **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.)
PC 6317™ LOW PROFILE PEDESTRIAN GRADE		<b>A</b>	<b>A</b>	<b>A</b>			Δ	<b>A</b>		
PC 6233™ FLEXIBLE LOW PROFILE EXTERIOR GRADE	<b>A</b>	<b>A</b>	<b>A</b>		<b>A</b>	<b>A</b>	Δ	<b>A</b>		
PC 6261™ HEAVY DUTY PEDESTRIAN GRADE		<b>A</b>	<b>A</b>	<b>A</b>			<b>A</b>	<b>A</b>	Δ	
PC 6311 <sup>™</sup> VEHICULAR GRADE		<b>A</b>	<b>A</b>	<b>A</b>			<b>A</b>	Δ	<b>A</b>	
PC 6315™ ZERO V.O.C.		<b>A</b>	<b>A</b>	<b>A</b>			<b>A</b>	Δ	Δ	<b>A</b>
PC 6255™ ACRYLIC PEDESTRIAN GRADE	<b>A</b>	<b>A</b>	<b>A</b>	<b>A</b>	<b>A</b>	<b>A</b>		<b>A</b>		

△ Good Choice ▲ Preferred Choice

# **COATING ACCESSORIES**

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

Use with LOCTITE® PC  $6311^{\text{TM}}$  Heavy Duty Vehicular and PC  $6315^{\text{TM}}$  Zero V.O.C. Grade Coatings.

96121 1 per case

LOCTITE® Bristle Roller Cores
Use with LOCTITE® PC 6253™
Acrylic Primer, PC 7643™ Metal
Primer, and PC 7641™ Water-Based
Epoxy Primer/Sealer.

# 96153 1 per case

# **LOCTITE® Mixer Blades**

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

96131 1 per case



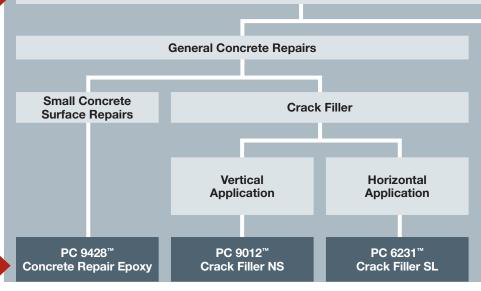
# Flooring, Concrete Repair & Grouting



# **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?



Color
Maximum Temperature
Compressive Strength
Working Time
Functional Cure
Chemical Resistance

Grey	Grey	Grey
250°F (121°C)	110°F (43°C)	120°F (49°C)
5,400 psi	8,000 psi	N/A
5 min.	20 min.	3 to 6 min.
10 min.	2 hrs.	90 min.
Good	Good	Good

# **Product Description**

**Solution** 

- 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® PC 7257™
   Summer Additive or Winter Additive with LOCTITE® PC 9410™ (known as Magna-Crete™) and with LOCTITE® 9620™ (known as Magna-Grout™) to accelerate or slow the cure in high-temperature or speed the cure in low-temperature environments.

### LOCTITE® PC 9428™ 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® PC 9012™ 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® PC 6231™ 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
(one nozzle included)

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

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

# 1100962 3 pack

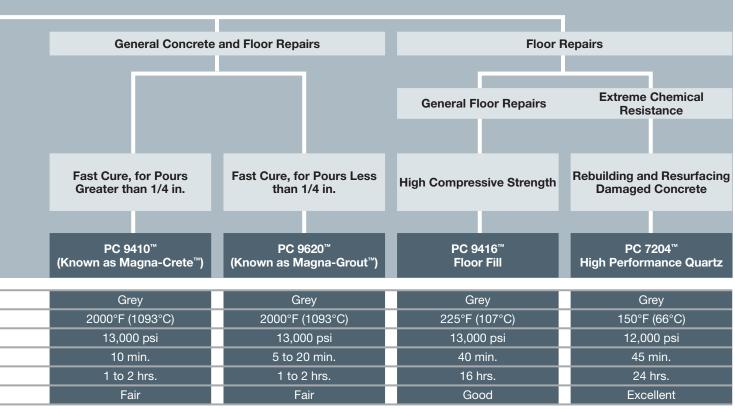
ADDITIONAL RESOURCES

\* Uses activator: LOCTITE® PC 7257









LOCTITE® PC 9410™ High Strength, Rapid Setting Concrete Repair Material (known as 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				
LOCTITE®	PC 7257™ PRODUCTS:				

36334 1 gal. bottle – Activator 976786 55 gallon drum – Activator 40270 1 lb. tub – Winter Additive 40271 1 lb. tub – Summer Additive LOCTITE® PC 9620™
High Strength, Rapid Setting
Grout and Concrete Repair
(known as Magna-Grout™)

A two-component, rapid-setting concrete repair and grouting system with the same properties as LOCTITE® PC 9410™ (known 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 edding.

# P/N Package Size 1477097 1 gallon kit

1477097 1 gallon kit 1476710 5 gallon kit 1476709\* 2,475 lb. supersack

# LOCTITE® PC 7257™ PRODUCTS:

 36334
 1 gal. bottle – Activator

 976786
 55 gallon drum – Activator

 40270
 1 lb. tub – Winter Additive

 40271
 1 lb. tub – Summer Additive

#### LOCTITE® PC 9416™ Floor Fill

A three-component, self-leveling, nonshrinking 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® PC 7204™ 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 LOCTITE® PC 7204™. 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® PC 9012 $^{\text{\tiny{M}}}$  Crack Filler NS and LOCTITE® EA 7363 $^{\text{\tiny{M}}}$  Anchor Bolt Grout HP require a heavy-duty dispensing tool.



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

**CONSUMABLES – DISPENSE ACCESSORIES**Static Mix Nozzles and Accessories –
Pages 176-178



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
	PC 9626™ 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
GROUTS	PC 9458™ 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
	PC 9422™ SUPER GROUT	33510	5 gallon kit	Red	620 in. <sup>3</sup>	Pourable	225°F	13,800	4.75 hours	24 hours	N/A	10:5 to 85 Aggregate	N/A
ANCHOR BOLT GROUT	EA 7363™ ANCHOR BOLT GROUT HP**	1108757 1108758	8.6 fl. oz. single cartridge 20.7 fl. oz. dual cartridge	Grey	15.5 in. <sup>3</sup> 37.36 in. <sup>3</sup>	N/A	110°F 115°F	9,880	20 minutes	4 hours	1:1	100:80	N/A
	PC 7204™ 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
	PC 9416™ 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	13,100	40 minutes	16 hours	4.6:1 to 9.8 Filler	16:3.2 to 80.8 Filler	CFIA Listed
	PC 9410 <sup>™</sup> (KNOWN AS MAGNA-CRETE <sup>™</sup> )	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
RFACING	PC 9620™ (KNOWN AS MAGNA-GROUT™)	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
FLOOR REPAIR & RESURFACING	PC 7257 <sup>™</sup> FOR PC 9410 <sup>™</sup> and PC 9620 <sup>™</sup>	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
OR REPAI	PC 7257 <sup>™</sup> FOR PC 9410 <sup>™</sup> and PC 9620 <sup>™</sup>	40271	1 lb. tub for Summer Use							(-)10 minutes			
FLO	PC 7257 <sup>™</sup> FOR PC 9410 <sup>™</sup> and PC 9620 <sup>™</sup>	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
	PC 9428™ CONCRETE REPAIR EPOXY	39366	4 oz. stick	Grey	16 in. <sup>2</sup> @ 1/4 in. thickness	Putty	250°F	5,400	5 minutes	10 minutes	N/A	N/A	N/A
	PC 9012 <sup>™</sup> CRACK FILLER NS	1108886	8.6 fl. oz. cartridge (one nozzle included)	Grey	15.5 in. <sup>3</sup>	Paste	110°F (43°C)	8,000	20 minutes	2 hours	1:1	N/A	N/A
	PC 6231™ 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
CING	PC 7202™ MARINE CHOCKING	97572	2 gallon kit	Green	378 in. <sup>3</sup>	90,000	250°F	22,000	10 minutes	24 hours	100:11.6	100:6.9	ABS, CFIA Listed
CHOCKING COMPOUND	COMPOUND	37316 96102	1 gallon kit 2 gallon kit	Orange	132 in. <sup>3</sup> 378 in. <sup>3</sup>								ABS, NAVSEA, NEHC

<sup>\*</sup> Uses activator: LOCTITE® PC 7257TM Activator - Item Number 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
	PC 9626™ DEEP POUR GROUT					Δ	Δ	<b>A</b>		Δ				
GROUTS	PC 9458™ FAST SET GROUT					Δ	<b>A</b>			<b>A</b>				
	PC 9422™ SUPER GROUT					Δ		Δ	<b>A</b>	Δ				
ANCHOR BOLT GROUT	EA 7363™ Anchor Bolt Grout HP	<b>A</b>												
	PC 7204™ HIGH PERFORMANCE QUARTZ (EXTREME CHEMICAL RESISTANCE)			Δ							<b>A</b>			
ACING	PC 9416™ FLOOR FILL			<b>A</b>		Δ					Δ			
RESURF	PC 9410 <sup>™</sup> (KNOWN AS MAGNA-CRETE <sup>™</sup> )			<b>A</b>			Δ	Δ				<b>A</b>	<b>A</b>	<b>A</b>
PAIR &	PC 9620™ (KNOWN AS MAGNA-GROUT™)			<b>A</b>			Δ	Δ				<b>A</b>	<b>A</b>	<b>A</b>
FLOOR REPAIR & RESURFACING	PC 9428™ CONCRETE REPAIR EPOXY	<b>A</b>		<b>A</b>						Δ	Δ	<b>A</b>		
	PC 9012 <sup>™</sup> CRACK FILLER NS			<b>A</b>							<b>A</b>			
	PC 6231™ CRACK FILLER SL				<b>A</b>									
CHOCKING	PC 7202™ Marine Chocking Compound		<b>A</b>			<b>A</b>	Δ			Δ				

**ITEMS IN RED** = *Source's* **PICK** or **NEW** 

△ Good Choice ▲ Preferred Choice

# **LOCTITE**<sup>®</sup> Heavy Duty Cartridge Applicators

	•		30			
LOCTITE® PRODUCT		ITEM Number	DESCRIPTION	USED TO DISPENSE	RECOMMENDED MIX NOZZLE	
ERS	MANUAL CARTRIDGE Applicator 300 ML	1093940	Manual Cartridge Applicator 300 ml	LOCTITE® EA 7363™ ANCHOR BOLT GROUT HP	Item 1100962 (3 pk.)	
SPENS			Single/Coaxial/ Dual Cartridges (8.6 fl. oz.,	LOCTITE® PC 6231™ Crack Filler SL	Item 1100963 (3 pk.)	
GE DI			26:1 Thrust)	PC 9012™ Crack Filler NS	Item 1100962 (3 pk.)	
MANUAL CARTRIDGE DISPENSERS	HEAVY DUTY MANUAL CARTRIDGE APPLICATOR	1093981	Manual Cartridge Applicator 600 ml Dual Cartridges (20.7 fl. oz., 26:1 Thrust)	LOCTITE® EA 9011™ Anchor Bolt Grout HP	Item 1100963 (3 pk.)	



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# **Gasketing & Sealing**

67	GASKETING & SEALING
69	Anaerobic & RTV Gasketing & Sealing
72	Anaerobic & RTV Gasketing & Sealing Equipment
73	Elastomeric Gasketing & Sealing
78	Elastomeric Gasketing & Sealing Equipment
79	Windshield Glass Installation (DGX)
80	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 gases, 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 na.henkel-adhesives.com/loctite.

- STRAIGHT FROM The Source









GENERAL COMPARISON	GASKET TYPE						
& PROCESS CONSIDERATIONS	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			

<sup>\*</sup> Uncured liquid adhesives may cause stress cracking of certain thermoplastics (e.g., polycarbons, 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



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# **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 metalto-metal assemblies

# Solution

Gasket Typ Gap F **Gap Fill with Prime Cure Metho Cure Tim** Temperature Resistance (Continuous/Intermitten Oil Resistance Water/Glycol Resistance **Recommended Prime** 

# DOES THE EXISTING GASKET NEED TO BE USED AS A SHIM? No Are you sealing a rigid or a flexible flange? Rigid **Flexible** SI 587™ Blue\* 510™ 518™ **High Performance** SI 598™ Black\* Flange Sealant Flange Sealant **RTV Silicone Gasket Maker**

ре	Formed-in-Place	Formed-in-Place	Formed-in-Place	Formed-in-Place	
Fill	0.010" (0.25 mm)	0.010" (0.25 mm)	0.250" (6.35 mm)	0.250" (6.35 mm)	
ner	0.020" (0.50 mm)	0.050" (1.27 mm)	N/A	N/A	
od	Anaerobic	Anaerobic	Moisture (RTV)	Moisture (RTV)	
ne	4 to 24 hrs.	4 to 24 hrs.	50 min.	20 min.	
ce nt)	400°F (204°C)/ N/A	300°F (149°C)/ N/A	400°F (204°C)/ 500°F (260°C)	400°F (204°C)/ 500°F (260°C)	
се	Excellent	Excellent	Excellent	Excellent	
се	Excellent	Excellent	Excellent	Excellent	
ner	SF 7088 <sup>™</sup> , SF 7649 <sup>™</sup> , SF 7471 <sup>™</sup>	SF 7088 <sup>™</sup> , SF 7649 <sup>™</sup> , SF 7471 <sup>™</sup>	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.

Package Size
50 ml tube
250 ml tube
300 ml cartridge

### LOCTITE® 518™ Flange Sealant

Recommended for use on rigid iron, steel and aluminum flanges. Spray LOCTITE® SF 7649™ Primer on only one surface. NSF/ANSI 61 Certified. CFIA Listed.

Package Size 2102974 25 ml syringe 2102986 300 ml tube 2096062 6 ml tube 2096064 50 ml tube 2096061 300 ml cartridge

#### LOCTITE® SI 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 oilcontaminated metals.

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

1 / 14	I ackage oize
58730	70 ml tube
58775	300 ml cartri
58791	50 lb. pail <sup>†</sup>
40462	190 ml can

### LOCTITE® SI 598™ Black **High Performance RTV** Silicone Gasket Maker

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

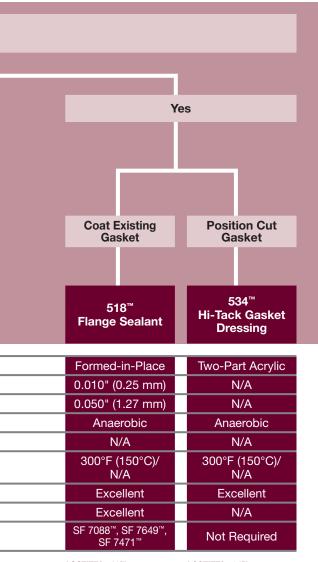
- See page 75 for additional properties.
- \*\* Uncarded tubes, sold as full cases of 100 pieces. www.equipment.loctite.com
- † Made-to-order item.







**HELPFUL HINTS** 



### LOCTITE® 518™ Flange Sealant

Recommended for use on rigid iron, steel and aluminum flanges. Spray LOCTITE® SF 7649™ Primer 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 MI (PRIMERS RECOI	ACTIVE METALS (PRIMERS OPTIONAL)	
PLATED PARTS ANODIZED ALUMINUM (ALODINE®, IRIDITE™) TITANIUM STAINLESS STEEL GALVANIZED STEEL MAGNETITE STEEL INCONEL™ NICKEL	SILVER GOLD ZINC PURE ALUMINUM <sup>†</sup> CADMIUM MAGNESIUM NATURAL OR CHEMICAL BLACK OXIDE	IRON PLAIN STEEL COPPER BRASS BRONZE MANGANESE MONEL™ 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<sup>®</sup> SF 7070<sup>™</sup> 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® SF 7649™ Primer.

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

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
UCTS	510™ HIGH TEMPERATURE	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.	SF 7088 <sup>™</sup> , SF 7471 <sup>™</sup> or SF 7649 <sup>™</sup>	1.16	N/A
TING PRODUCTS	515™	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.	SF 7088 <sup>™</sup> , SF 7471 <sup>™</sup> or SF 7649 <sup>™</sup>	1.10	UL Classified for U.S.
RIGID ASSEMBLY GASKETING	518™	2102974 2102986 2096062 2096064 2096061	25 ml syringe 300 ml tube 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.	SF 7088 <sup>™</sup> , SF 7471 <sup>™</sup> or SF 7649 <sup>™</sup>	1.13	NSF/ANSI 61, CFIA Listed
RIGID ASSE	549™	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.	SF 7471 <sup>™</sup> or SF 7649 <sup>™</sup>	1.25	N/A
	5127™	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.	SF 7649™	1.10	N/A
FLEXIBLE	509™	21525	300 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.	SF 7088 <sup>™</sup> , SF 7471 <sup>™</sup> or SF 7649 <sup>™</sup>	1.12	N/A
HIGHLY	5188™	1241991 1253203	300 ml cartridge 50 ml tube	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	SF 7649™	1.10	N/A

Information about SI 587™ and SI 598™ is in the chart on page 75.

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

LO	CTITE® PRODUCT	ITEM Number	PACKAGE Type/size	COLOR	TYPICAL USE	CONSISTENCY	VISCOSITY (cP)	TEMPERATURE RANGE	CURE SPEED	OIL RESISTANCE	AGENCY Approvals
S	534™ HI-TACK GASKET DRESSING	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		Purple	Vertical, repositionable	Semisolid	N/A	-65°F to 300°F (-54°C to 149°C)	5 minutes to set	Oil resistant	N/A
GASKET	MR GS1™ GASKET SEALANT	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
REXISTING GASKETS	MR GS2™       30513       1.5 oz. tube         GASKET SEALANT       30514       3 oz. tube         30515       7 fl. oz. tube         80964       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	
NGS FOR E	NS 5109™ GASKET MAKER	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
/ DRESSI	MR 5009™ HI-TACK GASKET SEALANT	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
SEALING	MR 5923™ GASKET DRESSING	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
	MR 7657™ COPPER GASKET ADHESIVE	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
	SF 7088™ PRIMER	1069258	17 g stick	Teal	Semisolid	No solvent	30 days	None	Anaerobics	N/A
PRIMERS	SF 7090™ ACTIVATOR	19368 12695	1 fl. oz. bottle 1 liter bottle	Dark Blue	17.5	No solvent	1 hour	None	Anaerobics	N/A
	SF 7471™ ⊕ PRIMER	19267 22477 19268	1.75 fl. oz. glass 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
	SF 7649™ PRIMER	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)

# 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 <a href="https://www.equipment.loctite.com">www.equipment.loctite.com</a>.



	LOCTITE	® PRODUCT		r	TEM NUMBERS	S	US DIS	ED TO Pense		PACKAGE TYPES & SIZES		VISCO RAN		С	ONSUMABLES – DISPENSE ACCESSORIES
	SYRINGE DISPENSING	– SIMPLE MANUAL D	ISPENSE	RS FOR L	OW VOLUN	IE SY	RINGE APP	LICATIONS							
HANDHELD APPLICATORS	-	30 ML MANUAL SY Applicator	RINGE	1544934			Any fluid in a 30 ml syringe, including 25 ml syringes		;	30 ml syringe		Low to High		Dispense Tips and Accessories	
\PPL	- I	10/30 ML SYRINGI		98	8192	Ar	ny fluid in a 1	10 ml syringe		10 ml syringe (3 pack	) [	ow to Hi	ah	– Pa	ges 174-175
		MANUAL PLUNGER			8193	Ar	ny fluid in a 3	30 ml syringe		30 ml syringe (3 pack			<b>9</b>		
를	TUBE DISPENSING – E	ASY AND EFFECTIVE	TUBE DIS	PENSING											
HA	-	50 ML-F TUBE SQUEEZE DISPENSER		1083845		Any 50 ml tub		e	į	50 ml tubes	L	ow to Hi	gh		ense Tips and Accessories ages 174-175
	LOCTITE®	PRODUCT		ITEM NUMBER	PRESSU REGULAT		USE	D TO DISPENSE		PACKAGE TYPE & SIZ		COSITY ANGE	LOW LE		CONSUMABLES – DISPENSE ACCESSORIES
	MANUAL CARTRIDGE I	DISPENSING								<u> </u>					
5		MANUAL CARTRIDGE Applicator 300 ML		1093940	N/A			nstruction , Caulking prod aulking tubes	ducts			ium gh	N/A		Cartridge Accessories – Page 175
SIN	PNEUMATIC CARTRIDO	GE DISPENSING													
CARTRIDGE DISPENSING	<b>*</b>	300 ML PNEUMATIC Cartridge dispensing Retainer		98319A	19A 0 to 60 psi		Gel Cyanoacrylates, Anaerobic Gasketing, Light Cure/Acrylics, Silicones					Low to No Medium			Cartridge Accessories – Page 175
CARTRID		HD10 300 ML PNEUM Cartridge dispens		1714379 0 to 60 p		si	Gel Cyanoacrylates, Anaerobic Gasketing, Light Cure/Acrylics, Silicones		ones	250 ml tubes		Medium to High			
	H	300 ML CARTRIDGE PUSHER		98022 0 to 50 psi		Si	Gel Cyanoacrylates, Anaerob Gasketing, Light Cure/Acrylic Low Viscosity Silicones					Medium Yes			
	LOCTITE® PR	ODUCT	ITE NUM		DISPENSE PATTERNS	T	USED TO	O DISPENSE		PACKAGE TYPE & SIZE	s visc	OSITY RA	NGE	CON	SUMABLES – DISPENSE ACCESSORIES
띯알	ANAEROBIC GASKETIN	NG DELIVERY SYSTEM											·		
DISPENSE SYSTEMS		PUMP-A-BEAD™ II DISPENSER	98600	0 Be	ead	A	naerobic Gas	sketing		850 ml cartridges	Med	ium to H			e Parts and Accessories, w.equipment.loctite.com
	LOCTITE® PRO	DUCT	ITEM NUMBER		TYPE	VISCO	OSITY RANGE	DISPENSE PATTERNS	U	ISED TO DISPENSE	STROKE ADJUSTMI	NT SU	CK-BACK	C	CONSUMABLES – DISPENSE ACCESSORIES
	SPRAY VALVE				•					·					
VES	SF	PRAY VALVE	98520	Spray	Valve	Low		Spray		ers, Accelerators, vators	Yes	No		989268 – 0.014" Nozzle Kit 989269 – 0.028" Nozzle Kit	
NAL)	HIGH VISCOSITY FLUID	O AND PASTE VALVE													
	PC	POPPET VALVE 986300			/iscocity and Paste	Medi	um to High	Drop, Bead	Anae	erobic Gasketing	Yes	es Yes			pense Tips and essories – Pages 174-175
	LOCTITE® PR	ODUCT		EM MBER	PRESSURE REGULATIO		USED	TO DISPENSE		PACKAGE TYPES & SI	ZES VIS	COSITY	LOW LI		CONSUMABLES – DISPENSE ACCESSORIES
S	MULTI-FUNCTION CON	TROLLER								•			320		
CONTROLLERS	SF	PRAY VALVE DNTROLLER	140602	23	0 to 100 ps	i P	rimers, Acce	elerators, Activ	vators	250 ml bottle 1 lb. bottle 1 liter bottle 2 kg bottle 200 g squeeze tub	Low		No		LOCTITE® Spray Valve, Item Number 98520

Your Source for Motion Control Robot Dispense Systems. See page 169.

# **Elastomeric Gasketing** & Sealing



## Your **Application**

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

**Solution** 

## ARE YOU GASKETING OR SEALING? Gasketing **Fast Cure High Fluid Resistance** One-Part **Rigid for High Torque Light Cure Normal Hardness** SI 5900® AA 5810A<sup>™</sup> SI 5050™ SI 5699<sup>™</sup> **Instant Gasket**

Color	Black	Iranslucent	Grey	Black	
Viscosity	Paste	Paste	Paste	Paste	
Temperature Range	-75°F to 500°F (-59°C to 260°C)	Up to 300°F (149°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® SI 5900® **Instant Gasket**

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

P/N	Package Size
30509	5 fl. oz. cartridge
40479	190 ml aerosol can
40478	90 ml aerosol can
20176	300 ml cartridge
	Uses nozzle #87098

## LOCTITE® SI 5050™ **Silicone Adhesive Sealant**

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

Package Size 1212165 40 lb. pail

#### LOCTITE® SI 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.

Package Size

18718	70 ml tube
18581	300 ml cartridge
	Uses nozzle #87098
18582	50 lb. pail
18583	550 lb. drum
40505	190 ml aerosol can

### LOCTITE® AA 5810A™ Sealant

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

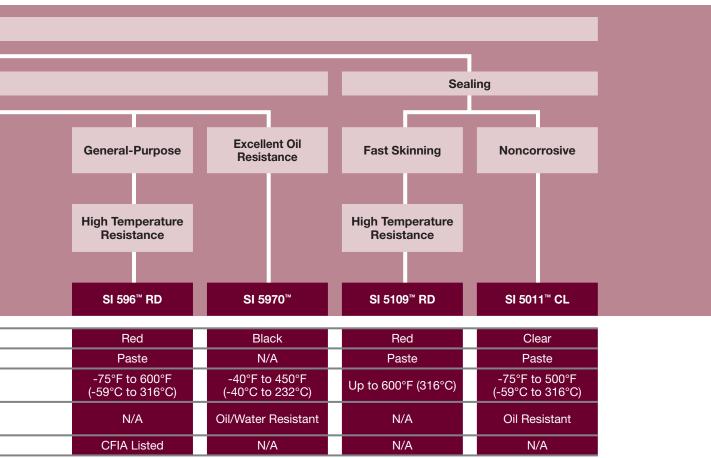
P/N	Package Size
39211	300 ml cartridg
20210	50 lb nail

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









## LOCTITE® SI 596™ RD Silicone Adhesive Sealant

Makes gaskets that resist temperatures to 600°F (316°C) intermittent. Resists aging, weather and therma 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 aerosol car

## LOCTITE® SI 5970™ Flange Sealant

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® SI 5109™ RD Tile Bond Red High Temp RTV Silicone Adhesive Sealant

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

Package Size
300 ml cartridge
4.5 gallon pail

#### LOCTITE® SI 5011™ CL Noncorrosive RTV Silicone Adhesive Sealant

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

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

# 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
PLACE		SI 598™ BLACK  34018 59830 70 ml tube 59875 300 ml cartridge 59891 49 lb. pail 40463 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	
/ FORMED-IN-PLACE	NONCORROSIVE	SI 587™ BLUE	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
SEALING / FO	NON	SI 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
		SI 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

	OCTITE® 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 <sup>†</sup> )	AGENCY Approvals
	SI 5620™	1257478	400 ml dual cartridge	Ultra- Clear	Ultra-clear potting,	Unlimited	N/A	-40°F to 450°F	Two-part	30 min.	1.00	A 35	N/A	N/A	N/A
		Part A - 40 lb. pail A:B b	/ 1:1 A:B by volume	encapsulating, and sealing; noncorrosive			(-40°C to 232°C)								
		Part A - 1257594 Part B - 1257596	400 lb. drum 400 lb. drum												
	SI 5900®	30509 40479 40478	5 fl. oz. cartridge 190 ml can 90 ml can	Black	High adhesion, instant seal	0.390	20 to 50	-65°F to 500°F (-54°C to 260°C)	Moisture	Tack-Free – 20 min. Full Cure – 24 hrs. to 7 days	1.3 to 1.37	A 31 to 36	>400	>246	NSF P1
PLACE		20176 20177 20178	300 ml cartridge 50 lb. pail 550 lb. drum	Black	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
FORMED-IN-PLACE	SI 5905™	38535 36923	300 ml cartridge 50 lb. pail	Black	High adhesion, fast cure	0.240	350	-65°F to 500°F (-54°C to	Moisture	Tack-Free – 20 min.	1.30	A 39	345	270	CFIA Listed
FORM		40969	300 ml cartridge	White	depth			260°C)		Full Cure – 24 hrs.					
	SI 5910®	21746 21747 21748	300 ml cartridge 50 lb. pail 550 lb. drum	Black	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
	SI 5970™	39246 35230	300 ml cartridge 50 lb. pail	Black	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
	SI 5999™	21744 28298 20170	300 ml cartridge 50 lb. pail 550 lb. drum	Grey	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
	SI 5045™	40409 40408	3 oz. tube 300 ml cartridge	Clear	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

<sup>=</sup> Indicates Worldwide Availability

 $<sup>^{\</sup>star}$  Varies with substrates.  $^{\star\star}$  Uncarded tubes, sold as full cases of 100 pieces.  $^{\dagger}$  Grit-blasted steel.

## **LOCTITE® Gasketing Properties Chart**

		LOCTITE® PRODUCT	ITEM NUMBER	PACKAGE Type/size	COLOR	CONSISTENCY	OIL RESISTANCE	TEMPERATURE RANGE (INTERMITTENT)	SEALING TIME	AGENCY APPROVALS	
TTA IVOONVIOO	FULTAGNILAIE	AA 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	
		SI 5015™ BLUE	30560 30533 30518	80 ml tube 300 ml cartridge 12 oz. tube	Blue Blue Blue	Paste	N/A	-65°F to 500°F (-54°C to 260°C)	Tack-Free – 30 min. Full Strength – 24 hrs.	N/A	
CONES		SI 5019™ BLUE	40482	190 ml can	Blue						
RTV SILI		SI GREEN RTV SILICONE	1165866	190 ml can	Equipment Green						
SUPERFLEX® RTV SILICONES		SI 596™ RD	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	
S	NONCORROSIVE	SI 5011™ 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	
HIGH TEMPERATURE	SILICONE	SI 5109™ RD	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	

## **LOCTITE® Elastomeric Gasketing Attributes & Applications Chart**

	LOCTITE® PRODUCT	MAIN ATTRIBUTES	APPLICATIONS		
	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		
	SI 598™ BLACK	Forms a tough, flexible silicone rubber gasket	Oil pans, valve covers, timing gear covers, differential covers		
NES	SI 587™ BLUE	Plant maintenance and small-to-large-sized OEMs	Typical automotive gasketing applications		
SILICONES	SI 5699™ GREY	Excellent oil resistance	Rigid flange sealing of transmissions and cast metal housings		
G SII	SI 5920™ COPPER	Fills voids in surfaces for a positive seal	Adheres to most surfaces		
Ž.	SI 5905™ BLACK	Fast cure, excellent fluid resistance	Large gap applications, flange flexing		
GASKETING	SI 5015™ BLUE	Forms a tough, flexible silicone rubber gasket, oxygen sensor-safe	Typical automotive gasketing applications		
	SI 596™ RD	Plant maintenance and small-to-large- sized OEMs low silicone volatiles	Automotive gasketing, industrial furnaces, boilers, ducting		
	SI 5011™ 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**

	LOCTITE® PRODUCT	ITEM NUMBER	PACKAGE Type/size	COLOR	CONSISTENCY	EXTRUSION RATE (g/min.)	CURE METHOD	CURE SPEED*	SHORE HARDNESS	% ELONGATION	TENSILE STRENGTH (psi <sup>†</sup> )	AGENCY Approvals
	SI 5039™	40438 40439	300 ml cartridge 40 lb. pail	Translucent/ Colorless/ Fluorescent	Paste	222	UV or Visible/ Moisture	30 sec. @ 120 mW/cm <sup>2</sup>	A 40	210	290	N/A
ш	SI 5050™	1212165	40 lb. pail	Translucent	Paste	500	Ultraviolet	Ultraviolet	A 45	260	421	N/A
CURED-IN-PLACE	SI 5950™	29287 18495	300 ml cartridge 40 lb. pail	Black	Paste	350	UV/Moisture	30 sec. @ 120 mW/cm <sup>2</sup>	A 27	200	150	N/A
ੌਹ	SI 5964™	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
	SI 3407™	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



#### 40479 40478 40505 SI 5900® Black SI 5699™ Grey 90 ml 190 ml 40462 190 ml SI 587™ Blue 40463 190 ml SI 598™ Black 40481 190 ml SI 595™ Clear 40466 190 ml SI 594™ White 40464 190 ml SI 593™ Black SI 5019™ Blue use with 300 ml 40482 190 ml

1165866

**ADDITIONAL RESOURCES** 

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

Canada: 1-800-263-5043

190 ml

190 ml

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

SI 5900® Black

SI Green RTV

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.

# 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 <a href="https://www.equipment.loctite.com">www.equipment.loctite.com</a>.



	LOCTITE®	PRODUCT	ITEM Number	PRESSURE REGULATION	USED TO DISPENSE	PACKAGE TYPE & SIZES	VISCOSITY RANGE	LOW LEVEL SENSING	CONSUMABLES – DISPENSE ACCESSORIES
	MANUAL CARTRIDGE	DISPENSING							
	A	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 175
	PNEUMATIC CARTRII	DGE DISPENSING			•				
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 175
	Y	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	
CAR	The same	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			ТҮРЕ	VISCOSITY RANGE	DISPENSE PATTERNS	USED TO DISPENSE	STROKE Adjustment	SUCK-BACK	CONSUMABLES – DISPENSE ACCESSORIES
	HIGH VISCOSITY FL	UID & PASTE VALVES								
S & PUMPS		VA26 DISPENSE VALVE – 50 BAR	1960414	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 174-175
VALVES	San	HIGH PRESSURE DISPENSE VALVE – 150 BAR	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 169.

**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 163**.

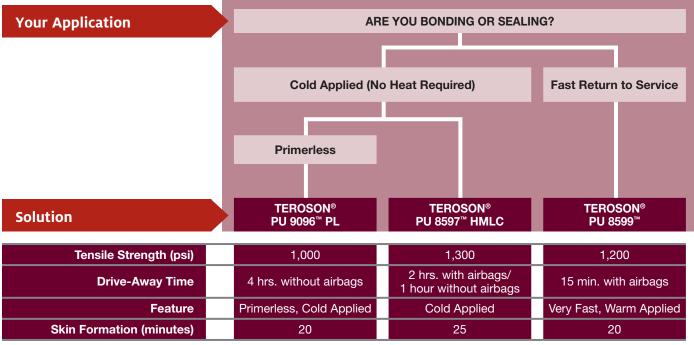
Can't find what you're looking for? Visit www.equipment.loctite.com or call 1-800-LOCTITE (562-8483).

- **STRAIGHT FROM** *The Source* 

# Windshield Glass Installation (DGX)







## **Product Description**

TEROSON® 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 TEROSON® DGX line include adhesives/sealants that are polyurethane and modified silane polymer, which is free of isocyanates and has high UV resistance.

## TEROSON® PU 9096™ PL Direct Glazing Sealant

## Polyurethane Adhesive/Sealant

A primerless, cold applied polyurethane. High green strength. 4-hour drive away time without airbags.

P/N Package Size 1377641 310 ml cartridge

## TEROSON® PU 8597™ HMLC Direct Glazing Sealant

### Polyurethane Adhesive/Sealant

A cold applied, high modulus, low conductivity polyurethane. Primer recommended for glass adhesion. 2-hour drive away time with airbags; 1 hour without airbags.

P/N Package Size 1377642 310 ml cartridge

## TEROSON® PU 8599™ Direct Glazing Sealant

### 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 cartride
1371250	25 kg pail
1377390	245 ka drum

## **TEROSON®** Windshield Glass Installation Adhesive Properties Chart

TEROSON® PRODUCT	ITEM Number	PACKAGE Type/size	FEATURE	CHEMISTRY	SHORE Hardness	TENSILE Strength	ELONGATION	SKIN Formation	DRIVE AWAY TIME (WITH/WITHOUT AIRBAGS)	AGENCY Approvals
PU 9096™ PL	1377641	310 ml cartridge	Primerless, cold applied	Polyurethane	A 60	1,000 psi	350%	20 minutes	4 hours	N/A
PU 8597™ HMLC PU 8517H™ PRIMER	1377642	310 ml cartridge	Cold applied	Polyurethane	A 70	1,300 psi	350%	25 minutes	2 hours/1 hour	N/A
PU 8599™	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

## **TEROSON®** Windshield Glass Installation Primer Properties Chart

TEROSON® PRODUCT	ITEM Number	PACKAGE Type/size	FEATURE
PU 8519™ P	2032203	500 ml bottle	All-in-one primer and activator
PU 8517H™	1418667	250 ml bottle	Glass primer
VR 20 <sup>™</sup>	1581028	1 liter bottle	Isopropanol-based cleaner
SB 450™	642844	1 liter bottle	Cleaner

**ITEMS IN RED** = Source's PICK or NEW

# Windshield Glass Installation (DGX) Equipment

	LOCTIT	E® PRODUCT	ITEM Number	PACKAGE TYPE/SIZE	USED TO DISPENSE	VISCOSITY	TYPE	CONSUMABLES – DISPENSE Accessories
	L'	HD10 300 ML PNEUMATIC CARTRIDGE DISPENSER	1714379	300 ml cartridges 250 ml tubes	MS Polymer Polyurethane	Medium to High	Pneumatic	Cartridge Accessories – Page 175
SORIES	-	POWERLINE II 300 ML DISPENSER	960304	300/310 ml cartridge	MS Polymer Polyurethane	Medium to Very High	Pneumatic - mechanical	
ENT & ACCESSORIES	-	PRIMER APPLICATORS	142245	N/A	MS Polymer Polyurethane	All	Manual	
EQUIPMENT		CARTRIDGE OPENER	395397	N/A	MS Polymer Polyurethane	N/A	Manual	
	0	CUTTING WIRE FOR GLASS REMOVAL	149361	N/A	N/A	N/A	Manual	







## Lubricating

81	LUBRICATING
83	Anti-Seize
87	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





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 na.henkel-adhesives.com/loctite.

## **STRAIGHT FROM** *The Source*

## **Anti-Seize**



## **Your Application**

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

## **HELPFUL HINT**

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



Up to 1800°F (982°C)

**General-Purpose** 

Up to 2400°F (1315°C)

Available in a Paste or Semisolid Stick

LB 8150™

LB 8151"

LB 8060"

Up to 1600°F

(871°C)

Available in a Paste or Semisolid Stick

LB 8007™

LB 8008™

LB 8065"

Copper

LB 771™ LB 8507™

## **Solution**

Color

**Solid Lubricating Agent** 

**Torque Coefficient\*** 

**Temperature Range** 

**Metal-Free** 

## Silver Graphite/Aluminum

0.18

-20°F to 1600°F (-29°C to 871°C) Copper/Graphite 0.16

-20°F to 1800°F (-29°C to 982°C)

No

Silver

Nickel/Graphite

0.13

-20°F to 2400°F (-29°C to 1315°C)

No LOCTITE® LB 771™, LB 8507™

Copper-free. Recommended

for stainless steel and other

metal fittings. For preventing

harsh chemical environments

and temperatures to 2400°F

Package Size

1 lb. brush-top can

77124 8 oz. brush-top can 1852753 12 oz. net wt. aerosol

8 lb. can

51102 1 lb. can

corrosion, seizing and galling in

**Nickel Anti-Seize** 

(1315°C).

77164

51152

## **Product Description**

**ANTI-SEIZE IS OFTEN...** 

• Used as a gasket release agent

in instances where reuse of the

## **LOCTITE® LB 8150™, LB 8151™,** LB 8060™ 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
1999141	7 fl. oz. brush-top tube
80209	4 oz. brush-top can
76732	8 oz. brush-top can
76764	1 lb. brush-top can
80206	1 gallon can
76775	5 gallon pail

#### Package Size LOCTITE® LB 8151"

76759 12 oz. net wt. aerosol

LOCTITE® LB 8060" 37230 20 g stick

#### **LOCTITE® LB 8007™, LB 8008™,** LB 8065™ C5-A® Copper-Based Anti-Seize

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.

Package Size

1299	2 g pouch
1277	7 g pouch
1001	1 oz. tube
1002	4 oz. tube
1144	4 oz. brush-top can
1147	8 oz. brush-top can
1005	10 oz. brush-top can
1004	13 oz. cartridge
1006	1 lb. can
1007	1 lb. brush-top can
39643	1 lb. brush-top metal car
1008	2.5 lb. can
1009	8 lb. can
88584	25 lb. pail
1011	42 lb. pail
1146	425 lb. drum
999559	7 fl. oz. brush-top tube

#### P/N Package Size LOCTITE® LB 8007TM

1786073 12 oz. net wt. aerosol

LOCTITE® LB 8065 37229 20 g stick

## gasket is desirable · Recommended for use on spark plug threads and electrical

\* K value on steel nuts and bolts.

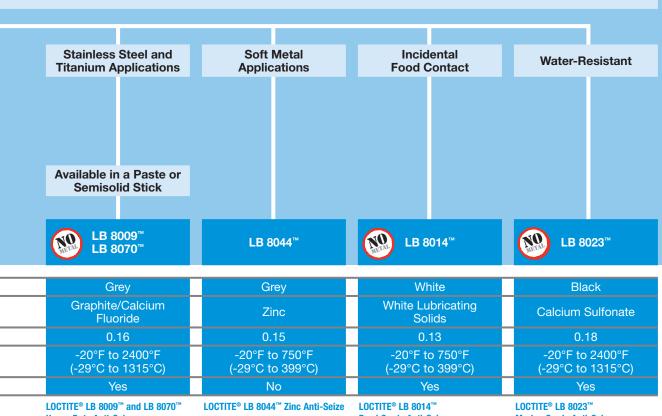
connections

**HELPFUL HINTS** 









## **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
1999560	7 fl. oz. brush-top tube

Package Size LOCTITE® LB 8070 41205 20 g

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

P/N Package Size 39901 1 lb. can

## **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

P/N Package Size 1167237 8 oz. brush-top can 1169241 2 lb. can 1170163 40 lb. pail

food contact. CFIA Listed.

## **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.

Package Size
8 oz. brush-top can
16 oz. brush-top can
7 fl. oz. brush-top tub

# **Anti-Seize**







## **LOCTITE® Anti-Seize Properties Chart**

	LOCTITE® PRODUCT	ITEM Number	PACKAGE Type/size	TEMPERATURE RESISTANCE	COLOR	K VALUE*
GENERAL-PURPOSE	LB 8008™	51299 51277 51001 51002 51144 51147 51005 1786073 51004 1999559 51006 51007 39643 51008 51009 38584 51011 51146	2 g pouch 7 g pouch 7 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 7 fl. oz. brush-top tube 1 lb. can 1 lb. brush-top can 1 lb. brush-top can 2.5 lb. can 8 lb. can 8 lb. can 25 lb. pail 42 lb. pail 425 lb. drum	1800°F (982°C)	Copper	0.16
GENERAL	LB 8150™	37229 38181 1999141 80209 76732 76764 80206 76775	20 g stick 7 g pouch 7 fl. oz. brush-top tube 4 oz. brush-top can 8 oz. brush-top can 1 lb. brush-top can 1 gallon can 5 gallon pail	1600°F (871°C)	Silver	0.18
	LB 8151™ LB 8060™	76759 37230	12 oz. net wt. aerosol 20 g stick			
	LB 771™	77124 51102 77164 51152 77175	8 oz. brush-top can 1 lb. can 1 lb. brush-top can 8 lb. can 5 gallon pail	2400°F (1315°C)	Silver	0.13
	LB 8507™	1852753	12 oz. net wt. aerosol			
HIGH PERFORMANCE	LB 8009™	51609 51605 51606 1999560 51607 51608	1 oz. tube 9 oz. brush-top can 18 oz. brush-top can 7 fl. oz. brush-top tube 2.3 lb. can 45 lb. pail	2400°F (1315°C)	Grey	0.16
교	LB 8070™	41205	20 g stick			
HIGH PER	LB 8023™	34395 1999556 34026	8 oz. brush-top can 7 fl. oz. brush-top tube 16 oz. brush-top can	2400°F (1315°C)	Black	0.18
	LB 8036™	34517 34518	8 oz. brush-top can 16 oz. brush-top can	2000°F (1093°C)	White	0.16
	LB 8014™	1167237 1169241 1170163	8 oz. brush-top can 2 lb. can 40 lb. pail	750°F (400°C)	White	0.13
≥	LB 8504™	51084	1 lb. can	900°F (482°C)	Black	0.13
SPECIALTY	LB 8012™	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
	LB 8700™	51094	1 lb. can	750°F (400°C)	Black	0.13
	LB 8044™	39901	1 lb. can	750°F (400°C)	Grey	0.15
	LB 8013™	51272 51270 51273	8 oz. brush-top can 1 lb. brush-top can 2 lb. can	2400°F (1315°C)	Silver	0.16
HIGH PURITY	LB N-5000™	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
HIG	HIGH PERFORMANCE LB N-5000	51572	1 lb. brush-top can	2400°F (1315°C)	Silver	0.15
	LB N-1000™	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® SF 7617™ 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.





## **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
늘띯	LB 8008™	Δ					Δ	Δ	Δ			CFIA Listed (stick)
GENERAL- PURPOSE	LB 8150™	Δ					Δ	Δ	Δ			CFIA Listed
끊조	LB 771™	Δ			<b>A</b>	<b>A</b>	Δ		Δ		<b>A</b>	N/A
NGE	LB 8009™	<b>A</b>			<b>A</b>	Δ	Δ	Δ	<b>A</b>	<b>A</b>	<b>A</b>	N/A
HIGH PERFORMANCE	LB 8023™	<b>A</b>			<b>A</b>			Δ	<b>A</b>	<b>A</b>	<b>A</b>	ABS
PERF	LB 8036™	Δ			<b>A</b>			Δ	Δ	<b>A</b>	<b>A</b>	N/A
	LB 8014™							Δ	<b>A</b>	<b>A</b>	<b>A</b>	NSF H1, CFIA Listed
<u>}</u>	LB 8504™					Δ	<b>A</b>	Δ		<b>A</b>	<b>A</b>	N/A
SPECIALTY	LB 8012™		<b>A</b>	<b>A</b>					<b>A</b>	<b>A</b>	<b>A</b>	N/A
S	LB 8700™		Δ	Δ					<b>A</b>	<b>A</b>	<b>A</b>	N/A
	LB 8044™							<b>A</b>	Δ			N/A
	LB 8013™	<b>A</b>			<b>A</b>	Δ	Δ		Δ	<b>A</b>	<b>A</b>	N/A
>	LB N-5000™	Δ			<b>A</b>	<b>A</b>	Δ		Δ		<b>A</b>	N/A
HIGH PURITY	HIGH PERFORMANCE LB N-5000™	<b>A</b>	<b>A</b>		<b>A</b>	<b>A</b>	Δ		Δ		<b>A</b>	N/A
HGH.	LB N-1000™	Δ					Δ		Δ			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 an 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

## **Lubricants**



## **Your Application**

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

## HIGH PERFORMANCE LUBRICATION

Dry Film Lubricant Aerosol	
LB 8017™ LB 8211™ LB 8108™	
Molybdenum Disulfide PTFE† PAO†	
Molybdenum Disulfide PTFE <sup>†</sup> PAO <sup>†</sup>	

Solution			
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® LB 8017™ **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.

#### Package Size P/N

1786074 12 oz. net wt. aerosol 39896 1.3 lb. can 10 lb. can

### **LOCTITE® LB 8211™ Krytox® RFE Dry Film Lubricant**

High performance, synthetic lubricant designed to provide long-lasting lubrication for parts that require a dry, thin lubricating film. LOCTITE® LB 8211<sup>™</sup> Krytox<sup>®</sup> RFE Dry Film Lubricant provides excellent lubrication properties over a broad temperature range.

Package Size 30138 8 oz. net wt. aerosol

## LOCTITE® LB 8108™ **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.

Package Size 1906102 10.1 oz. net wt. aerosol

 $<sup>\</sup>label{eq:ptf} \uparrow \ \ \mathsf{PTFE} = \mathsf{PolyTetraFluoroEthylene}, \ \mathsf{PFPE} = \mathsf{PerFluoroPolyEther}, \ \mathsf{PAO} = \mathsf{PolyAlphaOlefin}.$ 

<sup>\* 400°</sup>F (204°C) - Continuous, 500°F (260°C) - Intermittent.

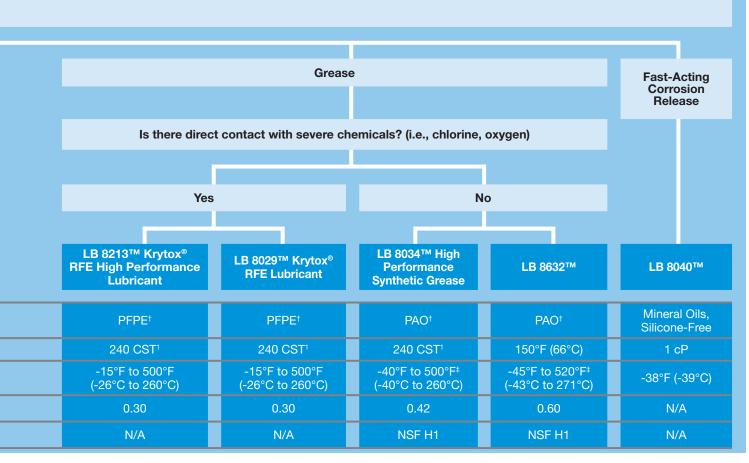
<sup>‡ 420°</sup>F (216°C) – Continuous, 520°F (271°C) – Intermittent.

1 CST at 104°F (40°C).









#### LOCTITE® LB 8213™ Krytox® RFE 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/NPackage Size297112 oz. tube2970916 oz. cartridge

### LOCTITE® LB 8029™ Krytox® RFE 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® LB 8034™ 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

 36781
 3 oz. tube

 36782
 14 oz. cartridge

 36783
 400 g can

 37061
 30 lb. pail

### LOCTITE® LB 8632™ 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® LB 8040™ 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/NPackage Size99645613.52 oz. net wt. aerosol

## **Lubricants**





## **LOCTITE® ViperLube® Synthetic Lubricant Properties Chart**

L0			PACKAGE Type/size			VISCOSITY RANGE	POUR POINT (ASTM D 97)	FOUR BALL TEST	NLGI Rating	DROP POINT	SPRAY TEST (ASTM B111)	AGENCY APPROVALS
HIGH PERFORMANCE	LOCTITE® LB 8034™ HIGH PERFORMANCE SYNTHETIC GREASE	36780 36781 36782 36783 37061	1 cc tube 3 oz. tube 14 oz. cartridge 400 g can 30 lb. pail	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
SYNTHETIC /	LOCTITE® LB 8632™ CLEAR HIGH PERFORMANCE SYNTHETIC GREASE	39341 39342	3 oz. tube 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	

## **Krytox® RFE Lubricant Properties Chart**

L	CTITE® 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
SE	LOCTITE® LB 8209™ KRYTOX® RFE PFPE LUBRICANT (O-RING)	29710 31361	2 oz. tube 16 oz. cartridge	-15°F to 500°F (-26°C to 260°C)	•	•		•	•	•	•	•	2
SPECIALTY OILS	LOCTITE® LB 8213™ KRYTOX® RFE HIGH PERFORMANCE LUBRICANT	29711 29709	2 oz. tube 16 oz. cartridge	-15°F to 500°F (-26°C to 260°C)		•	•	All plastics and metals	•	•	•	•	2
S	LOCTITE® LB 8211™ KRYTOX® RFE DRY FILM 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

<sup>\*</sup> 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.

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

 $<sup>\</sup>begin{aligned} &FC = Fully\ Compatible \\ &NC = Not\ Compatible\ (Mixtures\ soften\ severely\ and\ do\ not\ remain\ grease-like.) \end{aligned}$ 

## **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	LB 8632™ CLEAR HIGH PERFORMANCE SYNTHETIC GREASE	39341 39342	3 oz. tube 400 g cartridge	420°F (216°C) continuous 520°F (271°C) intermittent	<b>A</b>				•	•		<b>A</b>	•	<b>A</b>	
	LB 8421™ GEAR / CHAIN LUBE	1906177	12 oz. net wt. aerosol	250°F (121°C)						<b>A</b>				<b>A</b>	
	LB 8801™ SILICONE LUBRICANT	51360 81246	5.3 oz. tube 13 oz. net wt. aerosol	400°F (204°C)	<b>A</b>					Δ				Δ	
IBRICANTS	LB 8017™ MOLY DRY FILM LUBRICANT	1786074 39896 39897	12 oz. net wt. aerosol 1.3 lb. can 10 lb. can	750°F (400°C)			Δ	Δ	<b>A</b>				Δ		
ILS & LU	LB 8713™ SUPER PENETRATING OIL	1865406	12.25 oz. net wt. aerosol	250°F (121°C)		Δ									
SPECIALTY OILS & LUBRICANTS	LB C-200" HIGH TEMPERATURE SOLID FILM LUBRICANT	39893 39894	1.3 lb. can 10 lb. can	2400°F (1315°C)				Δ					Δ		<b>A</b>
	LB 8711™ Penetrating oil	51221	12 oz. net wt. aerosol	100°F (38°C)		Δ									
	LB 8040™ FAST ACTING CORROSION RELEASE	996456	13.52 oz. net wt. aerosol	N/A		Δ									
ASES	LB 8042™ WHITE LITHIUM GREASE	30530	1.5 oz. tube	380°F (193°C) (dropping point)						Δ			<b>A</b>	Δ	
D GRE	LB 8529™ LITHIUM GREASE	1906122	10.75 oz. net wt. aerosol	Posity											
BASE	LB 8423™ DIELECTRIC Grease	30536 37535	0.33 oz. tube 3 oz. tube	400°F (204°C)											
ETROLEUM-BASED GREASES	LB 8219™ EXTREME PRESSURE GREASE	51242	14.5 oz. cartridge	450°F (232°C)								<b>A</b>	<b>A</b>		
PETR	LB 8104™ FOOD GRADE GREASE	51252	14.5 oz. cartridge	450°F (232°C)	<b>A</b>							<b>A</b>			

△ Good Choice

▲ Preferred Choice

■ Acceptable Choice

## **CARTRIDGE ACCESSORIES**

Go to page 175 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 or call 1-800-LOCTITE (562-8483).

**STRAIGHT FROM** The Source

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# **Machining Compounds**

**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 carbidefilled 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 na.henkel-adhesives.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







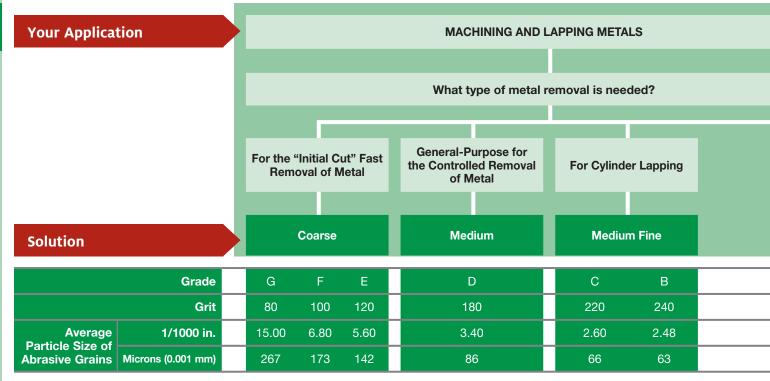
# **Machining Compounds**

## **Grade & Grit Selector Guide**

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

# **Machining Compounds**





## **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	<u>Grit</u>
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

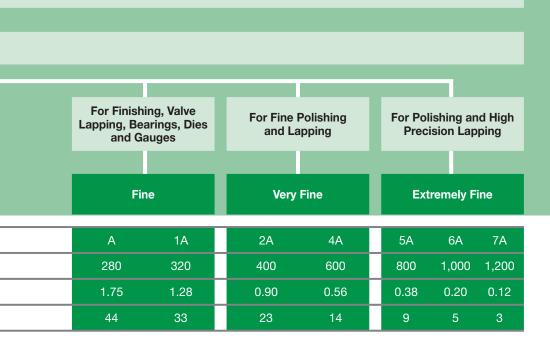
Paste formulation for fast metal removal. Biodegradable, recommended for applications where cleanup with water is required.

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
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









# 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 129-132.

ADDITIONAL RESOURCES 95







# Potting, Molding & Encapsulating

95	POTTING, MOLDING & ENCAPSULATING
97	Epoxies & Polyurethanes
101	Silicones
104	Silicone Equipment
105	Hot Melts
107	Hot Melt Equipment
109	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 na.henkel-adhesives.com/loctite.

- STRAIGHT FROM The Source







# Potting, Molding & Encapsulating

PERFORMANCE		POTTING & ENCAPSU	LATING COMPOUNDS					
CONSIDERATIONS	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	POTTING & ENCAPSULATING COMPOUNDS							
CONSIDERATIONS	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				
	10 to 20 seconds	15 minutes	15 minutes	5 seconds				
FASTEST	10 to 20 seconds							
FASTEST  FULL CURE TIME	1 hour (or when cooled)	24 hours	24 hours	24 hours				
		24 hours Unlimited	24 hours Unlimited	24 hours Shallow (<1.5 in.)				
FULL CURE TIME	1 hour (or when cooled)							

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

<sup>&</sup>lt;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.

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# **Epoxies & Polyurethanes**





Your WHAT IS THE MOST IMPORTANT ASPECT WHEN CHOOSING YOUR PRODUCT? **Application** High **Explosion Proof** Flame Retardant **Temperature** Sealing Resistance **Fast Cure Long Open Time** Metal Bonding/ **High Chemical** Resistance **Plastic UL 94V-0 Rating Metal Adhesion** Adhesion **Solution** UK 3364™ UK 3184™ PE 3145™ A PE 3141™ A EA E-40EXP™ Fast Cure, High Chemical Flame Retardant Flame Retardant **Key Feature** 1:2 Mix Ratio **Temperature** Resistant Color Black White Mixed: Black Mixed: Black Black Viscosity cP (Resin/ N/A N/A 5,315/13,355 Mixed: 7,000

## **Product** Description

Hardener)

### LOCTITE® UK 3364™ **Urethane Adhesive**

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

P/N Package Size

1166733 50 ml dual cartridge

## LOCTITE® UK 3184™ Hardener

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

Package Size 39398 1 gallon pail

5 gallon pail

39397\*

## **Polyurethane Adhesive**

Package Size 40512

## LOCTITE® PE 3145™ A **Epoxy Adhesive Resin**

A potting compound resin that is formulated to offer improved flame retardance when mixed with LOCTITE® Epoxy Hardener (PE 3163™ PE 3164<sup>™</sup>, PE 3165<sup>™</sup> B).

1 gallon pail

## LOCTITE® PE 3141™ A **Epoxy Adhesive Resin**

Resin formulated to offer improved long-term performance at higher temperatures when mixed with a LOCTITE® Epoxy Hardener (PE 3163™, PE 3164<sup>™</sup>, PE 3165<sup>™</sup> B).

Package Size P/N 39947 1 gallon pail

## LOCTITE® EA E-40EXP™ **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.

F/IN	rackage oize
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 173.

**ADDITIONAL** RESOURCES

<sup>\*\*</sup> Pneumatic only. \* Made-to-order item.

## **EPOXIES & POLYURETHANES**

LOCTITE® 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® Epoxy Product Chart**

LOCTITE® PRODUCT			ITEM Number	PACKAGE Type & Size	PACKAGE WEIGHT	KEY FEATURES
		PE 3140™ A	39944 39945*	1 gallon pail 5 gallon pail	12 lbs. 65 lb.	General-Purpose
S	RESINS	PE 3141™ A	39947	1 gallon pail	12 lbs.	High Temperature
<b>EPOXIES</b>	뿐	PE 3142™	39950	1 gallon pail	16 lbs.	Thermally Conductive
		PE 3145™ A	40512	1 gallon pail	13 lbs.	Flame Retardant
IE®		PE 3162™ B	39960	1 quart can	1.8 lbs.	Fast Cure
LOCTITE®	HARDENERS	PE 3163™ B	39964 39966*	1 quart can 5 gallon pail	1.7 lbs. 38 lbs.	Excellent Adhesion
	HAR	PE 3164™ B	39970*	5 gallon pail	40 lbs.	General-Purpose
		PE 3165™ B	39395	1 quart can	1.7 lbs.	Low Shrinkage

## **LOCTITE® Polyurethane Product Chart**

_		TITE® DUCT	ITEM NUMBER	PACKAGE TYPE & SIZE	PACKAGE WEIGHT	KEY FEATURES	
NES	RESINS	UK 3173™	39984 39985 39986*	1 quart can 1 gallon pail 5 gallon pail	2.5 lbs. 10 lbs. 50 lbs.	General- Purpose	
LOCTITE® POLYURETHANES		UK 3182™ 39995 39996* 39997*		1 gallon pail 5 gallon pail 55 gallon drum	12 lbs. 62 lbs. 625 lbs.	Fast Cure	
IITE® POI	HARDENERS	UK 3183™	39998 39999*	1 gallon pail 5 gallon pail	7.5 lbs. 37 lbs.	General- Purpose	
LOCI		UK 3184™	39398 39397*	1 gallon pail 5 gallon pail	12 lbs. 60 lbs.	Flame Retardant	

## **LOCTITE® Epoxy Kit Properties Chart**

	OCTITE® PRODUCT	ITEM Number	PACKAGE Type & Size	COLOR	WORK Life	SHORE Hardness	AGENCY Approvals	KEY FEATURES
6	EA E-60NC™ 29324 29325 29326		50 ml dual cartridge 200 ml dual cartridge 400 ml dual cartridge	Black	60 min.	D 85	CFIA Listed	Electrically noncorrosive, low viscosity
OCTITE® EPOXY KITS	EA E-30CL™	29329 29330 29331	50 ml dual cartridge 200 ml dual cartridge 400 ml dual cartridge	Clear	30 min.	D 85	N/A	Medium fixture, chemical resistant
ГОСТІ	EA E-40EXP™	1511653 1511896 1511897	200 ml dual cartridge 5 gallon pail - part A 5 gallon pail - part B	Black	35 min.	D 80	UL 674	Chemical resistant, use in hazardous locations

## **LOCTITE® Polyurethane Kit Properties Chart**

LOCTITE® PRODUCT	ITEM Number	PACKAGE Type & Size	COLOR	WORK Life	SHORE Hardness	AGENCY Approvals	KEY Features
LOCTITE® POLYURETHANE KIT IK 33894™	1166733	50 ml dual cartridge	Black	45 sec.	D 80	UL 94V-0	Fast cure, 1:2 mix ratio, black

## **LOCTITE® Polyurethane System Properties Chart**

			LOCTITE® POLYURETHANE SYSTEMS				
S	YSTEM CHAI	RACTERISTICS	UK 3173™/ UK 3182™	UK 3173™/ UK 3183™	UK 3173™/ UK 3184™		
	VISCOSITY	Resin	75	75	75		
	(cP)	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		
RTIES	GEL TIME	At 73°F (23°C)	14 minutes @ 300 g	40 to 70 minutes @ 105 g	150 minutes @ 300 g		
PE	CURE CYCLE	Normal 73°F (23°C)	90 minutes	24 hours	24 hours		
D P.		Alternate 185°F (85°C)	30 minutes	1 to 3 hours	1 to 3 hours		
YPICAL UNCURED PROPERTIES	MIX RATIO	By Weight (Resin : Hardener)	13:87	30:70	15:85		
CAL UP		By Volume (Resin : Hardener)	1:5.2	1:3	1:4.8		
YPI	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		
	UNAVIII	Hardener	1.60	0.96	1.45		
		Mixed	1.55	1.06	1.40		
OPERTIES	SHORE HARDNI	ESS	A 75	A 70	A 80		
TYPICAL CURED PROPERTIES	GLASS TRANSI TEMPERATURE		-10	-16	-15		
TYPICAL	CTE ABOVE Tg	(M/MM°C)	128x10e-6	190x10e-6	151x10e-6		
	DIELECTRIC	0.1 kHz	4.68	5.92	4.51		
	CONSTANT	1.0 kHz	4.02	4.36	4.29		
		10.0 kHz	3.76	3.65	3.94		
ES		100.0 kHz	3.63	3.31	3.56		
E	DISSIPATION FACTOR	0.1 kHz	0.13	0.22	0.02		
PRO	FACIUN	1.00 kHz	0.07	0.17	0.04		
띭		10.0 kHz	0.04	0.10	0.06		
3		100.0 kHz	0.02	0.05	0.07		
TYPICAL CURED		SISTANCE (OHMS)	2.5x10e+13	1.1x10e+11	1.1x10e+12		
¥		TIVITY (OHMS/CM)	1.5x10e+15	6.83x10e+12	6.61x10e+13		
		RENGTH (VOLTS/MIL)	370	375	370		
	FLAMMABILITY		N/A	N/A	94V-0 @ 3/8 in.		
	UL FILE NO. E25	57711	N/A	N/A	94V-2 @ 1/4 in.		

# **Epoxies & Polyurethanes**







	SYSTEN		LO	CTITE® PE 3140	M A EPOXY SYST	EM	LOCTITE® PE 3141™ A EPOXY SYSTEM			
C	HARACTERI	STICS	PE 3140™ A/ PE 3162™ B	PE 3140™ A/ PE 3163™ B	PE 3140™ A/ PE 3164™ B	PE 3140™ A/ PE 3165™ B	PE 3141™ A/ PE 3162™ B	PE 3141™ A/ PE 3163™ B	PE 3141™ A/ PE 3164™ B	PE 3141™ A/ PE 3165™ B
	VISCOSITY (cP)	Resin	11,000	11,000	11,000	11,000	80,000	80,000	80,000	80,000
	(61)	Hardener	120	450	105	55	120	450	105	55
		Mixed	2,000	1,500	1,500	2,000	5,000	4,000	6,000	13,000
	WORKING TIME	73°F (25°C)	5 to 10 min. @ 100 g	80 to 100 min. @ 200 g	10 to 15 min. @ 400 g	to 1.5 hrs. @ 400 g	5 min. @ 200 g	30 to 45 min. @ 200 g	10 min. @ 400 g	35 to 40 min. @ 200 g
ES	GEL TIME	73°F (25°C)	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	10 to 15 min. @ 200 g	60 to 80 min. @ 200 g	20 to 25 min. @ 200 g	65 to 75 min. @ 200 g
TYPICAL UNCURED PROPERTIES	CURE CYCLE	Normal 73°F (25°C)	16 hrs.	24 hrs.	16 hrs.	24 hrs. @ 77°F + 4 hrs. @ 200°F	24 hrs.	24 hrs.	24 hrs.	24 hrs. @ 77°F + 4 hrs. @ 200°F
ED PR		Alternate 150°F (60°C)	1 hr.	2 hrs.	2 hrs.	N/A	2 hrs.	2 hrs.	2 hrs.	N/A
INCUR	MIX Ratio	By Weight (R:H)	100:18.1	100:29	100:29.5	100:9	100:19.8	100:30	100:31.5	100:9
ICAL U		By Volume (R:H)	3.6:1	2:1	2:1	6:5:1	3:1	2:1	2:1	6.5:1
ΤΥP	COLOR	Resin	Black	Black	Black	Black	Black	Black	Black	Black
		Hardener	Clear	Clear	Clear	Clear	Clear	Amber	Amber	Clear
		Mixed	Black	Black	Black	Black	Black	Black	Black	Black
	SPECIFIC GRAVITY	Resin	1.64	1.64	1.64	1.64	1.61	1.61	1.61	1.61
	UNAVIII	Hardener	0.99	0.96	0.97	0.96	0.99	0.96	0.97	0.96
		Mixed	1.48	1.41	1.42	0.96	1.46	1.40	1.40	1.40
	SHORE HARDNESS		D 80	D 80	D 70	D 85	D 90	D 80	D 85	D 85
	GLASS TRANS TEMPERATURI		35	20	27	67	75	38	31	104
CURED RTIES	CTE ABOVE Tg (MM/MM°C)		125x10e-6	133x10e-6	150x10e-6	119x10e-6	135x10e-6	138x10e-6	111x10e-6	115x10e-5
AL CU	CTE BELOW TO (MM/MM°C)	J	37.5x10e-6	44.9x10e-6	82.6x10e-6	36.0x10e-6	39.7x10e-6	52.6x10e-6	49.2x10e-6	35x10e-6
LYPI0 PR0	DIELECTRIC	0.1 kHz	4.25	4.61	4.2	4.87	3.91	3.58	4.11	4.28
	CONSTANT	1.0 kHz	4.20	4.37	4.0	4.83	3.88	3.52	3.97	4.18
		10.0 kHz	4.16	4.20	3.8	4.75	3.84	3.46	3.87	4.06
		100.0 kHz	4.10	4.05	3.7	4.64	3.79	3.39	3.77	3.92
	DISSIPATION	0.1 kHz	0.010	0.040	0.08	0.003	0.01	0.01	0.02	0.01
	FACTOR	1.0 kHz	0.011	0.027	0.04	0.007	0.01	0.01	0.02	0.02
ES		10.0 kHz	0.012	0.026	0.03	0.011	0.01	0.01	0.02	0.02
EAT		100.0 kHz	0.013	0.023	0.03	0.014	0.01	0.02	0.02	0.02
L PROP	INSULATION RESISTANCE (	OHMS)	2.67x10e+13	1.61x10e+12	7.5x10e+111	5.19x10e+13	4.09x10e+13	1.23x10e+14	4.57x10e+13	2.15x10e+13
CTRICA	VOLUME RESIS (OHMS/CM)	STIVITY	2.53x10e+15	1.02x10e+14	1.5x10e+14	2.69x10e+15	2.61x10e+15	7.41x10e+15	2.98x10e+15	1.37x10e+15
TYPICAL ELECTRICAL PROPERTIES	DIELECTRIC S' (VOLTS/MIL)	TRENGTH	385	365	410	355	355	385	395	365
TYPIC	FLAMMABILIT UL FILE NO. E2		N/A	N/A	UL 94B @ 1/16 in.	N/A	N/A	N/A	N/A	N/A
	INSULATION S UL FILE NO. E2		N/A	N/A	UL 1446	N/A	N/A	N/A	N/A	N/A

SYSTEM CHARACTERISTICS		L	OCTITE® PE 3142	2™ EPOXY SYST	EM	LO	CTITE® PE 3145	™ A EPOXY SYS	ГЕМ	
212	IEW CHARACI	EKI21102	PE 3142 <sup>TM</sup> / PE 3162 <sup>TM</sup> B	PE 3142™ / PE 3163™ B	PE 3142™/ PE 3164™ B	PE 3142™/ PE 3165™ B	PE 3145™ A/ PE 3162™ B	PE 3145™ A/ PE 3163™ B	PE 3145™ A/ PE 3164™ B	PE 3145™ A/ PE 3165™ B
	VISCOSITY (cP)	Resin	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
	, ,	Hardener	120	450	105	55	120	450	105	55
		Mixed	6,000	7,000	8,000	18,000	7,150	5,315	5,790	13,355
	WORKING 77°F (25°C) TIME 77°E (25°C)		5 to 10 min. @ 200 g	2 hrs. @ 400 g	25 min. @ 400 g	80 min. @ 400 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
S	GEL TIME	77°F (25°C)	5 to 30 min. @ 200 g	>3 hrs. @ 400 g	50 min. @ 400 g	2.5 hrs. @ 400 g	35 to 45 min. @ 200 g	6 to 7 hrs @ 200 g	75 to 90 min. @ 200 g	5 hrs. @ 200 g
TYPICAL UNCURED PROPERTIES	CURE CYCLE	Normal 77°F (25°C)	24 hrs.	48 hrs.	24 hrs.	24 hrs. @ 77°F +4 hrs. @ 200°F	24 hrs.	24 hrs.	24 hrs.	24 hrs. @ 77°F + 4 hrs. @ 200°F
ED PR		Alternate 150°F (66°C)	2 hrs.	4 hrs.	2 hrs.	4 hrs. @ + 200°F	2 hrs.	4 hrs.	2 hrs.	4 hrs. @ + 200°F
INCUR	MIX RATIO	By Weight (R:H)	100:9	100:10.9	100:14.3	100:4.1	100:13	100:15.5	100:20	100:6
ICAL L	18.110	By Volume (R:H)	4.5:1	3.6:1	2.8:1	9.7:1	4.5:1	3.7:1	2.9:1	9.7:1
TYP	COLOR	Resin	Black	Black	Black	Black	Black	Black	Black	Black
		Hardener	Clear	Amber	Amber	Clear	Clear	Clear	Clear	Clear
		Mixed	Black	Black	Black	Black	Black	Black	Black	Black
	SPECIFIC GRAVITY	Resin	2.40	2.40	2.40	2.40	1.67	1.67	1.67	1.67
	unami	Hardener	0.99	0.96	0.97	0.96	0.99	0.96	0.97	0.96
		Mixed	1.54	1.53	1.50	1.62	1.54	1.49	1.49	1.58
	SHORE HARDNES	S	D 90	D 90	D 85	D 90	D 84	D 80	D 75	D 88
	GLASS TRANSITION TEMPERATURE/TO		42	30	29	84	42	38	32	53
	CTE ABOVE Tg (MM/MM°C)	, -,	97.2x10e-6	96.1x10e-6	106x10e-6	87.7x10e-6	128x10e-6	130x10e-6	122x10e-6	111x10e-6
e	CTE BELOW Tg (MM/MM°C)		28.2x10e-6	33.5x10e-6	51.9x10e-6	26.9x10e-6	42.6x10e-6	49.0x10e-6	59.4x10e-6	40.6x10e-6
YPICAL CURED PROPERTIES	THERMAL CONDUCTIVITY	Watts/ Meter°K	0.953/ ±0.014	0.873/ ±0.017	0.801/ ±0.013	1.126/ ±0.017	0.8068	0.8119	0.7324	1.0341
	DIELECTRIC	0.1 kHz	4.87	5.28	5.51	5.65	3.81	4.27	4.19	4.43
	CONSTANT	1.0 kHz	4.83	5.20	5.35	5.57	3.85	4.36	4.46	4.45
		10.0 kHz	4.78	5.12	5.21	5.46	3.74	4.11	4.22	4.28
		100.0 kHz	4.72	5.02	5.06	5.34	3.63	3.90	3.99	4.11
	DISSIPATION FACTOR	0.1 kHz	0.01	0.01	0.02	0.01	0.028	0.033	0.036	0.045
	FACIUN	1.0 kHz	0.01	0.01	0.02	0.01	0.025	0.046	0.042	0.036
ES		10.0 kHz	0.01	0.01	0.02	0.01	0.021	0.037	0.037	0.027
DPERI		100.0 kHz	0.01	0.01	0.02	0.01	0.017	0.031	0.034	0.024
ICAL PRO	INSULATION RESI (OHMS)	STANCE	5.31x10e+13	3.65x10e+13	2.75x10e+12	4.09x10e+13	N/A	N/A	N/A	N/A
TYPICAL ELECTRICAL PROPERTIES	VOLUME RESISTIN (OHMS/CM)	VITY	3.47x10e+15	2.55x10e+15	1.65x10e+14	2.61x10e+15	8.4e+14	2.1e+14	2.5e+13	7.3e+14
TYPICA	DIELECTRIC STRE (VOLTS/MIL)	NGTH	345	355	345	335	693	748	695	794
	FLAMMABILITY R UL FILE NO. E2577		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**

#### WHAT IS THE MOST IMPORTANT ASPECT WHEN CHOOSING **Your Application** YOUR PRODUCT? • Single-component, tough, protective **UL 94V-0 Flame Retardant High Adhesion** • Seal components against moisture, solvents and environmental conditions Difficult-to-Bond · Cure in as little as 30 seconds to **Fast Cure Standard Cure Substrates** depths of 0.150 in. when exposed to UV light or visible light SI 5640™ SI 5611S™ SI 5611F™ SI 5056™ **Solution** ISO 10993 Flame Retardant Flame Retardant Flame Retardant

## **Product Description**

Viscosity, cP (Resin/Hardener)

**Key Feature** 

Color

### LOCTITE® SI 5611F™ Silicone Potting Compound

(UL 94V-0 Rating)

Grey

5,000/5,000

### 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

### M LOCTITE® SI 5640™ Silicone Potting Compound

### Self-Leveling, Noncorrosive, Flame Retardant

Two-part, self-leveling with a UL 94V-0 rating and an improved adhesion to plastics. Grey in color.

UL Listed.

(UL 94V-0 Rating)

Grey

10,000/1,000

# P/N Package Size 1738359 490 ml dual cartridge 1738366 55 gallon drum, part A 1738365 5 gallon pail, part B

## LOCTITE® SI 5611S™ Silicone Potting Compound

(UL 94V-0 Rating)

Grey

5,000/5,000

### 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

## LOCTITE® SI 5056™ Light Cure Adhesive

Compliant
Clear/Yellowish

Tint

2,200

#### Self-Leveling/High Adhesion

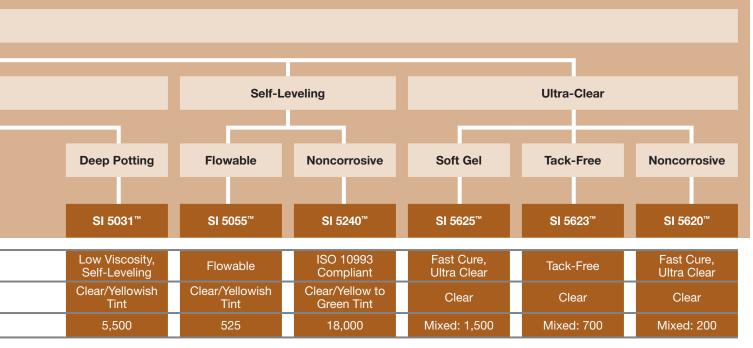
A UV or visible light curing, noncorrosive silicone with very high bond strength. Ideal for high speed adhesion and sealing applications. High adhesion for difficult-to-bond substrates.

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

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







## LOCTITE® SI 5031™ Silicone Potting Compound

## High Adhesion/Visible Light

A low viscosity, selfleveling, 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® SI 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® SI 5240™ 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 difficultto-bond substrates.

P/N	Package Size
1010341	25 ml syringe
1010320	300 ml cartridge
1010343*	40 lb. pail

## LOCTITE® SI 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® SI 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.

1 / 14	i ackage oize
1259300	400 ml dual cartridg
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® SI 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**

## **LOCTITE® Silicone Potting Compound Properties Chart**

LO	CTITE® PRODUCT	ITEM NUMBER	PACKAGE TYPE & SIZE	CURE SCHEDULE (Cure/Alt. Cure)	VISCOSITY (cP)	GEL TIME	SHORE HARDNESS	AGENCY APPROVALS
	SI 5031™	40086 40087	300 ml cartridge 40 lb. pail	UV/visible light/moisture 60 seconds @ 40 mW/cm²	5,500	Seconds	A 34	N/A
	SI 5040 <sup>™</sup>	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
	SI 5055™	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
	SI 5056™	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
	SI 5091™	17412	300 ml cartridge	UV/moisture 60 seconds @ 40 mW/cm²	5,500	Seconds	A 34	UL Classified for U.S.
POUNDS	SI 5240™	1010341 1010320 1010343*	25 ml syringe 300 ml cartridge 40 lb. pail	60 seconds @ 70 mW/cm <sup>2</sup>	18,000	Seconds	A 45	ISO 10993 Compliant
LOCTITE® SILICONE POTTING COMPOUNDS	SI 5611F™	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
CTITE® SILICONI	SI 5611S™	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
.007	SI 5620™	1257478 1257595 1257597 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
	SI 5623™	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
	SI 5625™	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
	SI 5640™	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 94V-0

**ITEMS IN RED** = Source's PICK or NEW

<sup>\*</sup> 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 <a href="https://www.equipment.loctite.com">www.equipment.loctite.com</a>.



	LOCTITE® PRODUCT			PRESSURE REGULATION	USED TO DISPENSE	PACKAGE TYPE & SIZES	VISCOSITY RANGE	LOW LEVEL SENSING	CONSUMABLES – DISPENSE ACCESSORIES
	PNEUMATIC CARTRII	DGE 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 175
DISPENSING	T	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	
CARTRIDGE	M	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 HIGH VISCOSITY FLUID & PASTE VALVES			TYPE	VISCOSITY RANGE	DISPENSE PATTERNS	USED TO DISPENSE	STROKE Adjustment	SUCK-BACK	CONSUMABLES – DISPENSE ACCESSORIES
	HIGH VISCOSITY FL	UID & PASTE VALVES								
S & PUMPS		VA26 DISPENSE VALVE – 50 BAR	1960414	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 174-175
VALVES	· Control of the cont	HIGH PRESSURE DISPENSE VALVE – 150 BAR	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 169.

**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 163**.

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

- **STRAIGHT FROM** *The Source* 

## **Hot Melts**



## **Your Application**

**Solution** 

- 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

	WHAT IS THE MOST IMPORTANT ASPECT WHEN CHOOSING YOUR PRODUCT?										
ľ	Flame High Retardant Temperature				Temp	.ow erature, I-Purpose	Flow	rable			
	PA 7809FR™		PA 7811™		1942™		PA 7901™				

Color
Viscosity (cP) at Dispense Temperature
Open Time (sec.)
Temperature Resistance

Amber	Amber	Tan	Amber
7,000	4,250 to 6,400	5,000	750
35	35	30	35
240°F	266°F	142°F	300°F

## **Product Description**

# TECHNOMELT® PA 7809FR™ 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. pai

## MELT® TECHNOMELT® PA 7811™ FR™ Hot Melt Adhesive 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. pai
83338	40 lb. carton pellet

## TECHNOMELT® 1942™ Hot Melt Adhesive General-Purpose

Medium setting, generalpurpose 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

## TECHNOMELT® PA 7901™ Hot Melt Adhesive Polyamide

Low viscosity polyamide used extensively for potting and encapsulating.

P/N	Package Size
83342	40 lb. carton pellet



## **TECHNOMELT®** Hot Melt Adhesive Properties Chart

TECHNOMELT® PRODUCT		ITEM Number	PACKAGE TYPE & SIZE	COLOR	VISCOSITY (cP) At dispense Temperature	TENSILE Strength (psi)	OPEN TIME	TEMPERATURE RESISTANCE	% ELONGATION	SHORE HARDNESS	AGENCY APPROVALS
ADHESIVES	1942™	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
HOT MELT A	PA 7809FR™	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.
TECHNOMELT® H	PA 7811™	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
TECHIN	PA 7901™	83342	40 lb. carton pellets	Amber	750	260	35 seconds	300°F	80	A 84	N/A

You can find more LOCTITE® and TECHNOMELT® Hot Melt Adhesives in the bonding section on pages 13-16.

Please see pages 107-108 for LOCTITE® Hot Melt applicators.

ADDITIONAL RESOURCES 107

# Hot Melt 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 <a href="https://www.equipment.loctite.com">www.equipment.loctite.com</a>.



	LOCTITE	® PRODUCT	ITEM NUMBER	STICK DIAMETER	DISPENSE MELT RATE	DISPENSE POWER	DISPENSE TEMPERATURE	HOT MELT Chemistry	HOT MELT NOZZLES & Accessories	
	1/2 INCH SUPERS	STICK DISPENSERS								
	1	HYSOL® 050A	916282	1/2 in. Superstick Sticks	4 lbs./hr.	Manual	383°F (195°C)	EVA/Polyolefin	Hot Melt Nozzles and Accessories – Page 108	
	1	HYSOL® 050A-HT	1597635	1/2 in. Superstick Sticks	4.4 lbs./hr.	Manual	419°F (215°C)	Polyamide		
	3/4 INCH MAXIST	TICK DISPENSERS							<u>'</u>	
S	<i>A</i>	HYSOL® 075	98033	3/4 in. Maxistick Sticks	9 lbs./hr.	Manual	360°F (182°C)	EVA	Hot Melt Nozzles and Accessories – Page 108	
HANDHELD HOT MELT DISPENSERS	1	HYSOL® 075-LT	98034	3/4 in. Maxistick Sticks	5 lbs./hr.	Manual	249°F (121°C)	CoolMelt™		
DISP	1 3/4 INCH SPRAYPAC" & POLYSHOT DISPENSERS									
MELT	4	HYSOL® 175-AIR	98036	1 3/4 in. Polyshot Sticks	8 lbs./hr.	Electric	383°F (195°C)	EVA/Polyolefin	Hot Melt Nozzles and Accessories – Page 108	
тон от		HYSOL® 175-AIR-HT	98040	1 3/4 in. Polyshot Sticks	8 lbs./hr.	Electric	419°F (215°C)	Polyamide		
ANDHEI	2	HYSOL® 175-SPRAY	98037	1 3/4 in. Polyshot Sticks	8 lbs./hr.	Electric	383°F (195°C)	EVA/Polyolefin		
Ħ	-	HYSOL® 175-SPRAY-HT	98041	1 3/4 in. Polyshot Sticks	8 lbs./hr.	Electric	419°F (215°C)	Polyamide	-	
	4	EQ HM22	2040430	1 3/4 in. Polyshot Sticks	6.6 lbs./hr.	Manual	383°F (195°C), 419°F (215°C) and 320°F (160°C)	EVA/Polyolefin and Polyamide		
	URETHANE DISPE	ENSER							1	
	6	EQ HM18 REACTIVE URETHANE CARTRIDGE DISPENSER	2011543	N/A	3 lbs./hr.	Air	249°F (121°C)	Reactive Urethane	Hot Melt Nozzles and Accessories – Page 108	

 $<sup>^{\</sup>star}$  The LOCTITE® Hysol® 175 Dispenser (manual electric) is supplied with both temperature modules.

For custom hot melt dispense nozzles, contact the Special Equipment Group of Henkel at 1-800-LOCTITE (562-8483).

STRAIGHT FROM The Source

LOC	TITE® PRODUCT	ITEM NUMBER	DESCRIPTION	USED WITH
	900	2049853	Nozzle with Adapter/Check Valve	2040430
	The same	1611450	Replacement Nozzle/Check Valve	1597635
	100	419115 (SINGLE PACK)	Adapter/Check Valves for Nozzles	98035, 98036, 98040
	(b)	916050 (5 PACK) 2049855		916282 2040430
	946	(SINGLE PACK) ANZ023N01	Standard Nozzle Adapter with Check Valve and Jam Nut	98033, 98034
	4	985225 (5 PACK)	1-Hole Nozzle 0.08" diameter cone tip (5 pack)	98033, 98034, 98035, 98036, 98040 2040430
	66	985110	2-Hole Nozzle 0.06" diameter x 0.39" spacing	98033, 98034, 98035, 98036, 98040, 98544, 98545 2040430
		985111	3-Hole Nozzle 0.06" diameter x 0.20" spacing	98033, 98034, 98035, 98036, 98040, 98544, 98545 2040430
	3-	985112	Diagonal Extension Nozzle Tip = 0.14" diameter x 1.23" long	98033, 98034, 98035, 98036, 98040, 98544, 98545 2040430
SORIES	<u> </u>	985113	Needle Extension Nozzle Tip = 0.05" diameter x 1.32" long	98033, 98034, 98035, 98036, 98040, 98544, 98545 2040430
HOT MELT NOZZLES & ACCESSORIES	_	985114	Spreader Extension Nozzle Tip = (0.09" x 0.25") x 1.32" long	98033, 98034, 98035, 98036, 98040, 98544, 98545 2040430
T NOZZLE	4	985115	L-Nozzle 0.06" diameter x 0.85" offset	98033, 98034, 98035, 98036, 98040, 98544, 98545 2040430
HOT MEL	0	985122	Standard Medium Spray Nozzle 1.25" to 5" diameter pattern	98037, 98041
	0	985211	Narrow Spray Nozzle 0.05" to 1.25" diameter pattern	98037, 98041
	0	985216	Ultra-Wide Spray Nozzle 1.5" to 6.0" diameter pattern	98037, 98041
		984261	Standard Adapter for 300 ml Cartridges	98011
	60 =	984262	Standard 1-Hole Nozzle 0.098" diameter cone tip, with integral check valve	98011
	-	984263	(includes protective cap)  Adapter/Check Valve for	2011543 98011
	The state of the s	307£00	Specialty Nozzles	2011543
	<u> </u>	984264	Needle Jet Nozzle Tip = 0.051" diameter x 1.26" long (requires 984263 adapter)	98011
	9	984268	3-Hole Nozzle	98011
			0.06" diameter x 0.20" spacing (requires 984263 adapter)	2011543
	0	984272	Injection Needle Nozzle with Integral Check ValveTip = 0.059" diameter x 0.197" long	98011 2011543
	8	985397	Air Line Filter, Regulator, 5 Micron Filter Gauge 0 to 150 psi	All Pneumatic Applicators

# **Low Pressure Molding**

Color

Hardness (Shore A)

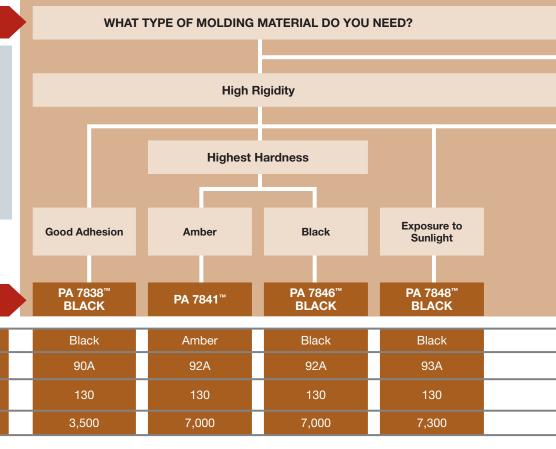
**Maximum Working** 

Viscosity at 210°C (cP)

Temperature (°C)

# **Your Application**

- Low-pressure, high-speed molding with adhesives for fragile and delicate components
- Short cycle time and single-step process
- Encapsulation of components provides complete sealing and subsequent environmental resistance



# **Product Description**

Solution

## 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

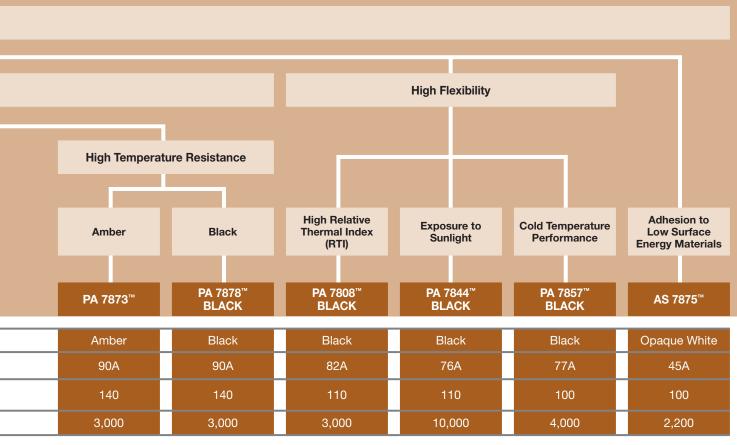
Moldable black polyamide with improved UV stability that is suitable for outdoor applications.

 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 flexiblity. 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™

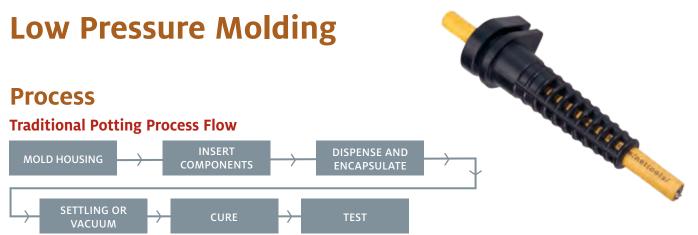
Moldable polyolefin hot melt for applications demanding moisture and solvent resistance. It exhibits excellent adhesion to low surface energy plastics.

**P/N Package Size** 1762907 55 lb. bag

# **Low Pressure Molding**

# **Process**

# **Traditional Potting Process Flow**



## Low Pressure Process Flow



# **Key Benefits**

# Design

- Functional design allows for alternative solutions (simplified process vs. traditional technologies)
- Improved look and image

## **Process**

- Reduces total cost of ownership
  - Low capital equipment costs and reduced footprint
  - Increased throughput
- · Low-viscosity materials allow for low injection pressures
- · Less handling and shorter process time
- No cure process required

# **Products**

- · Adhesion to multiple surfaces
- · Complete watertight encapsulation
- Safe, 1-component, UL 94V-0 approved
- · High temperature resistance
- Compliant materials suitable for sensitive electrical and telecommunication components

# **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

<u> </u>	FECHNOMELT®	1		<del>.</del>	1	1	1	1	WORKING	1
<u>'</u>	rechnomelt® Product	ТҮРЕ	ITEM #	PKG TYPE & SIZE	COLOR	HARDNESS (SHORE A)	TENSILE Strength (PSI)	% ELONGATION	WORKING Temperature Range	AGENCY LISTING
	PA 7808™	Polyamide	1762932	44 lb. bag	Amber	82A	520	600	-40°C to 110°C	UL 94V-0, 95°C RTI
	PA 7808™ BLACK	Polyamide	1762910	44 lb. bag	Black	82A	520	450	-40°C to 110°C	UL 94V-0, 95°C RTI
	PA 7833™	Polyamide	1762931	44 lb. bag	Amber	90A	750	300	-40°C to 130°C	UL 94V-0
	PA 7838™ BLACK	Polyamide	1762953	44 lb. bag	Black	90A	750	300	-40°C to 130°C	UL 94V-0
	PA 7841™	Polyamide	1762906	44 lb. bag	Amber	92A	1,310	650	-10°C to 130°C	_
DINGS	PA 7846™ BLACK	Polyamide	1764113	44 lb. bag	Black	92A	1,310	650	-40°C to 130°C	UL 94V-0
TECHNOMELT® LOW PRESSURE MOLDINGS	PA 7848™ BLACK	Polyamide	1764108	44 lb. bag	Black	93A	1,310	550	-40°C to 130°C	UL 94V-2, f2 rating for outdoor weatherability
LOW PRE	PA 7852™	Polyamide	1762908	44 lb. bag	Amber	77A	460	400	-40°C to 100°C	UL 94V-0
HNOMELT®	PA 7857™ BLACK	Polyamide	1762909	44 lb. bag	Black	77A	390	350	-40°C to 100°C	UL 94V-0
TEC	PA 7873™	Polyamide	1763724	44 lb. bag	Amber	90A	800	400	-40°C to 140°C	UL 94V-0
	PA 7878™ BLACK	Polyamide	1762904	44 lb. bag	Black	90A	800	400	-40°C to 140°C	UL 94V-0
	PA 7844™ BLACK	Polyamide	1925259	40 lb. bag	Black	76A	1,000	700	-20°C to 110°C	_
	PA 6782™	Polyamide	2071767	44 lb. bag	Black	82A	800	800	-40°C to 100°C	_
	AS 4226™ NA	Acrylic	2040377	44 lb. bag	Clear	90A	1,450	250	-40°C to 85°C	_
	AS 7875™	Polyolefin	1762907	55 lb. bag	Opaque White	45A	120	400	-30°C to 100°C	_









# Repairing, Rebuilding & Restoring

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# WHY USE LOCTITE® REPAIRING, REBUILDING AND RESTORING PRODUCTS?

The LOCTITE® Repairing, Rebuilding and Restoring 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® 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 downtime
- · 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

<sup>\*</sup> LOCTITE® Wet Surface Repair Putty and LOCTITE® Underwater Repair Epoxy have been specially formulated to cure in wet or underwater applications.







# Repairing, Rebuilding & Restoring









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 na.henkel-adhesives.com/loctite.

# **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:**

**Solution** 

- Can be troweled, cast or brushapplied 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

## **CONVEYOR BELT REPAIR**

Is this a temporary or a long-term repair?

Long-Term

Do you require a fast return to service or a long working time?

**Fast Return to Service** 

**Longer Working Time** 

PC 7350™

PC 7393™

MR 5023™

Color **Working Time Tensile Strength Functional Cure** 

Black Black 10 min. 1,600 psi 1,300 psi

Black 10 min. 1,500 psi 8 hrs.

# **Product Description**

# **LOCTITE® Fixmaster® Universal Dispenser**

Handheld, manually operated dispenser designed specifically for use with LOCTITE® PC 7393™ Rapid Rubber Repair Kit.

## **Description:**

- Two-part adhesives
- 400 ml cartridges
- Medium- to high-viscosity range

243335

LOCTITE® Fixmaster® Universal Dispenser LOCTITE® EQ 7393™ Mixer



## LOCTITE® PC 7350™ **Conveyor Belt Repair**

LOCTITE® PC 7350™ is an adhesive, sealant and repair compound that offers an exceptional balance of self-leveling and fast cure. It is an excellent choice for on-site repairs, especially for conveyor belts and other rubber parts.

P/N Package Size 2073202 400 ml cartridge 2084201 1 kg kit

## LOCTITE® PC 7393™ **Rapid Rubber Repair Kit**

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® Fixmaster® Universal Dispenser (part number 1372751).

Package Size 400 ml cartridge 96675 150 ml coaxial cartridge 96676

## LOCTITE® MR 5023™ Flex Conveyor Belt Repair

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

ADDITIONAL RESOURCES







# **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
PC 7393™ RAPID Rubber Repair Kit		<b>A</b>					Δ	Δ
MR 5023™ FLEX CONVEYOR BELT REPAIR		Δ						
MR FLEX 80™ URETHANE REPAIR PUTTY	Δ				<b>A</b>	<b>A</b>	<b>A</b>	
MR FLEX 80™ CASTABLE URETHANE LIQUID	<b>A</b>			Δ				<b>A</b>

<sup>△</sup> 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
~	PC 7350™ CONVEYOR BELT REPAIR	2073202 2084201	400 ml cartridge 1 kg kit	Black	97.6 in. <sup>2</sup> 225.6 in. <sup>2</sup>	180	1,600	250	95	10	2	1:1	93:100	N/A
BELT REPAIR	PC 7393™ RAPID Rubber Repair Kit	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
8	MR 5023™ Flex Conveyor Belt Repair	98693	1 lb. kit	Black	94	180	1,500	350	A 87	10	8	100:40	72:28	N/A
PAIR	MR FLEX 80 <sup>TM</sup> URETHANE REPAIR 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
GENERAL REPAIR	MR FLEX 80 <sup>TM</sup> Castable Urethane 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
넁	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® PRO	DUCT	ITEM NUMBER	PACKAGE DESCRIPTION	COVERAGE	COLOR			
ORIES	ETCHING AGENT	Enhances bonds to rubber	99626	3 fl. oz. bottle 190 in.² or approximately 1 can of each product for 2 lbs. of urethane					
CCESS	SF 8220™ FLEX CLEANER	Cleans and primes surfaces	39636	4 fl. oz. can	N/A	Clear			
T REPAIR ACCESSORIES	UNIVERSAL DISPENSER	Dispenser	1372751	Required for use with 400 ml cartridge of LOCTITE® PC 7393 <sup>TM</sup> (Item Number 1372751 is not included in the 96677 kit and must be ordered separately.)					
BELT	PC 7393™ MIXER	Static mixers	243335 874905	Packaged 6/bag – for mixing and dispensing LOCTITE® PC 7393™ in a 400 ml cartridge. Packaged 10/pack – for mixing and dispensing LOCTITE® PC 7393™ in a 150 ml coaxial cartridge.					

Need additional mix nozzles for LOCTITE® Universal 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

# Solution

Color **Maximum Temperature Working Time\*** 

		What	material are you fil	ling?		
			Mild Steel			
	Pourable	Put	ity	Kneadable Stick	High Performance Chemical Resistance	
•	EA 3472™	EA 3471™	EA 3473™	EA 3463™	EA 3478™	
	Grey	Grey	Grey	Metallic Black	Dark Grey	
	302°F (150°C)	356°F (180°C)	302°F (150°C)	350°F (175°C)	302°F (150°C)	

REPAIR OR REBUILD DAMAGED PARTS

# **Product Description**

**Cure Time\*** Compressive

Strength

## LOCTITE® EA 3472™ **Steel-Filled Castable** Ероху

25 min.

6 hrs.

9,700 psi

High steel content. Pourable liquid filler used for making fixtures and molding.

## ABS Approved.

Package Size 97483 1 lb. kit

## LOCTITE® EA 3471™ **Steel Putty**

30 min.

6 hrs.

11,100 psi

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 lh kit 99912 25 lb. kit

## LOCTITE® EA 3473™ **Fast Set Steel Putty**

A fast curing version of steel putty. Recommended for repairing pipes and other emergency repairs. ABS Approved.

3 min.

10 min.

7,400 psi

P/N Package Size 39917 1 lb. kit

## LOCTITE® EA 3463™ 10-Minute Repair Epoxy

3 min.

10 min.

7,200 psi

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® EA 3478™ **Superior Metal**

20 min.

6 hrs.

9,900 psi

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 1 lb. kit 4 kg kit 97473 40900

\* At 77°F (25°C).









## LOCTITE® PC 3466™ Castable 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® PC 7254™ 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® EA 3478™ 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® Maintenance & Repair Epoxy Properties Chart**

	LOCTITE® PRODUCT	ITEM NUMBER	PACKAGE TYPE & SIZE	COLOR	COVERAGE	MAXIMUM TEMPERATURE† (°F)	COMPRESSIVE STRENGTH† (psi)	TENSILE STRENGTH <sup>†</sup> (psi)	SHORE HARDNESS	WORKING TIME	FUNCTIONAL CURE	MIX RATIO By Volume	MIX RATIO BY WEIGHT	AGENCY APPROVALS
(S	EA 3463™ 10-MINUTE REPAIR EPOXY*	98853	4 oz. stick	Metallic Black	16 in. <sup>2**</sup>	350	7,200	2,500	D 80	3 minutes	10 minutes	N/A	N/A	NSF 61
EPOXY STICKS	PC 9428™ 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
Ŧ	EA 9480™ UNDERWATER REPAIR EPOXY	82093	4 oz. stick	White	16 in.2**	300	12,000	900	D 70	15 minutes	30 minutes	N/A	N/A	CFIA Listed
POURABLE	EA 3472™ STEEL-FILLED CASTABLE EPOXY*	97483 97484	1 lb. kit 4 lb. kit	Grey	13 in. <sup>3</sup> 52 in. <sup>3</sup>	302	9,700	6,000	D 86	25 minutes	6 hours	4:1	9.5:1	ABS, CFIA Listed, NEHC, NAVSEA
Pour	PC 3466 <sup>™</sup> Castable Aluminum Liquid*	97453	1 lb. kit	Aluminum	17 in. <sup>3</sup>	250	11,500	6,000	D 85	20 minutes	6 hours	5:1	9:1	ABS, CFIA Listed, NEHC, NAVSEA
	EA 3478 <sup>TM</sup> SUPERIOR METAL*	97473 40900	1 lb. kit 4 kg kit	Dark Grey	0.25 ft. <sup>2**</sup> 2.2 ft. <sup>2**</sup>	302	9,900	5,500	D 90	20 minutes	6 hours	4:1	7.25:1	CFIA Listed
щ	EA 3471™ 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
TROWELABLE	PC 7254 <sup>TM</sup> ALUMINUM PUTTY*	97463	1 lb. kit	Aluminum	0.5 ft.2**	356	9,000	4,000	D 87	20 minutes	6 hours	4:1	6.3:1	ABS, CFIA Listed, NEHC, NAVSEA
TRO	EA 3476™ 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
	EA 3473™ 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 <sup>†</sup> (°F)	TENSILE STRENGTH† (psi)	WORK LIFE	FIXTURE TIME‡	FULL CURE (HOURS)	AGENCY APPROVALS	
IGH RMANCE	PC 3965™ FAST SET STEEL EPOXY	96604	50 ml cartridge	Grey	200	2,600	3 minutes	6 to 8 minutes	7	CFIA Listed	
HIGI PERFORN	PC 7222 <sup>TM</sup> NORDBAK® 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	
	MR 2000™ EXTREME TEMPERATURE REPAIR PUTTY	95724	8 oz. can	Grey	2000	675	30 minutes	1 hour	7	N/A	
	EA 445™ FAST CURE EPOXY	21425 21426	10 – 0.12 fl. oz. cups 10 – 1 oz. cups	Grey	180	2,000	5 minutes	10 minutes	12	N/A	
SPECIALTY PRODUCTS	EA 9017™ FAST CURE EPOXY	1324007	1 oz. oval syringe	Translucent	300	2,300	1 minute	5 minutes	1	ABS, CFIA Listed	
	EA 9035™ 4-MINUTE EPOXY	97434	50 ml cartridge	Translucent	160	2,000	3-4 minutes	10 minutes	1	N/A	
ATORS	MANUAL CARTRIDGE APPLICATOR	98472	Required for use with LOCTITE® 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 www.equipment.loctite.com.								
APPLICATORS	STATIC MIX NOZZLES	98455	Packaged 10/bag – for mixing and dispensing LOCTITE® 50 ml cartridges.  For more information on spare parts, nozzles and accessories, please visit www.equipment.loctite.com.								

**ITEMS IN RED** = *Source's* PICK or NEW

 $<sup>^{\</sup>star}$  Properties are based on mixing 1 lb. mass at 77°F, seven days' cure.

<sup>\*\*</sup> At 1/4 in. thickness.

<sup>†</sup> Ultimate cure.

<sup>‡</sup> Time to reach handling strength.

<sup>§</sup> Properties based on ultimate cure. Epoxy properties based on mixing 20 g mass at 77°F.

# **LOCTITE® 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
(S	EA 3463 <sup>TM</sup> 10-MINUTE REPAIR EPOXY	<b>A</b>		Δ						<b>A</b>				<b>A</b>	Δ
EPOXY STICKS	PC 9428™ CONCRETE REPAIR EPOXY	Δ								Δ					
Ð	EA 9480 <sup>TM</sup> UNDERWATER REPAIR EPOXY	Δ		Δ											<b>A</b>
POURABLE	EA 3472 <sup>TM</sup> STEEL-FILLED CASTABLE EPOXY			<b>A</b>		<b>A</b>				Δ				<b>A</b>	
POUR	PC 3466™ Castable Aluminum Liquid									<b>A</b>		<b>A</b>	Δ	<b>A</b>	
	EA 3478 <sup>TM</sup> Superior Metal		<b>A</b>		<b>A</b>	<b>A</b>	<b>A</b>	<b>A</b>	<b>A</b>		<b>A</b>				
	EA 3471™ STEEL PUTTY			<b>A</b>					<b>A</b>		Δ			<b>A</b>	
LABLE	PC 7254™ Aluminum Putty		Δ								<b>A</b>	<b>A</b>	Δ		
TROWELABLE	EA 3476 <sup>TM</sup> STAINLESS STEEL PUTTY		Δ								<b>A</b>	Δ	<b>A</b>		
	EA 3473 <sup>TM</sup> FAST SET STEEL PUTTY	<b>A</b>		<b>A</b>					Δ						

**ITEMS IN RED** = *Source's* **PICK** or **NEW** 

 $\triangle \ \ \textbf{Good Choice} \qquad \blacktriangle \ \ \textbf{Preferred Choice}$ 

■ Acceptable Choice

# **LOCTITE® Fixmaster® Maintenance & Repair Epoxy Bonding Characteristics**

	LOCTITE® PRODUCT		FAST CURE TIME	FERROUS METAL REPAIR	TOUGHENED FORMULATION	SHOCK RESISTANT	WATER RESISTANT	PLASTIC BONDING	RUBBER Bonding	METAL Bonding	SANDABLE FINISH	PAINTABLE FINISH
MANCE	EA 3473™ FAST SET STEEL EPOXY	Δ	<b>A</b>	<b>A</b>						Δ	<b>A</b>	
HIGH PERFORMANCE	PC 7222™ NORDBAK® Wear resistant putty	<b>A</b>			<b>A</b>	<b>A</b>	Δ					
SPECIALTY PRODUCT	MR 2000™ EXTREME TEMPERATURE REPAIR PUTTY	<b>A</b>		<b>A</b>								

△ Good Choice ▲ Preferred Choice

■ Acceptable Choice

121







# Retaining

121	RETAINING
123	Retaining Compounds
127	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.

 $\label{loctite} \mbox{LOCTITE} \mbox{$^{\$}$ 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 na.henkel-adhesives.com/loctite.

# **STRAIGHT FROM** *The Source*







# 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.

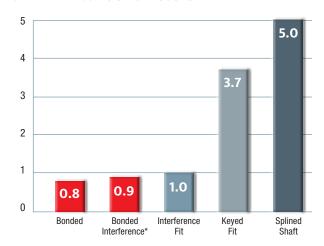
## **COST BENEFITS**

- 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

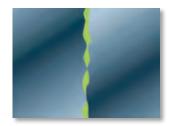
## **RELATIVE PRODUCTION COSTS**



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.

<sup>\*</sup> 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 slipfitted 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)

High

3,800 psi

Up to 0.015 in.

(0.38 mm)

450°F (230°C)

60 min. / 24 hrs.

7088™, 7649™, 7471™

Gap 0.006 in. (0.15 mm)

High

3,900 psi

355°F (180°C)

3 min. / 24 hrs

Not Required

Gap 0.010 in. (0.25 mm)

Solution

Strength Required
Shear Strength

Clearance Up to 0.006 in. (0.15 mm)

Temperature Resistance
Cure Time (Setup/Full Strength)

**Recommended Activator** 

648™ Retaining 638™ Retaining 620™ Retaining Compound Compound

High 4,500 psi

Up to 0.010 in. (0.25 mm)

355°F (180°C) 4 min. / 24 hrs.

Not Required

Recommended for slip fit parts with

larger gaps. Excellent performance

for dynamic, axial and radial loads.

including oils, cutting and corrosion

protection fluids. Cures on metals

Bonds through contaminants

without an activator. Globally

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.

'/N	Package Size
2005	0.5 ml tube
2015	10 ml bottle
2040	50 ml bottle
2070	250 ml bottle
2085	1 liter bottle

# **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

# NSF P1-Certified. P/N Package Size

available product.

LOCTITE® 638™

**Retaining Compound** 

Slip Fit/High Strength

1835937 10 ml bottle 1835936 50 ml bottle 1835925 250 ml bottle 1835924 1 liter bottle

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









## LOCTITE® 641™ Retaining Compound

A controlled-strength retaining compound that is ideal for cylindrical parts that require disassembly. **CFIA Approved.** 

P/N	Package Siz
28802	10 ml bottle
21458	50 ml bottle

## 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® SF 7070™ 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 ZINC (ALODINE®, PURE ALUMINUM† ÌRIDITE™) CADMILIM TITANIUM MAGNESIUM STAINLESS STEEL NATURAL OR GALVANIZED STEEL CHEMICAL MAGNETITE STEEL **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.

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

# Retaining Compounds





# **LOCTITE® Retaining Compound Properties Chart**

	OCTITE	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
Ş	603™	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 <sup>™</sup> , 7649 <sup>™</sup> or 7471 <sup>™</sup>	N/A
CLOSE-FITTING PARTS	609™	60905 60921 60931 60941 60943	0.5 ml tube 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 <sup>™</sup> , 7649 <sup>™</sup> or 7471 <sup>™</sup>	MIL-R-46082B for existing designs, ASTM D-5363**, CFIA
SOTO	648™	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
NG PARTS	638™	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
LOOSE-FITTING PARTS	680™	1835212 1835205 1835201 1835196 1835206	0.5 ml tube 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	620™	62005 62015 62040 62070 62085	0.5 ml tube 10 ml bottle 50 ml bottle 250 ml bottle 1 liter bottle	For high temperature applications	Green	0.015 in. 0.38 mm	8,500	3,800	-65°F to 450°F (-54°C to 230°C)	Fixture – 1 hr. Full – 24 hrs.	7088 <sup>™</sup> , 7649 <sup>™</sup> or 7471 <sup>™</sup>	CFIA, ABS
MEDIUM STRENGTH	641™	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 <sup>™</sup> , 7649 <sup>™</sup> or 7471 <sup>™</sup>	CFIA
MACHINERY REPAIR	660™	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 <sup>™</sup> , 7649 <sup>™</sup> or 7471 <sup>™</sup>	CFIA
ш	232™	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 <sup>™</sup> , 7649 <sup>™</sup> or 7471 <sup>™</sup>	N/A
SLOW OR UV CUR	640™	64031 64041 64043	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
SL	661™	66141 66170	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.

<sup>=</sup> Indicates Worldwide Availability







# **LOCTITE® Activators Chart**

LOCTITE® PRODUCT	PACKAGE TYPE & SIZE	COLOR	VISCOSITY (cP)	BASE	ON-PART Life	DRY TIME	APPLICATION	AGENCY APPROVALS
SF 7088™ PRIMER 1069258	17 g stick	Teal	Semisolid	No solvent	30 days	None	Anaerobics	CFIA Listed
SF 7090™ 19368 ACTIVATOR 12695	1 fl. oz. bottle 1 liter bottle	Dark Blue	17.5	No solvent	1 hour	None	Anaerobics	N/A
SF 7471™	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
SF 7649™ PRIMER       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
SF 7070™ ODC-FREE CLEANER & DEGREASER	22355 20172	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 <a href="https://www.equipment.loctite.com">www.equipment.loctite.com</a>.



	LOCTITE® PI	RODUCT	ITEM NUMBER	PRESSURE REGULATION	USED TO	DISPENSE	PACKAGE TYPES & SIZES	VISCOSITY RANGE	LOW LEVEL SENSING	CONSUMABLES – DISPENSE ACCESSORIES
	PRECISION BORE CO	ATING APPLICATOR								
		LOCTITE® DUAL CHANNEL AUTOMATIC CONTROLLER	97152	1 to 100 psi Viscosity 0 to 3,000 cP	Gel Adhesives, Instant Adhesive Light Cure/Acryl Compounds, Thr	ics, Retaining	Depends on Reservoir	Medium to High	Yes	Dispense Tips and Accessories – Pages 174-175
		1	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 174-175
SEMI/FULLY AUTOMATIC	LOCTITE® ROTOSPRAY™ APPLICATOR		97115	Electric	Low to Medium	Bead	Anaerobic Adhesives	N/A	N/A	Dispense Tips and Accessories – Pages 174-175
ULLY	DUAL CHANNEL DIS	PENSING	ITEM Number	PRESSURE REGULATION	USED TO	DISPENSE	PACKAGE TYPES & SIZES	VISCOSITY RANGE	LOW LEVEL SENSING	CONSUMABLES – DISPENSE Accessories
SEMI/F		INTEGRATED SEMIAUTOMATIC DISPENSER	1390322	0 to 15 psi Viscosity >3,000 cP	Gel Adhesives, Instant Adhesive Light Cure/Acryl Compounds, Thr	ics, Retaining	250 ml bottle 1 lb. bottle 1 liter bottle 2 kg bottle	Low to Medium	Yes	Dispense Tips and Accessories – Pages 174-175
	1870		1390321	0 to 100 psi			200 g squeeze tube	Medium to High	Yes	
				Viscosity 0 to 3,000 cP				10g		
								<u> </u>		
			ITEM Number	TYPE	VISCOSITY RANGE	DISPENSE PATTERNS	USED TO DISPENSE	STROKE Adjustment	SUCK-BACK	CONSUMABLES – DISPENSE Accessories
		LOCTITE® CYANOACRYLATE DISPENSE VALVE    Dispense valve		Retaining Compounds,	Yes	No	Dispense Tips and Accessories – Pages 174-175			
		DDODUGT			RESSURE		PACKAGE TYPES	I VISCOSITY	LOW LEVEL	CONSUMABLES – DISPENSE

	LOCTITE®	PRODUCT	ITEM NUMBER	PRESSURE REGULATION	USED TO DISPENSE	PACKAGE TYPES & SIZES	VISCOSITY RANGE	LOW LEVEL SENSING	CONSUMABLES – DISPENSE ACCESSORIES
	RESERVOIRS	·				,			
	BOND-A-MATIC® 3000 RESERVOIR		982720	0 to 15 psi	Gel Adhesives, Instant Adhesives.	250 ml bottle 1 lb. bottle	Low to Medium	Yes	Dispense Tips and Accessories –
			982726		Light Cure/Acrylics, Retaining Compounds,	1 liter bottle 2 kg bottle		No	Pages 174-175
9	O 3		982723	0 to 100 psi	Threadlockers	200 g squeeze tube	Medium to High	Yes	
HANDHELD			982727					No	
HAN	BOTTLE DISPENSI	NG							
			ITEM NUMBER	USED TO DIPENSE	PACKAGE TYPES & SIZES	VISCOSITY RANGE	TYP	E	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 174-175

**ITEMS IN RED** = Source's PICK or NEW

Your Source for Motion Control Robot Dispense Systems. See page 169.

	LOCTITE® F	PRODUCT	ITEM Number	PRESSURE REGULATION			PACKAGE TYPES & SIZES	VISCOSITY Range	LOW LEVEL SENSING	CONSUMABLES – DISPENSE ACCESSORIES
PRIMERS	26 100	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, Item Number 98520
E S										
			ITEM Number	TYPE	VISCOSITY RANGE	DISPENSE PATTERNS	USED TO DISPENSE	STROKE Adjustment	SUCK-BACK	CONSUMABLES – DISPENSE ACCESSORIES
EQUIPMENT		SPRAY VALVE		Spray Valve	Low	Spray	Primers, Accelerators, Activators	Yes	No	989268 – 0.014 in. Nozzle Kit 989269 – 0.028 in. Nozzle Kit

	LOCTITI	® PRODUCT	ITEM Number	DISPENSE PATTERNS	USED TO DISPENSE	PACKAGE TYPES & SIZES	VISCOSITY Range	VACUUM Suck-Back	CONSUMABLES – DISPENSE Accessories
	VOLUMETRIC BOT	TLE DISPENSING							
SYSTEMS			98548	98548 Dot, Drop, Bead Instant Adhesiv Light Cure/Acry Retaining Comp Threadlockers		Any Bottle		Programmable	Dispense Tips & Accessories – Pages 174-175
	COMPLETE PRESS	STEM							
DISPENSE	BOND-A-MATIC® 3000 DISPENSER 0-15 psi		982719	Dot, Drop, Bead	Gel Adhesives, Instant Adhesives, Light Cure/ Acrylics, Retaining	250 ml bottle 1 lb. bottle 1 liter bottle	Low	N/A	Dispense Tips & Accessories – Pages 174-175
	BOND-A-MATIC® 3000 DISPENSER 0-100 psi		982722		Compounds, Threadlockers	2 kg bottle 200 g squeeze tube	Medium to High		1 agos 17 1 170

	LOCTITE® P	RODUCT	ITEM Number	TYPE	VISCOSITY RANGE	DISPENSE PATTERNS	USED TO DISPENSE	STROKE Adjustment	ACTUATION	CONSUMABLES – DISPENSE ACCESSORIES
	GENERAL-PURPOS	SE APPLICATORS								
		LV HAND-HELD Applicator	97130	Pneumatic	Low	Drop, Dot, Bead	Instant Adhesives, Retaining Compounds, Threadlockers	Yes	Foot	Dispense Tips & Accessories – Pages 174-175
	GENERAL-PURPOS	SE APPLICATORS			•					
HANDHELD VALVES	2	MANUAL HAND- HELD APPLICATOR	97111	Manual	Low to Medium	Drop, Dot, Bead	Light Cure/Acrylics, Retaining Compounds, Threadlockers	Yes	Finger	Dispense Tips & Accessories – Pages 174-175
	2	PNEUMATIC HAND- HELD APPLICATOR	97112	Pneumatic	Low to Medium	Drop, Dot, Bead	Light Cure/Acrylics, Retaining Compounds, Threadlockers	Yes	Foot	
HA	0	PNEUMATIC HAND- HELD APPLICATOR	97116	Pneumatic	Low to Medium	Drop, Dot, Bead	Light Cure/Acrylics, Retaining Compounds, Threadlockers	Yes	Finger	
	GENERAL-PURPOS	SE APPLICATORS								
	1428	VARI-DROP™	97131	Pinch Tube	Low to Medium	Drop, Dot,	Instant Adhesives, Retaining	Yes	Finger	Dispense Tips &
	1	APPLICATORS	97132			Bead	Bead Compounds, Threadlockers			Accessories – Pages 174-175

	LOCTITE® PR	RODUCT	ITEM Number	TYPE	VISCOSITY RANGE	DISPENSE PATTERNS	USED TO DISPENSE	STROKE Adjustment	SUCK-BACK	CONSUMABLES – DISPENSE ACCESSORIES
	HIGH PERFORMAN	CE DIAPHRAGM VAL	/ES							
လ		LIGHT CURE DISPENSE VALVE	98009	High Performance Diaphragm			Instant Adhesives, Retaining Compounds, Threadlockers	Yes	No	Dispense Tips and Accessories – Pages 174-175
PUMPS	GENERAL DUTY DI	APHRAGM VALVES								
S & P	CERN'S	DIAPHRAGM VALVE	97135	General Duty Diaphragm	0 to 2,500 cP	Drop, Dot, Bead	Light Cure/Acrylics, Instant Adhesives, Retaining	No	No	Dispense Tips and Accessories –
VALVES &	- Comment		97136		2,500 to 5,000 cP		Compounds, Threadlockers			Pages 174-175
*	HIGH VISCOSITY F	LUID AND PASTE VAL	VES							
		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 174-175

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# **Surface Cleaning**

129	SURFACE PREPARATION
130	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), solventbased 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 na.henkel-adhesives.com/loctite.

**STRAIGHT FROM** The Source -

# **Cleaners & Degreasers**



# Your **Application**

- · Cleaners and degreasers include both aqueous and solvent-based products
- · All are free of Class I ozonedepleting chemicals (ODCs)

## **Solution**

Product

**Description** 

# **CLEANERS Hand Cleaner** Large Surfaces **Parts Degreaser** Do you require a biodegradable product? No Yes SF 7617™ SF 7840™ SF 7070™ SF 7611™ Industrial Biodegradable **ODC-Free Cleaner Pro Strength Hand Wipes** Cleaner & Degreaser & Degreaser **Parts Cleaner**

**KB Values\*** 

# N/A

LOCTITE® SF 7617™ **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.

Package Size 34943 75 count canister

130 count bucket

34944

## LOCTITE® SF 7840™ Biodegradable Cleaner & Degreaser

N/A

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 cherry scented or unscented formulas.

## CFIA Listed.

Package Size 2046049 24 fl. oz. spray bottle 2046047 1 gallon bottle 2046048 5 gallon pail 2046043 55 gallon drum

#### LOCTITE® SF 7070™ **ODC-Free Cleaner** & Degreaser

31

A non-aqueous, hydrocarbonbased solvent designed for cleaning and degreasing surfaces to be bonded with adhesives, as well as for general-purpose industrial cleaning. Safe on aluminum, rubber and most plastics, and will not cause flash rusting on water-sensitive parts. Dries residue-free. Contains no ozone-depleting chemicals (ODCs). (Formerly referenced as 7070™.) NSF

#### K1 Approved.

P/N Package Size 22355 15 oz. net wt. aerosol 20172 16 fl. oz. pump spray

#### LOCTITE® SF 7611™ Pro Strength Parts Cleaner

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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

<sup>\*</sup> 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**

						1	
	LOCTITE® PRODUCT	ITEM Number	PACKAGE TYPE & SIZE	DRYING TIME	RESIDUE/ RINSABILITY	ODOR	AGENCY Approvals
	SF 7840™ BIODEGRADABLE CLEANER & DEGREASER	2046049		Equivalent to the evaporation rate of water. Wiping or blowers will accelerate dry time.	Rinses residue-free with water	Cherry Scent	CFIA Listed
DEGREASERS	SF 7840™ FRAGRANCE-FREE BIODEGRADABLE CLEANER & DEGREASER	2046040 2045989	1 gallon bottle 55 gallon drum	Equivalent to the evaporation rate of water. Wiping or blowers will accelerate dry time.	Rinses residue-free with water	Fragrance- Free	CFIA Listed
DEGF	SF 7070™ ODC-FREE CLEANER & DEGREASER	22355 20172	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
	SF 7635™ PRO STRENGTH DEGREASER	1578099	15 oz. net wt. aerosol	Leave on surface for 10 minutes.	Rinses clean	Mild Solvent	CFIA Listed
PAINT STRIPPERS	SF 790" PAINT STRIPPER (METHYLENE CHLORIDE)	79040	18 oz. net wt. aerosol	Leave on surface for 5 to 10 minutes. Wipe/scrape clean.	Waxy residue	Solvent	N/A
PAINT ST	SF 7631™ PAINT STRIPPER	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	SF 7617™ INDUSTRIAL HAND WIPES	34943 34944	75 count canister 130 count bucket	1 to 5 minutes	No rinse and no residue	Powerful Citrus	N/A
	SF 7633™ NON-CHLORINATED PARTS CLEANER		14.5 oz. net wt. aerosol	5 to 15 minutes	No rinse and no residue	Mild Solvent	CFIA Listed
PARTS (LEANERS	SF 7611 <sup>TM</sup> PRO STRENGTH PARTS CLEANER		19 oz. net wt. aerosol	1 to 5 minutes	No rinse and no residue	Mild Solvent	CFIA Listed
	SF 768™ CLEANUP SOLVENT	76820 76871	1.75 fl. oz. bottle 1 gallon can	<30 seconds	No rinse and no residue	Solvent	N/A
STRIPPER / VARNISH Removers	SF 137DA™ PRO STRENGTH VARNISH REMOVER	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		
	SF 7840" BIODEGRADABLE CLEANER & DEGREASER	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.		
DEGREASERS	SF 7070™ ODC-FREE CLEANER & DEGREASER	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.		
	SF 7635™ PRO STRENGTH DEGREASER	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 STRIPPERS	SF 790™ PAINT STRIPPER	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.		
PAI	SF 7631™ PAINT STRIPPER	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.		
HAND WIPES	SF 7617™ INDUSTRIAL HAND WIPES	Removes grease, grime, oil, soot, paints and ink.	Removes grease, grime, oil, soot, paints and ink from surfaces. Removes grease and grime from hands.		
	SF 7633" NON-CHLORINATED PARTS CLEANER	Cleaner for removing oil, grease and asphalt with no chlorinated solvent runoff.	All-purpose metal parts cleaner. Ideal for aluminum surfaces.		
PARTS CLEANERS	SF 7611™ PRO STRENGTH PARTS CLEANER	Removes oil, grease, brake fluids, oxidized oils (gum) and asphalt. Penetrates through dirt and corrosion and flushes them away.	All-purpose metal parts cleaner.		
	SF 768™ CLEAN UP SOLVENT	Dissolves cured cyanoacrylate-based adhesives.	Disassembly of parts and cleanup of dispensing equipment.		
STRIPPER/ VARNISH Removers	SF 137DA™ PRO STRENGTH Varnish remover	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**

133	THREADLOCKING
135	Threadlockers
139	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 na.henkel-adhesives.com/loctite.

**STRAIGHT FROM** The Source







# **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™ 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® SF 7649™ Primer. 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**



Medium - Blue

(Disassemble with hand tools)

**248**"

ARE THE PARTS ALREADY ASSEMBLED?

No

What strength do you require?

# **Your Application**

- vibration
- Can be used on various sizes of
- · Seal threads
- · Stop rust and corrosion
- Available in a variety of viscosities and strengths for virtually any application

## Solution

•	Prevent loosening from shock and

•	Single component – clean and easy
	to apply

fasteners – reduces inventory costs

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 (inIbs.) (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	300°F	360°F	300°F	300°F	
Recommended Primer	SF 7088 <sup>™</sup> , SF 7649 <sup>™</sup> , SF 7471 <sup>™</sup>	Not Required	SF 7088 <sup>™</sup> , SF 7649 <sup>™</sup> , SF 7471 <sup>™</sup>	SF 7088 <sup>™</sup> , SF 7649 <sup>™</sup> , SF 7471 <sup>™</sup>	

# **Product Description**

## LOCTITE® 222MS™ Threadlocker

Low - Purple

222MS\*\*

## 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.

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#### LOCTITE® 243™ Blue Threadlocker

243™

#### 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, anticorrosion 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, anticorrosion and protection fluids. Removable with hand tools.

#### P/N Package Size 37684 9 g stick

19 g stick

## LOCTITE® 249™ Blue **Threadlocker Tape**

## Tape/Medium Strength

249™

Threadlocker

Tape

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.

Package Size 1372603 260 in. roll







**HELPFUL HINTS** 



#### 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

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 tube
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)					
PLATED PARTS ANODIZED ALUMINUM (ALODINE®, IRIDITE™) TITANIUM STAINLESS STEEL GALVANIZED STEEL MAGNETITE STEEL INCONEL™ NICKEL	SILVER GOLD ZINC PURE ALUMINUM CADMIUM MAGNESIUM NATURAL OR CHEMICAL BLACK OXIDE	IRON PLAIN STEEL COPPER BRASS BRONZE MANGANESE MONGL™ 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® SF 7070™ 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® SF 7649™ Primer.

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

HELPFUL HINTS

# **Threadlockers**







# **LOCTITE® General-Purpose Threadlocker Properties Chart**

KE' FACTO	r Ors	KEY FEATURES	TYPICAL USE	PRODUCT	ITEM Number	PACKAGE Type & Size	COLOR	VISCOSITY† (cP)	TORQUE‡ INLBS. (BREAK/PREVAIL)	TEMP. Range	CURE SPEED (STEEL @ 25°C)	AGENCY APPROVALS
	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
	gth	General- Purpose	1/4" to 3/4" bolts, primerless, tolerates surface contaminates	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
LOCKERS	Medium Strength	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
SE THREAD	M	Таре	1/4" to 3/4" bolts, overhead, pre-dispensed, hard-to-reach areas	249™ THREADLOCKER TAPE	1372603	260" roll	Blue	Tape	74 / 47	-65°F to 300°F	Fixture – 30 min. Full – 24 hrs.	CFIA Listed
GENERAL-PURPOSE THREADLOCKERS	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
GEI	High St	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
<del>.                                    </del>	Wicking Grade	General- Purpose	Medium/high strength, wicking grade for preassembled parts and weld sealing	290™	29005 29021 29031 29041 29043	0.5 ml tube 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**

KE FACT(		KEY FEATURES	TYPICAL USE	PRODUCT	ITEM Number	PACKAGE Type & Size	COLOR	VISCOSITY <sup>†</sup> (cP)	TORQUE‡ INLBS. (BREAK/PREVAIL)	TEMP. RANGE	CURE SPEED (STEEL @ 25°C)	AGENCY Approvals
•		High Temperature	High temperature, medium strength	246™	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
OCKERS	Medium Strength	Ultra High Temperature	Ultra high temperature, medium strength for 1/2" to 3/4" bolts	2422™	1134601	30 ml syringe	Blue	Paste	102 / 12	-65°F to 650°F	Fixture – 30 min. Full – 24 hrs.	N/A
THREADLOCKERS		Enhanced Health & Safety	Removable strength	2400 NA™	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
SPECIALTY T		Food Compliant	For use in food and beverage applications	2046™	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
S		Low Halogen/ Low Sulfur	For use in nuclear facilities	2432™	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, 129-132.

# **LOCTITE® Specialty Threadlocker Properties Chart**

KE FACT		KEY Features	TYPICAL USE	PRODUCT	ITEM Number	PACKAGE Type & Size	COLOR	VISCOSITY† (cP)	TORQUE‡ INLBS. (BREAK/PREVAIL)	TEMP. Range	CURE SPEED (STEEL @ 25°C)	AGENCY Approvals
		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
CKERS	angth	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
THREADLOCKERS	High Stre	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
SPECIALTY TI		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
SP	Plastic	Plastic Fasteners	For small metal and plastic fasteners and tamper-proofing	425™	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**

KE FACT		TYPICAL USE	PRODUCT	ITEM Number	PACKAGE Type & Size	COLOR	VISCOSITY† (cP)	TORQUE‡ INLBS. (BREAK/PREVAIL)	TEMP. Range	CURE SPEED (STEEL @ 25°C)	AGENCY Approvals
-	Low Strength	Easy removal, small screws under 1/4"	222MS™	22205 22221 22231 22241	0.5 ml tube 10 ml bottle 50 ml bottle 250 ml bottle	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
	Medium Strength	Removable grade, 1/4" up to 3/4" bolts	242 <sup>®</sup>	24205 24221 24231 24241 24243	0.5 ml capsule 10 ml bottle 50 ml bottle 250 ml bottle 1 liter bottle	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
EADLOCKERS		High strength locking, up to 3/4" bolts	262™	26205 26221 26231 26241 26243	0.5 ml capsule 10 ml tube 50 ml bottle 250 ml bottle 1 liter bottle	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
MIL SPEC THREADLOCKERS	High Strength	High strength for fasteners up to 1" diameter	271™	27105 27121 27131 27141 27143	0.5 ml capsule 10 ml bottle 50 ml bottle 250 ml bottle 1 liter bottle	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
2		Permanent for large bolts >7/8"	277™	21434 27731 27741 27743	10 ml bottle 50 ml bottle 250 ml bottle 1 liter 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**
	Grade	Low strength wicking grade for preassembled fasteners under 1/4"	220™	37388 39186 22041	10 ml bottle 50 ml bottle 250 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
	Wicking G	Medium/high strength, wicking grade for preassembled parts	290™	29005 29021 29031 29041 29043	0.5 ml tube 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® Activator Properties Chart**

L	OCTITE® PRODUCT	ITEM	PACKAGE TYPE & SIZE	COLOR	VISCOSITY (cP)	BASE	ON-PART LIFE	DRY TIME	APPLICATION	AGENCY APPROVALS
	SF 7088™ PRIMER	7088™ PRIMER 1069258 17 g stick		Teal	Semisolid	No solvent	30 days	None	Anaerobics	CFIA Listed
	SF 7090™ ACTIVATOR	19368 12695	1 fl. oz. bottle 1 liter bottle	Dark Blue	17.5	No solvent	1 hour	None	Anaerobics	N/A
ACTIVATORS	SF 7471™ PRIMER	19267 22477 19268	1.75 fl. oz. glass 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
AC	SF 7649 <sup>™</sup> PRIMER	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** 

- \*\* 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, 129-132.

# 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 <a href="https://www.equipment.loctite.com">www.equipment.loctite.com</a>.



	LOCTITE®	PRODUCT	ITEM NUMBER	USED TO DISPENSE	PACKAGE TYPES & SIZES	VISCOSITY RANGE	TYPE	CONSUMABLES – DISPENSE ACCESSORIES				
	<b>BOTTLE DISPENSI</b>	NG .										
APPLICATORS	50 ML AND 250 ML HAND PUMPS  98414 97001  Retaining Compound Threadlockers		Retaining Compounds, Threadlockers	50 ml bottle 250 ml bottle	Low to Medium	Manual	Dispense Tips and Accessories – Pages 174-175					
	TUBE DISPENSING											
HANDHELD		50 ML-F TUBE SQUEEZE DISPENSER 1083845 Any 50 ml tube		50 ml tubes	Low to High	Manual	N/A					

	LOCTITE®	PRODUCT	ITEM Number	PRESSURE REGULATION	USED TO DISPENSE	PACKAGE TYPES & SIZES	VISCOSITY RANGE	LOW LEVEL SENSING	CONSUMABLES – DISPENSE ACCESSORIES
•	INTEGRATED RESE	RVOIR CONTROLLERS							
		INTEGRATED SEMIAUTOMATIC DISPENSER	1390322	0 to 15 psi	Gel Adhesives, Instant Adhesives, Light Cure/Acrylics, Retaining	250 ml bottle 1 lb. bottle 1 liter bottle	Low to Medium	Yes	Dispense Tips and Accessories – Pages 174-175
	Me		1390321	0 to 100 psi	Compounds, Threadlockers	2 kg bottle 200 g squeeze tube	Medium to High	Yes	
	RESERVOIRS								
CONTROLLERS & RESERVOIRS	walk.	BOND-A-MATIC® 3000 RESERVOIR	982720	0 to 15 psi	Gel Adhesives, Instant Adhesives,	250 ml bottle 1 lb. bottle 1 liter bottle 2 kg bottle 200 g squeeze tube	Low to Medium	Yes	Dispense Tips and Accessories –
		•	982726		Light Cure/Acrylics, Retaining Compounds, Threadlockers			No	Pages 174-175
& H			982723	0 to 100 psi			Medium to High	Yes	
EES			982727				·	No	
ONTROLL	重	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	
ပ		4 LITER GRAVITY FEED RESERVOIR	982880	N/A	Retaining Compounds, Threadlockers	Direct Fill	Low to Medium	Yes	
	MULTI-FUNCTION (	CONTROLLER							
	25 00	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, Item Number 98520

**ITEMS IN RED** = Source's PICK or NEW

For more LOCTITE® branded equipment, go to page 163. Can't find what you're looking for? Visit www.equipment.loctite.com.

	LOCTITI	E® PRODUCT	ITEM Number	DISPENSE PATTERNS	USED TO DISPENSE	PACKAGE TYPES & SIZES	VISCOSITY RANGE	VACUUM Suck-Back	CONSUMABLES – DISPENSE ACCESSORIES				
	<b>VOLUMETRIC BOT</b>	TLE DISPENSING											
SYSTEMS		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 174-175					
	COMPLETE PRESSURE-TIME BOTTLE DISPENSE SYSTEM												
DISPENSE		BOND-A-MATIC® 3000 DISPENSER 0-15 PSI	982719	Dot, Drop, Bead	Gel Adhesives, Instant Adhesives, Light Cure/ Acrylics, Retaining	250 ml bottle 1 lb. bottle 1 liter bottle	Low	N/A	Dispense Tips and Accessories – Pages 174-175				
		BOND-A-MATIC® 3000 DISPENSER 0-100 PSI	982722		Compounds, Threadlockers	2 kg bottle 200 g squeeze tube	Medium to High						

	LOCTITE® P	RODUCT	ITEM Number	TYPE	VISCOSITY RANGE	DISPENSE PATTERNS	USED TO DISPENSE	STROKE Adjustment	ACTUATION	CONSUMABLES – DISPENSE Accessories
·	GENERAL-PURPOS	SE APPLICATORS								
	N	LV HAND-HELD APPLICATOR	97130	Pneumatic	Low	Drop, Dot, Bead	Instant Adhesives, Retaining Compounds, Threadlockers	Yes	Foot	Dispense Tips and Accessories – Pages 174-175
VALVES	GENERAL-PURPOS	SE APPLICATORS								
	0	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 174-175
HANDHELD	2	PNEUMATIC HAND- HELD APPLICATOR	97112	Pneumatic	Low to Medium	Drop, Dot, Bead	Light Cure/Acrylics, Retaining Compounds, Threadlockers	Yes	Foot	
H	0	PNEUMATIC HAND- HELD APPLICATOR	97116	Pneumatic	Low to Medium	Drop, Dot, Bead	Light Cure/Acrylics, Retaining Compounds, Threadlockers	Yes	Finger	
	GENERAL-PURPOS	SE APPLICATORS								,
	W	VARI-DROP™ APPLICATORS	97131	Pinch Tube	Low to Medium	Drop, Dot, Bead	Instant Adhesives, Retaining Compounds, Threadlockers	Yes	Finger	Dispense Tips and Accessories –
			97132							Pages 174-175

	LOCTITE® PI	RODUCT	ITEM Number	ТҮРЕ	VISCOSITY RANGE	DISPENSE PATTERNS	USED TO DISPENSE	STROKE Adjustment	SUCK-BACK	CONSUMABLES – DISPENSE ACCESSORIES				
	HIGH PRECISION V	ALVES												
	4	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 V	/ALVES												
	-	STATIONARY APPLICATOR	97113	High Precision	Low to Medium	Drop, Dot, Bead	Gel Instant Adhesives, Instant Adhesives, Retaining	Yes Yes	Dispense Tips and Accessories –					
	A	VALVE	97114				Compounds, Threadlockers			Pages 174-175				
	HIGH PERFORMANCE DIAPHRAGM VALVES													
NPS		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 174-175				
VALVES & PUMPS	<b>(</b>	CYANOACRYLATE DISPENSE VALVE	98013	High Performance Diaphragm	Low to Medium	Drop, Dot, Bead, Microdot	Instant Adhesives, Retaining Compounds, Threadlockers	Yes	No					
VAL	GENERAL DUTY DIAPHRAGM VALVES													
	- TEN	DIAPHRAGM VALVE	97135	General Duty Diagram	0 to 2,500 cP	Drop, Dot, Bead		No	No	Dispense Tips and Accessories –				
	A.	VALVE	97136	Diagram	2,500 to 5,000 cP	Doug	Compounds, Threadlockers			Pages 174-175				
	HIGH VISCOSITY F	LUID AND PASTE VAL	VES											
		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 174-175				
	POSITIVE DISPLACE	CEMENT PUMP												
	Pa	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 174-175				

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# **Thread Sealing**

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# WHY USE A LOCTITE® THREAD SEALANT?

LOCTITE® Thread Sealants prevent leakage of gases 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 na.henkel-adhesives.com/loctite.

- STRAIGHT FROM The Source







# **Thread Sealing**





- 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?

Do you prefer a paste or a semisolid?

No

**Paste** 

LOCTITE® 545™ **Thread Sealant** (Hydraulic & Pneumatic)

Yes

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	SF 7088 <sup>™</sup> , SF 7649 <sup>™</sup> or SF 7471 <sup>™</sup>	SF 7088 <sup>™</sup> , SF 7649 <sup>™</sup> or SF 7471 <sup>™</sup>	SF 7088 <sup>™</sup> , SF 7649 <sup>™</sup> or SF 7471 <sup>™</sup>

# **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.

Package Size 54505 0.5 ml tube 32429 10 ml bottle 54531 50 ml bottle 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 10 liter pail

#### 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

2087068 6 ml tube 2087067 50 ml tube 2087069 250 ml tube

2087072 350 ml brush-top container

2087073 1 liter bottle







**HELPFUL HINTS** 

### **Plastic** Semisolid LOCTITE® 561™ Pipe MR 5438™ Sealant with PTFE 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 SF 7088<sup>™</sup>, SF 7649<sup>™</sup> N/A or SF 7471 LOCTITE® 561™ Pipe Sealant LOCTITE® MR 5438™

### LOCTITE® 561™ Pipe Sealan 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

### White Threaded Plastic Pipe Sealant

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.

silvano propor portermanos.						
INACTIVE MI (PRIMERS RECO		ACTIVE METALS (PRIMERS OPTIONAL)				
PLATED PARTS ANODIZED ALUMINUM (ALODINE®, IRIDITE™) TITANIUM STAINLESS STEEL GALVANIZED STEEL MAGNETITE STEEL INCONEL™ NICKEL	SILVER GOLD ZINC PURE ALUMINUM <sup>†</sup> CADMIUM MAGNESIUM NATURAL OR CHEMICAL BLACK OXIDE	IRON PLAIN STEEL COPPER BRASS BRONZE MANGANESE MONEL <sup>TM</sup> KOVAR <sup>TM</sup>				

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® SF 7070™ 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® SF 7649™ Primer.

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

HELPFUL HINTS

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### Thread Sealants







### **LOCTITE® Liquid Anaerobic Thread Sealant Properties Chart**

LOC	TITE® PRODUCT	ITEM Number	PACKAGE Type & Size	TYPICAL USE	COLOR & Appearance	VISCOSITY (cP)	TEMPERATURE RANGE	PRESSURE RESISTANCE (psi)	RECOMMENDED PRIMER	AGENCY APPROVALS
3SOc	561™	37127	19 g stick	General-purpose, portable, overhead	White Paste	Semisolid	-65°F to 300°F	10,000	SF 7088 <sup>™</sup> , SF 7649 <sup>™</sup> or SF 7471 <sup>™</sup>	UL Classified for U.S., CFIA Listed, NSF/ANSI 61
GENERAL-PURPOSE	565™	56507 56531 56541 56571 56543 56566	6 ml tube 50 ml tube 250 ml tube 300 ml cartridge 1 liter bottle 10 liter pail	Controlled strength	White	300,000	-65°F to 300°F	10,000	SF 7088 <sup>™</sup> , SF 7649 <sup>™</sup> or SF 7471 <sup>™</sup>	CSA International, UL Classified for U.S., NSF/ANSI 61, CFIA Listed, ULC Classified for Canada
	577™	2068749 2068748	50 ml tube 250 ml tube	Medium strength, coarse threads	Yellow	24,000/80,000 Thixotropic	-65°F to 300°F	10,000	SF 7088 <sup>™</sup> , SF 7649 <sup>™</sup>	N/A
HIGH TEMPERATURE	567™	2087068 2087067 2087069 2087072 2087073	6 ml tube 50 ml tube 250 ml tube 350 ml brush-top container 1 liter bottle	For stainless steel and all other metal fittings	White	540,000	-65°F to 400°F	10,000	SF 7088 <sup>™</sup> , SF 7649 <sup>™</sup> or SF 7471 <sup>™</sup>	UL Classified for U.S., ABS, CFIA Listed, NSF/ANSI 61, ULC Classified for Canada
I TEMP	5770™	1138284 1138281	50 ml tube 250 ml tube	High temperature	Off-White Paste	Paste	-65°F to 530°F	N/A	SF 7088 <sup>™</sup> , SF 7649 <sup>™</sup>	N/A
萝	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	SF 736 <sup>™</sup>	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	SF 7088 <sup>™</sup> , SF 7649 <sup>™</sup> or SF 7471 <sup>™</sup>	ABS, CFIA Listed
ULIC & P	5452™	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	SF 7088 <sup>™</sup> , SF 7649 <sup>™</sup>	N/A
HYDRA	569™	56931 56941	50 ml bottle 250 ml bottle	Original hydraulic sealant	Brown	400	-65°F to 300°F	10,000	SF 7088 <sup>™</sup> , SF 7649 <sup>™</sup>	CFIA Listed
_	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
LOW HALOGEN	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
TOW	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	SF 7088 <sup>™</sup> , SF 7649 <sup>™</sup> or SF 7471 <sup>™</sup>	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
SED	5113™	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
SOLVENT-BASED	5117™	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
TOS	MR 5438™	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
URING	55™	35082	5,900"	Metal and plastic compatible, allows post-adjustment	White Coated Cord	N/A	Up to 300°F	10,000	N/A	NSF-61
NON-CURING	THREAD SEAL TAPE	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
	SF 7088™ PRIMER	1069258	17 g stick	Teal	Semisolid	No solvent	30 days	None	Anaerobics	CFIA Listed
	SF 7090™ ACTIVATOR	19368 12695	1 fl. oz. bottle 1 liter bottle	Dark Blue	17.5	No solvent	1 hour	None	Anaerobics	N/A
ACTIVATORS	SF 7471™ ∰ PRIMER	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
	SF 7649™ PRIMER	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



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# Thread Sealant Equipme

### 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 <a href="https://www.equipment.loctite.com">www.equipment.loctite.com</a>.



	LOCTITE®	PRODUCT	ITEM NUMBER	USED TO DISPENSE	PACKAGE TYPES & SIZES	VISCOSITY RANGE	PACKAGE TYPES & SIZES	CONSUMABLES – DISPENSE ACCESSORIES	
	<b>BOTTLE DISPENSI</b>	NG .							
APPLICATORS		50 ML AND 250 ML HAND PUMPS		3 · · · · · · · · · · · · · · · · · · ·			Low to Medium	Manual	Dispense Tips and Accessories – Pages 174-175
-	TUBE DISPENSING								
HANDHELD		50 ML-F TUBE Squeeze Dispenser	1083845	Any 50 ml tube	50 ml tubes	Low to High	Manual	N/A	

	LOCTITE®	PRODUCT	ITEM NUMBER	PRESSURE REGULATION	USED TO DISPENSE	PACKAGE TYPES & SIZES	VISCOSITY RANGE	LOW LEVEL SENSING	CONSUMABLES – DISPENSE ACCESSORIES
	INTEGRATED RESE	RVOIR CONTROLLERS							
		INTEGRATED SEMIAUTOMATIC DISPENSER	1390322	0 to 15 psi	Gel Adhesives, Instant Adhesives, Light Cure/Acrylics, Retaining	250 ml bottle 1 lb. bottle 1 liter bottle	Low to Medium	Yes	Dispense Tips and Accessories – Pages 174-175
	NI 0		1390321	0 to 100 psi	Compounds, Threadlockers	2 kg bottle 200 g squeeze tube	Medium to High	Yes	
	RESERVOIRS								
OIRS		BOND-A-MATIC® 3000 RESERVOIR	982720	0 to 15 psi	Gel Adhesives, Instant Adhesives.	250 ml bottle 1 lb. bottle	Low to Medium	Yes	Dispense Tips and Accessories –
SERV			982726		Light Cure/Acrylics, Retaining Compounds, Threadlockers	1 liter bottle 2 kg bottle 200 g squeeze tube	Modium	No	Pages 174-175
& RE	0 3		982723	0 to 100 psi	• •		Medium to High	Yes	
ERS			982727					No	
CONTROLLERS & RESERVOIRS	重	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							
	20 00	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, Item Number 98520

	LOCTITE® PRODUCT			DISPENSE PATTERNS	USED TO DISPENSE	PACKAGE TYPES & SIZES	VISCOSITY Range	VACUUM SUCK-BACK	CONSUMABLES – DISPENSE ACCESSORIES
щs	PINCH TUBE APPL	ICATORS							
DISPENSI		DIAL-A-SEAL® APPLICATORS	998400	N/A	Pipe Sealants	50 ml tube 250 ml tube 1 liter bottle	Medium to High	N/A	Dispense Tips and Accessories – Pages 174-175

**ITEMS IN RED** = Source's PICK or NEW

	LOCT	ITE® PRODUCT	ITEM Number	DISPENSE PATTERNS	USED TO DISPENSE	PACKAGE TYPES & SIZES	VISCOSITY RANGE	VACUUM SUCK-BACK	CONSUMABLES – DISPENSE ACCESSORIES
AIS.	COMPLETE PRESS	SURE-TIME BOTTLE DISPENSE SYSTEM							
E SYSTEMS		BOND-A-MATIC® 3000 DISPENSER 0-15 PSI	982719	Dot, Drop, Bead	Gel Adhesives, Instant Adhesives, Light Cure/ Acrylics, Retaining	250 ml bottle 1 lb. bottle 1 liter bottle	Low	N/A	Dispense Tips and Accessories – Pages 174-175
DISPENSE		BOND-A-MATIC® 3000 DISPENSER 0-100 PSI	982722		Compounds, Threadlockers	2 kg bottle 200 g squeeze tube	Medium to High		

	LOCTITE® P	RODUCT	ITEM Number	TYPE	VISCOSITY RANGE	DISPENSE PATTERNS	USED TO DISPENSE	STROKE ADJUSTMENT	ACTUATION	CONSUMABLES – DISPENSE ACCESSORIES
	GENERAL-PURPOS	SE APPLICATORS								
	N	LV HAND-HELD APPLICATOR	97130	Pneumatic	Low	Drop, Dot, Bead	Instant Adhesives, Retaining Compounds, Threadlockers	Yes	Foot	Dispense Tips and Accessories – Pages 174-175
	GENERAL-PURPOS	SE APPLICATORS								
VALVES	2	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 174-175
HANDHELD	2	PNEUMATIC HAND- HELD APPLICATOR	97112	Pneumatic	Low to Medium	Drop, Dot, Bead	Light Cure/Acrylics, Retaining Compounds, Threadlockers	Yes	Foot	
H	0	PNEUMATIC HAND- HELD APPLICATOR	97116	Pneumatic	Low to Medium	Drop, Dot, Bead	Light Cure/Acrylics, Retaining Compounds, Threadlockers	Yes	Finger	
	GENERAL-PURPOS	SE APPLICATORS								,
	W	VARI-DROP™ APPLICATORS	97131	Pinch Tube	Low to Medium	Drop, Dot, Bead	Instant Adhesives, Retaining Compounds, Threadlockers	Yes	Finger	Dispense Tips and Accessories –
			97132							Pages 174-175

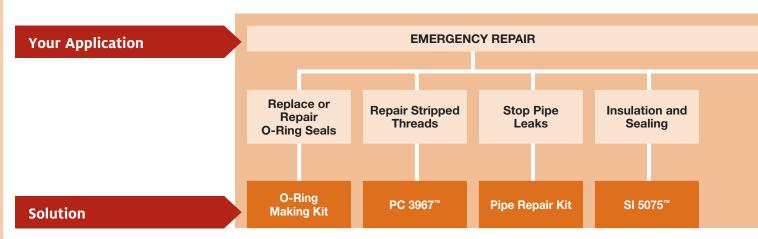
	LOCTITE® PI	RODUCT	ITEM Number	ТҮРЕ	VISCOSITY RANGE	DISPENSE PATTERNS	USED TO DISPENSE	STROKE Adjustment	SUCK-BACK	CONSUMABLES – DISPENSE ACCESSORIES
	HIGH PRECISION V	/ALVES		'				'		
	4	LOCTITE® SPRAY VALVE	98520	Spray Valve	Low	Spray	Primers, Accelerators, Activators	Yes	No	989268 – 0.014" Nozzle Kit 989269 – 0.028" Nozzle Kit
	HIGH PRECISION V	/ALVES								
	- 11	STATIONARY APPLICATOR	97113	High Precision	Low to Medium	Drop, Dot, Bead	Gel Instant Adhesives, Instant Adhesives, Retaining	Yes	Yes	Dispense Tips and Accessories –
	A	VALVE	97114				Compounds, Threadlockers			Pages 174-175
	HIGH PERFORMAN	ICE DIAPHRAGM VAL	/ES							
MPS		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 174-175
VALVES & PUMPS		CYANOACRYLATE DISPENSE VALVE	98013	High Performance Diaphragm	Low to Medium	Drop, Dot, Bead, Microdot	Instant Adhesives, Retaining Compounds, Threadlockers	Yes	No	
MAL	GENERAL DUTY D	IAPHRAGM VALVES		'						
	TEN.	DIAPHRAGM VALVE	97135	General Duty Diagram	0 to 2,500 cP	Drop, Dot, Bead	Light Cure/Acrylics, Instant Adhesives, Retaining	No	No	Dispense Tips and Accessories –
	A. C.	VALVE	97136		2,500 to 5,000 cP	Jour	Compounds, Threadlockers			Pages 174-175
	HIGH VISCOSITY F	LUID AND PASTE VAL	VES	'						
		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 174-175
	POSITIVE DISPLACE	CEMENT PUMP								
	Pa	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 174-175

For more Loctite® branded equipment, go to page 163. Can't find what you're looking for? Visit www.equipment.loctite.com.

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### **Toolboxes & Specialty Kits**



### **Product Description**

### LOCTITE® O-Ring Making Kit

Makes replacement, high performance 0-rings in less than a minute. This compact kit contains four 3-foot lengths of common diameters of Buna N (nitrile) cord, LOCTITE® 404® Instant Adhesive, 0-ring fixture, blade, a waterproofing solution, and a cleanup solution. Cut and splice tool and standard size cord stock are available.

P/N Package Size

00112 See chart on page 150 for kit contents -Standard

#### LOCTITE® PC 3967™ Stripped Thread Repair Kit

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. bott) and 300°F (149°C) Resists most shop fluids.

P/N Package Size 28654 12.9 ml kit

### **LOCTITE® Pipe Repair Kit**

Urethane-impregnated fiberglass tape, activated by water, for reliable, temporary repairs of metal, plastic and composite pipes. Includes LOCTITE® EA 3463™ epoxy stick, urethane-impregnated fiberglass tape and gloves. Cures in 30 minutes.

 P/N
 Package Size

 96321
 2 in. x 6 ft. tape

 96322
 4 in. x 12 ft. tape

### LOCTITE® SI 5075™ Insulating & Sealing Wrap

Non-sticky, self-fusing, multipurpose wrap. Insulates electrical, seals leaks, improves grip. Hundreds of uses: industrial, automotive and marine.

P/N Package Size

1212164 1 in. x 10 ft. Red 1540599 1 in. x 10 ft. Black 1496756 2 in. x 36 ft. Black

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 na.henkel-adhesives.com/loctite.

STRAIGHT FROM The Source







### **Toolboxes & Specialty Kits**

### **Tool Kits** 101™ Quick **Toolbox Service Tool Kit** LOCTITE® 101™ **LOCTITE® Toolbox**

### **Quick Service Tool Kit**

The "original" LOCTITE® kit containing eight of the most common LOCTITE® products.

Package Size

See chart for kit 00101 contents

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.

Package Size 38956 See chart for kit

### **LOCTITE® TOOLBOX & SPECIALTY KIT ORDERING CHART**

	LOCTITE® PRODUCT	ITEM NUMBER	KIT CONTENTS & CONTAINER	MAXIMUM TEMPERATURE RESISTANCE	AGENCY APPROVALS
	LOCTITE® PC 3967™ STRIPPED THREAD REPAIR KIT	28654	12.9 ml kit	300°F (149°C)	CFIA Listed
SPECIALTY REPAIR	LOCTITE® O-RING Making Kit	Standard: 00112	MR 6222™ Waterproofing Solution, 1 oz., item number 74126 SF 75326™ Cleanup Solvent, 1 oz., item number 75326 404® instant adhesive, 1/3 oz., item number 46551 [STANDARD] Cord: 3/32 in., 1/8 in., 3/16 in., 1/4 in. 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, 3/32 in. x 3 ft.	N/A	CFIA Listed
	PIPE REPAIR KIT	96321 96322	2 in. x 6 ft. tape 4 in. x 12 ft. tape	250°F (121°C)	CFIA Listed
	101™ QUICK Service Tool Kit	00101	243™ Threadlocker, Medium Strength, 10 ml 263™ Threadlocker, Primerless High Strength, 10 ml SF 7088™ Primer, 17 g 454™ Instant Adhesive Gel, 3 g 660™ Retaining Compound, 6 ml 565™ Thread Sealant, 50 ml SI 587™ Blue High Performance RTV Silicone, 70 ml 518™ Flange Sealant, 50 ml 249™ Blue Threadlocker Tape, 260 in. roll	N/A	N/A
GENERAL MAINTENANCE	LOCTITE® TOOLBOX	38956	220™ Threadlocker, Low Strength/Wicking, 10 ml 222™ Threadlocker, Low Strength/Small Screw, 10 ml 243™ Threadlocker, Medium Strength, 10 ml 243™ Threadlocker, Medium Strength, 9 g 263™ Threadlocker, High Strength, 9 g 263™ Threadlocker, Primerless High Strength, 10 ml 404● Instant Adhesive, 1/3 oz. 518™ Flange Sealant, 50 ml 545™ Thread Sealant, 49/draulic/Pneumatic, 10 ml 561™ Pipe Sealant, 19 g 565™ Thread Sealant, 50 ml S1587™ Blue High Performance RTV Silicone, 70 ml 641™ Retaining Compound, Low Strength, 10 ml 660™ Retaining Compound, 50 ml	N/A	N/A
			LB 8065™ C5-A® Copper Anti-Seize, 20 g stick	N/A	CFIA Listed
			SF 7088™ Primer, 17 g 249™ Threadlocker Tape, 260 in. roll 454™ Instant Adhesive Gel, 0.14 oz. net wt. bottle	N/A	N/A
	SI 5075™ INSULATING &	1212164	1 in. x 10 ft. Red	500°F (260°C)	N/A
	SEALING WRAP	1540599	1 in. x 10 ft. Black		
		1496756	2 in. x 36 ft. Black		

**ITEMS IN RED** = Source's PICK or NEW

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### **Medical Device Adhesive Solutions**

151	MEDICAL DEVICE ADHESIVE SOLUTIONS
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162	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 na.henkel-adhesives.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**

PERFORMANCE	ADHESIVE CATEGORY				
CONSIDERATIONS	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	E				
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 RESISTA	NCE				
POLAR SOLVENTS (EX.: H <sub>2</sub> O, ETHYLENE GLYCOL, ISOPROPYL ALCOHOL, ACETONE)	Poor¹	Very Good	Good	Good	Good
NONPOLAR SOLVENTS (EX.: MOTOR OIL, TOLUENE, GASOLINE, ATF)	Good	Excellent	Very Good	Poor to Fair	Good
ADHESION TO SUBSTRATE	S				
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	ANCE ADHESIVE CATEGORY				
CONSIDERATIONS	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.
2 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.
3 Exception: Toughened cyanoacrylates have high peel strength.

### **Medical Device Light Cure Acrylic Adhesives**



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Your

#### WHAT TYPE OF TRANSPARENT SUBSTRATE ARE YOU BONDING? **Application Plastic to Plastic Plastic to Metal** Medium **Superior Tack-**Medium Low Gel **Viscosity Free Curing Viscosity Viscosity** AA 3942<sup>™</sup> Solution AA 3926™ AA 3972™ AA 3979<sup>™</sup> AA 3922™ Chemistry Acrylic Acrylic Acrylic Acrylic Acrylic Translucent/ Transparent to Transparent to Transparent to Transparent to Straw/ Color Hazy Fluorescent Hazy Fluorescent Hazy Fluorescent Hazy Fluorescent Fluorescent Viscosity (cP) 5,500 4,650 56,500 300 1,250 **Cure Type UV/Visible UV/Visible** UV/Visible UV/Visible UV/Visible ISO 10993 Yes Yes Yes Yes Yes Compliant

### **Product** Description

### **Cure Adhesive**

Fluorescing, UV/visible adhesive offering superior sterilization resistance.

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

#### LOCTITE® AA 3926™ Light LOCTITE® AA 3972™ Light LOCTITE® AA 3972™ Light LOCTITE® AA 3922™ Light LOCTITE® AA 3942™ 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 hottle

### **Cure Adhesive**

A rapid curing, UV/visible non-sag gel, which fluoresces red.

P/N	Package Size
	25 ml syringe
1402563	300 ml cartridge

### **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

### **Cure Adhesive**

Fluorescing, UV/visible acrylic adhesive. Ideal for applications where high strength on a variety of substrates and rapid surface cure are required.

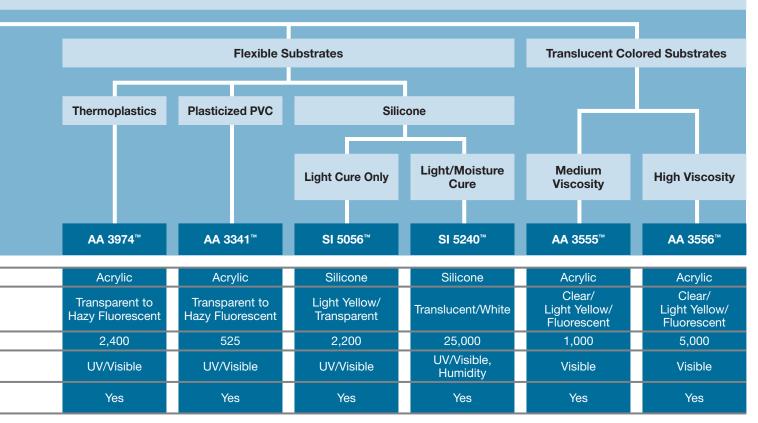
P/N	Package Siz
36483	25 ml syringe
36481	1 liter bottle

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









#### LOCTITE® AA 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 hottle

#### LOCTITE® AA 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® SI 5056™ Light Cure Adhesive

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® SI 5240™ Light Cure Adhesive

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® AA 3555™ 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® AA 3556™ 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 hottle

### **Medical Device Light Cure Acrylic Adhesives**

### **LOCTITE® Medical Device Light Cure Adhesive Properties Chart**

LOC.	TITE® PROD	UCT	ITEM NUMBER	PACKAGE Type & Size	APPEARANCE/ CLARITY/COLOR	CURE TYPE	KEY SUBSTRATES	VISCOSITY (cP) BROOKFIELD (25°C)	TEMPERATURE RANGE	ISO 10993 COMPLIANT
E WITH	AA 3554™		1072199	25 ml syringe	Clear/Light Yellow/ Fluorescent	Visible	Polycarbonate, thermoplastic, polyvinyl chloride	300	-65°F to 300°F (-54°C to 149°C)	•
ACRYLIC VISIBLE WITH FLUORESCENCE	AA 3555™		1072221 1072200	25 ml syringe 1 liter bottle	Clear /Light Yellow/ Fluorescent	Visible	Polycarbonate, thermoplastic, polyvinyl chloride	1,000	-65°F to 300°F (-54°C to 149°C)	•
ACRYLI FLU	AA 3556™		1072223 1072222	25 ml syringe 1 liter bottle	Clear /Light Yellow/ Fluorescent	Visible	Polycarbonate, thermoplastic, polyvinyl chloride	5,000	-65°F to 300°F (-54°C to 149°C)	•
	AA 3341™		23792 23440	25 ml syringe 1 liter bottle	Clear/Straw/Fluorescent	Ultraviolet, visible	Thermoplastics, polyvinyl chloride	525	-65°F to 300°F (-54°C to 149°C)	•
	AA 3921™		36484 36485 36487*	25 ml syringe 1 liter bottle 3.96 gallon pail	Transparent to Hazy/Fluorescent	Ultraviolet, visible	Glass, metal, thermoplastic, polycarbonate, polyvinyl chloride	150	-65°F to 300°F (-54°C to 149°C)	•
병	AA 3922™		32083 32047*	25 ml syringe 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)	•
ACRYLIC UV/VISIBLE WITH FLUORESCENCE	AA 3926™		36492 36493	25 ml syringe 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)	•
UORE	AA 3933™		32040*	1 liter bottle	Transparent to Hazy/Fluorescent	Ultraviolet, visible	Glass, metal, thermoplastic, polycarbonate	3,250	-65°F to 300°F (-54°C to 149°C)	•
臣	AA 3936™		32304 32037*	25 ml syringe 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)	•
SLE W	<b>AA 3942™</b> 36483 36481		36481	25 ml syringe 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)	•
/VISIE	<b>AA 3943</b> <sup>™</sup> 36480 36478		36480 36478	25 ml syringe 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)	•
ic uv	AA 3944™		38210 38212	25 ml syringe 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)	•
ACRYL	AA 3971 <sup>™</sup> 36792 36805		36805	25 ml syringe 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)	•
	<b>AA 3972™</b> 36294 36295			25 ml syringe 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)	•
	AA 3974™		1135733 1135732	25 ml syringe 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)	•
	AA 3979™		1402562 1402563	25 ml syringe 300 ml cartridge	Translucent/Straw/ Fluorescent	Ultraviolet, visible	Polycarbonate, polyvinyl chloride	56,500	-65°F to 300°F (-54°C to 149°C)	•
NCE	AA 3201™		19727 19728	25 ml syringe 1 liter bottle	Clear/Pale Straw	Ultraviolet, visible	Glass, metal, thermoplastic, polycarbonate	3,750	-65°F to 300°F (-54°C to 149°C)	•
ACRYLIC UV/VISIBLE WITHOUT FLUORESCENCE	AA 3211™		19730 19731*	25 ml syringe 1 liter bottle	Clear/Pale Straw	Ultraviolet, visible	Glass, metal, thermoplastic, polycarbonate	11,250	-65°F to 300°F (-54°C to 149°C)	•
C UV/	AA 3301™		19733 19734	25 ml syringe 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)	•
CRYLI	AA 3311™		19736 19737	25 ml syringe 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)	•
A	AA 3321™	<b>(1)</b>	19739 19740	25 ml syringe 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)	•
ESIVE/	SI 5240™		1010341 1010320 1010343*	25 ml syringe 300 ml cartridge 40 lb. pail	Translucent/White	UV/visible, humidity	Silicone, metal, glass, plastic	25,000	-65°F to 200°F (-54°C to 93°C)	•
SILICONE ADHESIVE/ SEALANTS	SI 5055™		1212167 1214246 1214247*	25 ml syringe 1 liter bottle 15 liter pail	Light Yellow/Transparent	Ultraviolet, visible	Silicone, metal, glass, plastic	525	-65°F to 200°F (-54°C to 93°C)	•
S OOITIS	SI 5056™		1214249 1214250 1214248*	25 ml syringe 1 liter bottle 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

Canada: 1-800-263-5043



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

For proper eye protection, use LOCTITE® UV and visible light safety glasses.



na.henkel-adhesives.com/loctite

### **Medical Device Adhesive Curing Equipment**

	LOCTITE	® PRODUCT	ITEM NUMBER	WAVELENGTH	OPTIONS/ACCESSORIES		
	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		
EMS	0-	7700 LED LIGHT SOURCE	1427231	LED - 405 nm	OPTIONAL: Foot Switch – 98440; Holder – 98522; Radiometer Dosimeter for Visible LED and UVV Light – 1265282;		
SPOT/WAND SYSTEMS	-	7700-HD LED LIGHT SOURCE	1427232		Dosimeter Adapter – 1403405		
SP0T/W	7703 LED LIGHT SOURCE		806038	LED - Proprietary Indigo Wavelength	ONE OF THE FOLLOWING IS REQUIRED: Timer – 960356; PLC Cable – 8900550; Foot Switch – 97201;		
	7703-HD LED LIGHT SOURCE		883979		Pistol Grip Timer – 1003327		
	de la constant de la	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			
	70	EQ CL15 UV WAND SYSTEM	1661548	N/A	REQUIRES Light Guide 983677, 983684 or 951681 – sold separately		
SI		LED FLOOD CONTROLLER	1359255	N/A	Used with 1167582, 1167589 or 1167593		
STEN		LED FLOOD CURE, 375	1167582	LED – 375 nm	Used with 1359255 in conjunction with cable 13333333		
IE SYS		LED FLOOD CURE, INDIGO®	1167589	LED – Indigo Wavelength	Used with 1359255 in conjunction with cable 13333333		
TIN .		LED FLOOD CURE, 405	1167593	LED – 405 nm	Used with 1359255 in conjunction with cable 13333333		
FLOOD/LINE SYSTEMS	10	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			

	LOC	TITE® PRODUCT	ITEM NUMBER	WAVELENGTH	OPTIONS/ACCESSORIES	
	LIGHT METERS					
LIGHT METERS		RADIOMETER DOSIMETER FOR VISIBLE LED AND UVV LIGHT		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		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 169.

### **Medical Device** Cyanoacrylate Adhesives, **Accelerators & Primers**



**Application** 

#### Your WHAT IS THE PRIMARY INSTANT ADHESIVE APPLICATION REQUIREMENT? **Highly Flexible Surface Insensitive** Low Odor/Low Bloom Medium Medium **Low Viscosity** Gel **Low Viscosity Low Viscosity Viscosity Viscosity** 4011™ 431™ 4541™ 4601™ 4031™ 4902™ **Solution** Cyanoacrylate Cyanoacrylate Cyanoacrylate Cyanoacrylate Cyanoacrylate Cyanoacrylate Chemistry Color Clear Clear Clear Clear Clear Clear 100 45 1,375 Viscosity (cP) 1,000 Gel 200 ISO 10993 Yes Yes Yes Yes Yes Yes Compliant

### **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
10201	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 Siz
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
18601	200 a 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 Siz
18682	20 g bottle
18683	1 lb. bottle

### LOCTITE® 4902™ **Instant Adhesive**

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

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

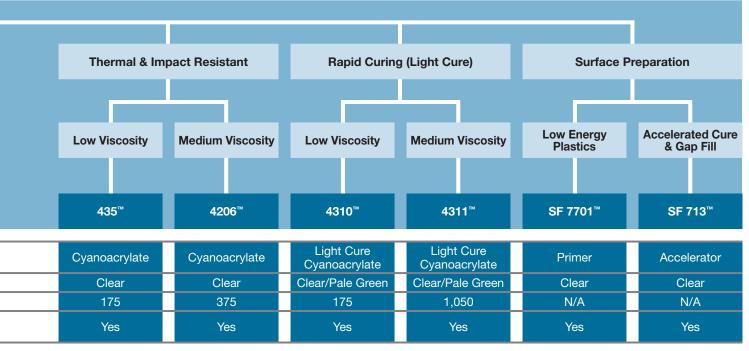


<sup>\*</sup> Made-to-order item.









### 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 bottle 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 q tube

### LOCTITE® 4310™ 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™ 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® SF 7701™ Primer

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® SF 713™ Accelerator

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

### **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
	431™ (SI)	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)	•
	435™ (T)	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)	•
	4011™ (SI)	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)	•
	4013 <sup>™</sup> (GP)	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)	•
	4014 <sup>™</sup> (GP)	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)	•
	4031™ (L0)	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)	•
ដ	4061 <sup>™</sup> (SI)	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)	•
CYANOACRYLATES	4081™ (L0)	18688	20 g bottle	Clear	Humidity	Thermoplastic, thermoset plastic, metal	7	-65°F to 160°F (-54°C to 71°C)	•
CYANOA	4161™ (GP)	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)	•
	4206 <sup>™</sup> (TR)	28628	20 g tube	Clear	Humidity	Thermoplastic, thermoset plastic, metal, elastomer, including rubber	375	-65°F to 250°F (-54°C to 121°C)	•
	4541™ (SI)	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)	•
	4601 <sup>™</sup> (L0)	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)	•
	4851™ (FL)	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)	•
	4861™ (FL)	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)	•
	4981™ (TR)	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)	•
	4902™	1875841 1875842	20 g bottle 1 lb. bottle	Clear	Humidity	Thermoplastic, thermoset plastic, metal, elastomer, including rubber	1,745	-65°F to 180°F (-54°C to 82°C)	•
	4903™	1875847	20 g bottle	Clear	Humidity	Thermoplastic, thermoset plastic, metal, elastomer, including rubber	1,670	-65°F to 180°F (-54°C to 82°C)	•
IE Ates	4306™	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)	•
LIGHT CURE CYANOACRYLATES	<b>4310</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)	•
CYAN	4311™	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)	•
SSS	SF 713™	19889	1.75 fl. oz. bottle	Clear	N/A	Isopropanol-based accelerator for cyanoacrylates	1	N/A	•
ACCELERATORS & PRIMERS	SF 7451™	19890	1.75 fl. oz. bottle	Clear	N/A	Acetone-based accelerator for cyanoacrylates	1	N/A	•
ACCE & P	SF 7701™	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	•
		.0001			ļ				

**ITEMS IN RED** = *Source's* **PICK** or **NEW** 

(SI) = Surface Insensitive (GP) = General-Purpose

(L0) = Low Odor/Low Bloom (FL) = Flexible

(TR) = Thermally Resistant (T) = Toughened

# Medical Device Adhesive Dispensing Equipment

**ITEMS IN RED** = Source's PICK or NEW

	LOCTITE®	PRODUCT	ITEM NUMBER	i.	TYPE	VISCOSIT	TY RANGE	DISPENSE PATTERNS		USED TO DISPENSE		STROKE	SUCK-BACI	CONSUMABLES – DISPENSE
	HIGH PRECISION VA		NUMBER					FAITERNS				ADJUSTMEN		ACCESSORIES
	Service Control of the Control of th	MICRO NEEDLE VALVE	98084	High Preci	sion	Low to I	Medium	Drop, Dot, Bead, Microdot	Light	t Cure/Acrylics		Yes	No	Dispense Tips and Accessories – Pages 174-175
VALVES	EQ VA30 JET VALVE		1850212	Non-Contact High Precision Jetting Valve		Low to High		Drop, Dot, Bead, Microdot	Light	Light Cure Adhesives		No No		1872279 – 75µm Nozzle Plate 1871880 – 125µm Nozzle Plate or 1871874 – 200µm Nozzle Plate
\$	HIGH PERFORMANC	E DIAPHRAGM VALVES												
	1	VA10 MICRO DIAPHRAGM VALVE	1611449	High Performance Diaphragm		Low to I	Medium	Drop, Dot, Bead, Microdot	Insta	ant Adhesives		Yes	No	Dispense Tips and Accessories – Pages 174-175
	4	CYANOACRYLATE DISPENSE VALVE	98013		rmance ragm	Low to I	Medium	Drop, Dot, Bead,		ant Adhesives, Retai pounds, Threadlock		Yes	No	
	O #	LIGHT CURE DISPENSE VALVE	98009						Light	t Cure Adhesives		Yes	No	
		E® PRODUCT		ITI	EM NUMBER	R	USED	TO DISPENSE		PACKAGE TYPES &	SIZES	VISC	OSITY RANGE	CONSUMABLES – DISPENSE ACCESSORIES
HANDHELD APPLICATORS	BOTTLE DISPENSING  CA VOLUMETRIC HAND PUMP			150647	1506477 Cyanoacryla		ylates	20 g or 1 fl. oz. bottle		le	0.009 to 0.002 g		Dispense Tips and Accessories – Pages 174-175	
APP.	SYRINGE DISPENSIN	NG .												
IDHELD A	1	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 174-175	
HAI		30 ML MANUAL SYRIN APPLICATOR	IGE	1544934		Any fluid in a 30 ml syringe, including 25 ml syringes		30 ml syringe			Low to High		Dispense Tips and Accessories – Pages 174-175	
	LOCTITI	E® PRODUCT		TEM IMBER	DISPENSI PATTERN:		USED TO	DISPENSE		PACKAGE TYPES & SIZES	VISCOS RANG		VACUUM Suck-Back	CONSUMABLES – DISPENSE ACCESSORIES
	<b>VOLUMETRIC BOT</b>	TLE DISPENSING												
	BENCHTOP PERISTALTIC DISPENSER		985	98548 Dot, Drop Bead		op, Instant Adhesives, Light Cure/Acrylics			A	Any Bottle	0 to 5,000 c		grammable	Dispense Tips and Accessories – Pages 174-175
	SYRINGE DISPENSING SYSTEMS													
STEMS	10	PRECISION SYRINGE DISPENSING SYSTEM	970	006*	Bead Inst		Gel Adhesives, nstant Adhesives, .ight Cure/Acrylics		3 ml syringe Low to 5 ml syringe Paste 10 ml syringe				Dispense Tips and Accessories – Pages 174-175	
DISPENSE SYST	D.	DIGITAL SYRINGE DISPENSING SYSTEM	883	3976						30 ml syringe 55 ml syringe				
DISP		SD10 DIGITAL SYRINGE DISPENSER	151	14629										
	TUBE BONDING													
		LIGHT CURE ACRYLIC ADHESIVE DISPENSING SYSTEM		145	Beads on tubing OI		Cure/Acr	ylics	- 1 -	2.0 mm to 6.0 mm ID tubing	Low	N/A	1	Use with bushings – Items: 989038, 989039, 989040, 989041 & 989042
	LOCTIT	E® PRODUCT		ITEM NUMBE	:R .	PRESSURE REGULATIO	N U	SED TO DISPENS	SE	PACKAGE TYPES &	SIZES	VISCOSITY RANGE	LOW LEVEL SENSING	FOR MORE INFORMATION
		ERVOIR CONTROLLERS		HUNDE	Г	LUULAIIU						HANGE	SENSINU	
CONTROLLERS & RESERVOIRS	INTEGRATED SEMIAUTOMATIC DISPENSER		1390322			to 15 psi	Insta Light	dhesives, nt Adhesives, : Cure/Acrylics		250 ml bottle 1 lb. bottle 1 liter bottle	N	ow to Nedium	Yes	Dispense Tips and Accessories – Pages 174-175
ROLL SERV	61 ·		1:	390321	0	to 100 ps	31	•		2 kg bottle 200 g squeeze to		Medium o High	Yes	
CONT		EQ VA30 JET CONTROLL	ER 1	850211 0 to		to 100 psi Light		Cure Adhesive	es	10, 30, 55 ml Syringes		Low to High No		Use with LOCTITE® EQ VA30 Jet Valve – 1850212

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### Medical Device Epoxy & Urethane Adhesives



Your Application	WHAT TYPE OF CURE WOULD YOU LIKE FOR YOUR APPLICATION?							
	Room Ten	nperature Cure	Heat Cure					
	Rigid Low Viscosity	Rigid High Viscosity	Rigid High Viscosity					
Solution	EA M-31CL™	EA M-121HP™	EA 3984™					
Chemistry	Ероху	Ероху	Ероху					
Color	Ultra-Clear	Amber	Light Grey					
Viscosity (cP)	6,000	11,000	25,000					
Mix Ratio	1:1	1:1	1 Part					
Cure Type	Room Temperature	Room Temperature	Heat Cure					

### **Product Description**

### LOCTITE® EA M-31CL™

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® EA M-121HP™ 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® EA 3984™ Adhesive

Highly fluorescent, one-part, heat cure epoxy adhesive offering superior physical, environmental and performance properties.

P/N Package Size

36768 30 ml syringe

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







### **LOCTITE® Medical Device Epoxy & Urethane Adhesive Properties Chart**

LOCTITE® PRODUCT		ITEM NUMBER	ITEM NUMBER PACKAGE TYPE & SIZE CLARITY/COLOR CURE TYPE KEY SUBSTRATES		KEY SUBSTRATES	VISCOSITY (cP) Brookfield (25°C)	TEMPERATURE RANGE	ISO 10993 Compliant	
	EA 3984™	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)	•
EPOXIES	EA M-21HP™	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)	•
	EA M-31CL™	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)	•
	EA M-121HP™	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	UK M-06FL™	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)	•

**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
RS.	TWO-PART DISPENSING	G							
) APPLICATORS		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 174-175 Syringe Accessories –
HANDHELD	-	50 ML DUAL CARTRIDGE PNEUMATIC APPLICATOR	97042	Two-Component Epoxies, Urethanes	50 ml dual cartridge	1:1, 2:1	Low to High	Pneumatic	Pages 179-180

	LOCTITE® PRODUCT		ITEM Number	DISPENSE PATTERNS	USED TO DISPENSE	PACKAGE TYPES & Sizes	VISCOSITY Range	VACUUM SUCK-BACK	CONSUMABLES – DISPENSE ACCESSORIES
	SYRINGE DISPENSING S	SYSTEMS							
DISPENSE SYSTEMS		POSI-LINK™ DISPENSE SYSTEM	See Page 171	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 174-175 Syringe Accessories – Pages 179-180

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### **Equipment**

163	EQUIPMENT
165	Controllers & Reservoirs
165	Light Cure Equipment
166	Handheld Applicators
166	Handheld Valves
166	Dispense Systems
167	Valves & Pumps
167	Two-Part Volumetric Dispensing
168	Hot Melt Equipment
168, 169	Motion Control Robot Dispense Systems
174	Consumables – Dispense Accessories
169	EQUIPMENT – MOTION CONTROL ROBOT DISPENSE SYSTEMS
171	EQUIPMENT – TWO-PART VOLUMETRIC
	DISPENSING
171	LOCTITE® Posi-Link™ Dispense System for Dual
470	Cartridges
173	Meter Mix Systems
174	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 <a href="https://www.equipment.loctite.com">www.equipment.loctite.com</a>.

### **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. 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 costeffective 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.

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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. 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.

### 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® EOUIPMENT 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.

Visit our website at www.equipment.loctite.com/service.

### **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.

### **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.

HELPFU

### 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.

### 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 numbe
#	Integrate	ed Reservoir Controllers	To more mormation, see page number
Item #	1390322		si 12, 24, 36, 127, 139, 147, 160
	1390321	Integrated Semiautomatic Dispenser – 0 to 100 (Low Level Sensing)	
	Reservo	, ,,	,,
	982720	Bond-A-Matic® 3000 Reservoir – 0 to 15 psi (Low Level Sensing – DC)	12, 24, 127, 139, 147
	982726	Bond-A-Matic® 3000 Reservoir – 0 to 15 psi	12, 24, 127, 139, 147
	982723	Bond-A-Matic <sup>®</sup> 3000 Reservoir – 0 to 100 psi (Low Level Sensing – DC)	12, 24, 127, 139, 147
	982727	Bond-A-Matic® 3000 Reservoir - 0 to 100 psi	12, 24, 127, 139, 147
	98090	Shot Miser™ Reservoir – 1 Liter	12, 24, 139, 147
	982880	4 Liter Gravity Feed Reservoir	139, 147
	Multifu	nction Controllers	
	97152	Dual Channel Automatic Controller	12, 25, 127
	1022006	Digital Multifunctional Controller	12, 25
	Single F	unction Controllers	
	97101	Digital Dispense Controller	12, 25
	1406023	Spray Valve Controller	12, 72, 128, 139, 147

	F	For more information, see page number(s):	
Light Cur	re Point Systems – LED Curing Devices		
1427231	7700 LED Light Source	26, 156	
806038	7703 LED Light Source	26, 156	
1427232	7700-HD LED Light Source 7703-HD LED Light Source	26, 156	
883979	7703-HD LED Light Source	26, 156	
1369538	CureJet™ 405 LED	26, 156	
1369539	CureJet™ 375 LED	26, 156	
1369537	CureJet™ Indigo® LED	26, 156	
1364033	LED Controller – Single Curejet™	26, 156	
1180632	CureJet™ Quad Controller	26, 156	
Light Cur	re Point Systems – Wand Systems		
1514634	EQ CL10 Quad LED Controller	26, 156	
1661548	EQ CL15 UV Wand System	26, 156	
Light Cur	re Line Systems – LED Curing Devices		
	LED Single Line Array Controller	26, 156	
	LED Line Array 405 nm Light Source	26, 156	
	LED Line Array 365 nm Light Source	26, 156	
	re Flood Systems – LED Curing Devices		
	LED Flood Cure, 375	26, 156	
1167589	LED Flood Cure, Indigo®	26, 156	
1167593	LED Flood Cure, Indigo® LED Flood Cure, 405	26, 156	
	LED Flood Controller	26, 156	
	re Flood Systems - Enclosed Chamber & I		
	Zeta® 7401 UV Chamber	25	
98413	Zeta® 7411-S UV Flood System	25	
	Focused UV Flood Curing System	25	
Light Cur	re Flood Systems – Cure Conveyors		
98003	Zeta® 7415 UV Benchtop Conveyor	25	
1241543	UV Curing Conveyor	25	
	re Flood Systems – Light Sources		
98004	Electrodeless Lamp Assembly and Power Suppl	v – 208 VAC 25	
98005			
980160	High Intensity Ultraviolet Sources	25	
	e Meters		
•	Radiometer Dosimeter for Visible LED and UVV	Light 25, 26, 156	
	Radiometer Dosimeter for UV LED and UV A/B L		
1406024		25, 156 25, 156	
1-100024	OV OPOL 1020 NAUIUIIIGIGI	23, 130	

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

Canada: 1-800-263-5043









#### 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.

	For	more information, see page number
<b>Bottle Di</b>	spensing	
98414	50 ml Hand Pump	127, 139, 147
97001	250 ml Hand Pump	127, 139, 147
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		11, 160
Syringe I	Dispensing	
1233800	10 ml Gel CA Syringe Dispenser	11, 160
1544934	30 ml Manual Syringe Applicator	11, 23, 36, 45, 72, 160, 162
Tube Dis	pensing	
1083845	50 ml-F Tube Squeeze Dispenser	36, 72, 139, 147
Cartridge	Dispensing	
1093940	Manual Cartridge Applicator – 300 ml	32, 46, 64, 66, 72, 77, 78
1093981	Heavy Duty Manual Cartridge Applicator – 600 ml	64, 66
Two-Part	Dispensing	
98472	50 ml Dual Cartridge Manual Applicator - 1:1, 2:1	40, 46, 48, 119
1034026	50 ml Dual Cartridge Manual Applicator – 10:1	40, 46, 48
97042	50 ml Dual Cartridge Pneumatic Applicator	40, 46, 48, 162
1493310	50 ml S-Style Dual Cartridge Pneumatic Applicato	or 40, 46, 48
984211	Conversion Kit (Manual) for 400 ml Cartridges	40
984210	Conversion Kit (Pneumatic) for 400 ml Cartridges	
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	Fixmaster® Universal Dispenser	46, 48, 115, 116
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.

### For more information, see page number(s):

		FUI IIIUIE IIIIUIIIII	ivii, see paye iiuiiibei(s
Item #	Low Visc	cosity Cyanoacrylate Applicator	
te	97130	11, 128, 140, 148	
	General-	Purpose Applicators	
	97111	Manual Handheld Applicator	23, 128, 140, 148
	97112	Pneumatic Handheld Applicator – Foot Activated	23, 128, 140, 148
	97116	Pneumatic Handheld Applicator – Finger Activated	23, 128, 140, 148
	Syringe	Dispense Systems	
	97131	Vari-Drop™ Applicator – with PTFE tubing	11, 128, 140, 148
	97132	Vari-Drop™ Applicator – without PTFE tubing	11, 128, 140, 148

#### **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.

	For more information, see page number(s):
--	---

Item #	Volumetric Bottle Dispensers							
te	98548	Benchtop Peristaltic Dispenser	12, 24, 128, 140, 160					
	Complete	Complete Pressure-Time Bottle Dispense Systems						
	982719 982722	Bond-A-Matic® 3000 Dispenser – 0-15 psi Bond-A-Matic® 3000 Dispenser – 0-100 psi	12, 24, 36, 128, 140, 148 12, 24, 36, 128, 140, 148					
	Pneumat	tic Cartridge Dispensing						
	98022 98319A 1714379 1046901	300 ml Cartridge Pusher 300 ml Pneumatic Cartridge Dispensing Retaine HD10 300 ml Pneumatic Cartridge Dispenser High Pressure 300 ml Benchtop Cartridge Dispenser	11, 24, 36, 45, 72, 78, 104, 106 r 11, 24, 45, 72, 78, 104 11, 24, 32, 45, 72, 78, 80, 104 32, 36, 45, 78, 104					
	960304 1175530	Powerline II 300 ml Dispenser Pneumatic Handgun	32, 80 56					
	Syringe I	Dispense Systems						
	98377	Posi-Link™ Dispense System (Accessories Required)	171, 172					
	97006*	Precision Syringe Dispensing System	12, 24, 160					
	883976	Digital Syringe Dispensing System	12, 24, 160					
	1514629 98050	SD10 Digital Syringe Dispenser Foot Pedal Dispenser	12, 24, 160 12, 24					
	Thread S	ealant & Anaerobic Gasketing Delivery Sy	stems					
	998400	Dial-A-Seal® Applicator	147					
	986000	Pump-A-Bead <sup>™</sup> II Dispenser	72					
	Tube Bor	nding						
	98445	Light Cure Acrylic Adhesive Dispensing System	160					

<sup>\*</sup> 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 FOUIPMENT 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.



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.

#### **High Precision Valves**

97113	Stationary Applicator Valve – 1/4 in. Tube	1
97114	Stationary Applicator Valve – 3/8 in. Tube	1
98084	Micro Needle Valve	2
High Pe	rformance Diaphragm Valves	
4044440	VA10 Miara Dianbroam Valua	

VA10 Micro Diaphragm Valve 1611449 1730181 VA15 Diaphragm Valve 11, 23, 128, 140, 98009 Light Cure Dispense Valve 148, 160, 170 Cyanoacrylate Dispense Valve

### **General Duty Diaphragm Valves**

Diaphragm Valve 97135 97136 Diaphragm Valve Spray Valve 98520 Spray Valve

**High Viscosity Fluid & Paste Valves** 

Poppet Valve 986300 VA26 Dispense Valve - 50 Bar 1960414 1153502 High Pressure Dispense Valve - 150 Bar

**Pinch Tube Valve** 97141 Pinch Tube Valve

**Positive Displacement Pump** 

Positive Displacement Pump 983330

### For more information, see page number(s):

11, 36, 140, 148, 170 11, 36, 140, 148, 170 23, 160, 170

11, 23, 160 11, 127, 140, 148, 160, 170

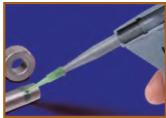
128, 140, 148 128, 140, 148

> 72, 128, 140, 148, 170, 180 12, 25, 127, 140, 148 32, 36, 45, 78, 104

72, 128, 139, 140, 147, 148

12, 25, 127, 140, 148





### **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.

### 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 171, 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 173.

### **DuraPump™ Programmable Meter Mix System**

1041649 1041639 1041644 2:1 1041638

### **DuraPump™ Pneumatic Meter Mix System**

1041648 1041641 1:1 1041643

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-ofthe-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.

#### For more information, see page number(s):

1/2 in. Su	perstick Dispensers	
916282	Hysol® 050A	16, 17, 18, 107, 108
1597635	Hysol® 050A-HT	16, 17, 18, 107, 108
3/4 in. Ma	xistick Dispensers	
98033	Hysol® 075	16, 17, 18, 107, 108
98034	Hysol® 075-LT	16, 17, 18, 107, 108
1 3/4 in. S	prayPac® and Polyshot Dispensers	
98036	Hysol® 175-AIR	16, 17, 18, 107, 108
98040	Hysol® 175-AIR-HT	16, 17, 18, 107, 108
98037	Hysol® 175-SPRAY	16, 17, 18, 107, 108
98041	Hysol® 175-SPRAY-HT	16, 17, 18, 107, 108
2040430	EQ HM22	17, 18, 107, 108
<b>Urethane</b>	Dispenser	
2011543	EQ HM18 Reactive Urethane Cartridge Dispenser	17, 18, 107, 108

### **Handheld Hot Melt Nozzles & Accessories**

**Handheld Hot Melt Dispensers** 

A complete listing of Hot Melt Nozzles and Accessories can be found on pages 18 and 108. 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 169, 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 174-175. Cartridge Accessories

You can find a complete listing of Cartridge Accessories on page 175.

### Static Mix Nozzles & Accessories

You can find a complete listing of Static Mix Nozzles and Accessories on pages 176-178. LOCTITE® Brand Syringe Accessories

You can find a complete listing of LOCTITE® Brand Syringe Accessories on pages 179-180.

### **LOCTITE® Brand Dispense Spare Parts**

You can find a listing of LOCTITE® Brand Dispense Spare Parts on page 180.

## 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 <a href="https://www.equipment.loctite.com">www.equipment.loctite.com</a>.



- 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® I	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
(TTO VOLT OTOTEMO)	4-AXIS	98283A	98291A	98299A	98606	N/A	N/A	1008338
ТҮРЕ	1	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 INFORI	MATION	Please visit www.equ to the product docum		r detailed drawings of a	III benchtop robots. Ju	ist search for the item nu	ımber that you are interes	sted in and scroll down

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

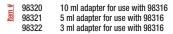
### **Mounting Bracket Kits**

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.

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 98520 spray valve and 98084 micro needle valve mounting bracket kit 98441 98646 Universal syringe bracket for Posi-Link 50 ml dual cartridge bracket for Posi-Link™ 98647 CureJet™ mounting bracket kit 1034030 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.



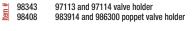
### **Mounting Adapter for All 4-Axis Robots**

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.



Complete mounting adapter kits hold the syringe, cartridge or valve, and position the dispense tip 60 mm from the end of the tool arm.

Complete Mounting Kits for 3-Axis SCARA Robots\*



<sup>\*</sup>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.



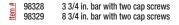
### Z Height Adjustment Plate for 3-Axis Benchtop Robots

This plate allows you attach the mounting rails above or below the mounting bracket on the robot.



### 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.



### **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.

* Inte	erlocked door	model for Benchtop units only.
Item #	989787	200 Series Slide Door Guarding System
<u>=</u>	989763	200 Series Light Curtain Guarding System
	989788	300 Series Slide Door Guarding System
	989771	300 Series Light Curtain Guarding System
	989789	400/500 Series Slide Door Guarding System
	989777	400/500 Series Light Curtain Guarding System
	989852	SCARA Light Curtain Guarding System





### **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<sup>™</sup> 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.

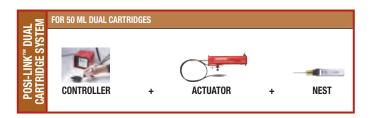




LOCTITE® Posi-Link™ 10-50 System, Integrated Robotic Solution using a 50 ml dual cartridge, and showing wall-mounted actuator.



### **COMPLETE LOCTITE® POSI-LINK™ DUAL CARTRIDGE SYSTEM**



### **LOCTITE® Posi-Link™ Controller**

Provides all operator interface and control signals to actuator.

98377 Posi-Link™ Controller

(Each Item Sold Separately.)

### **FEATURES:**

- Dose selection by volume
- Easy programming controller, with storage capacity for 25 userdefined programs, reduces adhesive setup waste
- Small footprint 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 qualities of adhesive within the cartridge regardless of viscosity changes in the mix nozzle.



98379 Posi-Link™ 10-50 Actuator

50 ml Cartridges

\* See 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 handheld 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.

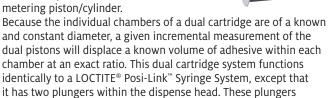


98641 1:1/2:1 - 50 ml Cartridge 98642 10:1 - 50 ml Cartridge

Used with LOCTITE® Posi-Link™ 10-50 Actuator Used with LOCTITE® Posi-Link™ 10-50 Actuator

### **THEORY OF OPERATION:**

A disposable dual cartridge is effectively used as a dual metering piston/cylinder.



simultaneously act on two chambers within the dual cartridge. You can view a functionality diagram on www.equipment.loctite.com.

### **LOCTITE® Pinch Tube Valve**

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) LOCTITE® Replacement Tube Inserts

98671 LOCTITE® Solenoid Valve

		PRODUCT
TECHNICAL SPECIFICATIONS	LOCTITE® POSI-LINK™ DISPENSE SYSTEM FOR 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
MINIMUM¹ 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		ories, see www.loctite.equipment.com. ccessories, see pages 176-178.

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

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 or contact your local Henkel sales rep for more information.

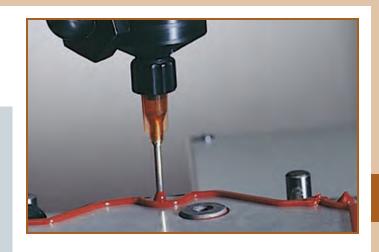


LOCTITE® PRODUCT	DURAPUMP** PROGRAMMABLE METER MIX SYSTEM	DURAPUMP" PNEUMATIC METER MIX SYSTEM
MACHINE RATIO CAPABILITIES/ITEM NUMBERS	1	1
FIXED	1041649 – 1:1 1041644 – 2:1 1041639 – 4:1 1041638 – 10:1 1041635 – Custom Ratios (available from 1:1 up to 9.99:1)	1041648 - 1:1 1041643 - 2:1 1041641 - 4:1 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	1-	
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 www.equipment.loctite.c and accessories (sold separately).	com for feed system options

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 twopart adhesive dispensing needs
- High-quality syringe barrels and components are available for single-component adhesive dispensing needs



### HIGH PRECISION STAINLESS STEEL DISPENSE TIPS

1/4 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

### 1/2 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

### 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

### 11/2 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

### 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

### 90° by $\frac{1}{2}$ 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**

### 11/4 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

<sup>\*</sup> Smaller gauge sizes.

### **FLEXIBLE DISPENSE TIPS**

### 11/2 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)	
4	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 <sup>™</sup> Applicator Brushes (10 pack)	

### **CARTRIDGE ACCESSORIES**

PRODUCT	Item Number	Description
II A	98446	Roller Assembly 1" wide band
0	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)
The same of the sa	1147763	Cartridge-Dispense Valve Adapter Assembly Fischbach Thread x 1/4" male NPT

### **GENERAL-PURPOSE DISPENSE TIPS**



1/2 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**

### 11/4 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		
4 x	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)		
ST.	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		
9	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	
MIX NOZZLES FOR 50 ML DUAL (A STYLE) CARTRIDGES	3			
manana	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.	
- minimum minim	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.	
(meaning the second	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.	
(Britishness)	1334299	100	50 ml Mix Nozzle, Taper Tip, 3.0 mm inner diameter, 17 elements; 1:1, 2:1 – A Cartridges.	
Weterstell Conjusts	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	
MIX NOZZLES FOR 50 ML DUAL (B AND S STYLE) CAR	TRIDGES			
	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.	
and the second section of the section of t	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.	
anarat aranahara	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.	
METERNISHE STATE OF	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.	
promotor and are	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.	
North and American States	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.	
CATALOG ESTABLISHED THE STATE OF THE STATE O	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) C	CARTRIDGES		
тинанининия	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.
THE REAL PROPERTY OF THE PERSON OF THE PERSO	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.
AND DESCRIPTION OF THE PARTY OF	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.
VM ATTACK TO LEAST TO THE PARTY OF THE PARTY	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.
ABBBBBBBB	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 elments; 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			
MIX NOZZLES FOR 200 ML & 400 ML DUAL (F STYLE) CARTRIDGES						
	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.			
3	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.			
2	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.			
<b>Т</b> энеизначення сприсменення система	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.			
The antimental control	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.			
MIX NOZZLES FOR 300 ML SINGLE AXIS DUAL CARTRI	IDGES	<u>'</u>				
0	1100962	3	300 ml Single-Axis Cartridge Mix Nozzle, Threaded Tip, 10" overall length, 11.2 mm inner diameter; 20 elements.			
Entrocurvemen	1100963	3	300 ml Single Axis Cartridge Mix Nozzle, Threaded Tip, 15.3" overall length, 14.3 mm inner diameter; 19 elements.			
SPRAYABLE CERAMIC MIX NOZZLES	SPRAYABLE CERAMIC MIX NOZZLES					
T •	1248606	10	200/400 ml Spray Tip Mix Nozzle, 0.25" inner diameter, 24 elements for use with sprayable ceramic materials.			
MIX NOZZLES ADAPTERS						
	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
3103	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
$Q \setminus =$	97294	30 ml Syringe Starter Kit	5 Pistons 4 Clear Barrels 1 Black Barrel 5 Tips 1 Air Line Adapter
	98416	55 ml Syringe Starter Kit	т ин шне ичартен
h h	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 180 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 www.equipment.loctite.com.
	Various	LOCTITE® Manual Syringe Kits	Each kit contains Plunger, Stopper and Clear Barrel, unassembled. See page 180 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	ſ	Accessory Item Number	Description	Package Quantity
Pneumatic Syringe Barrel and Piston Kits (Dark Amber Syringes are also available in the same packages. Call (860) 571-5174 for special orders.)	Pneumatic Syringe Barrel and Piston	98479 98480 98481 98482 98483 98484 98485 98486 98487 98498 98490 98491 98491 98492 98493 98494 98495 98495 98497 98498	3 ml Syringe Barrel and Piston, Natural 3 ml Syringe Barrel and Piston, Black 3 ml Syringe Barrel and Piston, Black 5 ml Syringe Barrel and Piston, Natural 5 ml Syringe Barrel and Piston, Natural 5 ml Syringe Barrel and Piston, Natural 5 ml Syringe Barrel and Piston, Black 5 ml Syringe Barrel and Piston, Black 10 ml Syringe Barrel and Piston, Natural 10 ml Syringe Barrel and Piston, Natural 10 ml Syringe Barrel and Piston, Black 10 ml Syringe Barrel and Piston, Black 30 ml Syringe Barrel and Piston, Black 30 ml Syringe Barrel and Piston, Natural 30 ml Syringe Barrel and Piston, Natural 30 ml Syringe Barrel and Piston, Black 30 ml Syringe Barrel and Piston, Black 55 ml Syringe Barrel and Piston, Black 55 ml Syringe Barrel and Piston, Natural 55 ml Syringe Barrel and Piston, Natural 55 ml Syringe Barrel and Piston, Black 55 ml Syringe Barrel and Piston, Black	50 1,000 50 1,000 50 1,000 50 1,000 50 1,000 50 1,000 50 1,000 50 50 500 500 250 50 50
	Pneumatic Syringe Barrel Only	98655 98557 98576 98559 98578 98561 98122 98563 98581 98565	3 ml Syringe Barrel, Black 3 ml Syringe Barrel, Natural 5 ml Syringe Barrel, Black 5 ml Syringe Barrel, Natural 10 ml Syringe Barrel, Black 10 ml Syringe Barrel, Natural 30 ml Syringe Barrel, Black 30 ml Syringe Barrel, Black 55 ml Syringe Barrel, Natural	1,000 1,000 1,000 1,000 1,000 1,000 500 500 250
	Pneumatic Pistons Only	98125 98584 98127 98587	3 ml Syringe Piston 5 ml Syringe Piston 10 ml Syringe Piston 30 / 55 ml Piston	1,000 1,000 1,000 1,000
Manual Syringe Kits  Each kit contains a plunger, stopper and barrel in the quantity indic	Manual Syringe Kits  Each kit contains a plunger, stopper and barrel in the quantity indicated.		3 ml Clear Manual Syringe Kit 3 ml Clear Manual Syringe Kit 6 ml Clear Manual Syringe Kit 10 ml Clear Manual Syringe Kit 10 ml Clear Manual Syringe Kit 10 ml Clear Manual Syringe Kit 35 ml Clear Manual Syringe Kit 35 ml Clear Manual Syringe Kit	10 1,000 10 1,000 10 1,000 10 500
Tubing		97970 97972 981821 981866 981994 984688	3/8" Black PTFE-Lined Feed Tube 1/4" Black PTFE-Lined Feed Tube 1/4" Clear Polyethylene Feed Tube 3/6" Clear Polyethylene Feed Tube 1/4" Clear Nylon Feed Tube for Pump-A-Bead™II Silicone Tubing for Dispense Valve Purging (10 Pack)	33 ft. 33 ft. 33 ft. 33 ft. 33 ft. 1 ft.
986300 – Poppet Valve, Acetal Copolymer Body		986025 986035 986060 986301	Nozzle: 0.025" diameter Nozzle: 0.035" diameter Nozzle: 0.060" diameter Valve Rebuild Kit	1 1 1 1

# **LOCTITE® Brand Dispense Spare Parts**

LOCTITE® PARENT PRODUCT	Accessory Item Number	Description	Package Quantity
Tubing	97970 97972 981821 981866 981994 984688	3%" Black PTFE-Lined Feed Tube 1/4" Black PTFE-Lined Feed Tube 1/4" Clear Polyethylene Feed Tube 3/6" Clear Polyethylene Feed Tube 1/4" Clear Nylon Feed Tube for Pump-A-Bead™ II Silicone Tubing for Dispense Valve Purging (10 Pack)	33 ft. 33 ft. 33 ft. 33 ft. 33 ft. 1 ft.
986300 – Poppet Valve, Acetal Copolymer Body	986025 986035 986060 986301	Nozzle: 0.025" diameter Nozzle: 0.035" diameter Nozzle: 0.060" diameter Valve Rebuild Kit	1 1 1 1

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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-tothe-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 2017.

# **Agency Listings**

### **NSF International**

#### NON-FOOD COMPOUND LOCTITE® 222MS™ Threadlocker, Low Strength/Small Screw

LOCTITE® 262™ Threadlocker, Medium to High Strength LOCTITE® 290™ Threadlocker, Wicking Grade LOCTITE® SI 587™ Blue, High Performance RTV Silicone Gasket Maker LOCTITE® SI 5900® Flange Sealant, Heavy Body RTV Silicone LOCTITE® SF 7649™ Primer LOCTITE® LB 8014™ Food Grade Anti-Seize LOCTITE® LB 8104™ Food Grade Grease LOCTITE® SF 7070™ ODC-Free Cleaner & Degreaser LOCTITE® LB 8632™ Clear High Performance Synthetic Grease LOCTITE® LB 8108™ High Performance Synthetic Grease

LOCTITE® LB 8108™ High Performance Synthetic Grease (aerosol)

LOCTITE® 242® Blue Threadlocker, Medium Strength

#### 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® DRI 513™ Adhesive Sealant LOCTITE® DRI 513HV™ Thread Sealant 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® SF 7649™ Primer LOCTITE® EA 3463™ 10 Minute Repair Epoxy LOCTITE® Nordbak® Brushable Ceramic Grey

### American Bureau of Shipping (ABS)

LOCTITE® 242® Blue Threadlocker, Medium Strength LOCTITE® 262™ Threadlocker, Medium to High Strength LOCTITE® 404® Instant Adhesive, General-Purpose 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® L PC 7202™ Marine Chocking LOCTITE® LB 8023™ Marine Grade Anti-Seize LOCTITE® SF 7625™ Rust Treatment

### Navy Environmental Health Center (NEHC)

LOCTITE® PC 3466™ Castable Aluminum Liquid LOCTITE® PC 7254™ Aluminum Putty LOCTITE® PC 3965™ Fast Set Steel Epoxy LOCTITE® EA 3473™ Fast Set Steel Putty LOCTITE® L PC 7202™ Marine Chocking LOCTITE® EA 3476™ Stainless Steel Putty LOCTITE® EA 3472™ Steel-Filled Castable Epoxy LOCTITE® EA 3471™ Steel Putty LOCTITE® EA 3478™ Superior Metal LOCTITE® PC 7222™ Wear-Resistant Putty LOCTITE® PC 7317™ Nordbak® Pneu-Wear LOCTITE® PC 7218™ 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® 271™ Threadlocker, High Strength/Large Threads
LOCTITE® 290™ Threadlocker, Wicking Grade
LOCTITE® 571™ Thread Sealant, Pipe Sealant HW
LOCTITE® 505™ 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™ Accelerator LOCTITE® SI 5040™ RTV Silicone LOCTITE® SI 5045™ Flange Sealant LOCTITE® 7452™ Accelerator LOCTITE® SF 7471™ Primer LOCTITE® SF 7649™ Primer

### **Military Specifications** (Commercial Item Description)

LOCTITE® 404® 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™ Instant Adhesive LOCTITE® 454™ Instant Adhesive LOCTITE® 493™ Instant Adhesive LOCTITE® 495™ Instant Adhesive I OCTITE® 496™ Instant Adhesive

### Federal Food, Drug & Cosmetic Act

### 21 C.F.R. § 175.105

TECHNOMELT® 1942™ 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® UK M-06FL™ Urethane Adhesive LOCTITE® UK M-11FL™ 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® AA 3201™ Light Cure Adhesive, Polycarbonate/ Thermoplastics LOCTITE® AA 3211™ Light Cure Adhesive, Polycarbonate/ Thermoplastics LOCTITE® AA 3301™ Light Cure Adhesive, Plastic/Metal LOCTITE® AA 3311™ Light Cure Adhesive, Plastic/Metal LOCTITE® AA 3321™ Light Cure Adhesive, Plastic/Metal
LOCTITE® AA 3341™ Light Cure Adhesive, Plasticzed Substrates
LOCTITE® AA 3345™ Light Cure Adhesive, Glass/Metal
LOCTITE® AA 3381™ Light Cure Adhesive, Flexible/Plastics LOCTITE® AA 3552 Light Cure Adhesive LOCTITE® AA 3553™ Light Cure Adhesive LOCTITE® AA 3554™ Light Cure Adhesive LOCTITE® AA 3555™ Light Cure Adhesive LOCTITE® AA 3556™ Light Cure Adhesive LOCTITE® AA 3921™ Light Cure Adhesive, Plastic/Metal LOCTITE® AA 3922™ Light Cure Adhesive, Plastic/Metal LOCTITE® AA 3924AC™ Light Cure Adhesive, Plastic/Metal LOCTITE® AA 3926™ Light Cure Adhesive, Plastic/Metal LOCTITE® AA 3933™ Light Cure Adhesive LOCTITE® AA 3936™ Light Cure Adhesive LOCTITE® AA 3942™ Light Cure Adhesive, High Performance/ Various Substrates LOCTITE® AA 3943™ Light Cure Adhesive, High Performance/ Various Substrates

LOCTITE® AA 3944™ Light Cure Adhesive LOCTITE® AA 3971™ Light Cure Adhesive, Plasticized Substrates

LOCTITE® AA 3971 Light Cure Adhesive, Plasticized Substrates LOCTITE® AA 3972™ Light Cure Adhesive, Plasticized Substrates LOCTITE® AA 3974™ Light Cure Adhesive

LOCTITE® AA 3979™ Light Cure Adhesive LOCTITE® EA 3981™ Epoxy Adhesive, High Performance/Various

Substrates

LOCTITE® EA 3982™ Epoxy Adhesive, High Performance/Various Substrates

LOCTITE® EA 3984™ 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™ Light Cure Adhesive

LOCTITE® 4305™ Light Cure Adhesive LOCTITE® 4306™ Light Cure Adhesive

LOCTITE® 4307™ Light Cure Adhesive
LOCTITE® 4310™ Light Cure Adhesive
LOCTITE® 4311™ Light Cure Adhesive
LOCTITE® 4311™ Light Cure Adhesive
LOCTITE® 4541™ Medical Device Instant Adhesive
LOCTITE® 4601™ Medical Device Instant Adhesive LOCTITE® 4851™ Medical Device Instant Adhesive



# **Agency Listings**

LOCTITE® 4861™ Medical Device Instant Adhesive LOCTITE® 4981™ Medical Device Instant Adhesive LOCTITE® SI 5055™ Silicone Adhesive Sealant LOCTITE® SI 5056™ Silicone Adhesive Sealant LOCTITE® SI 5240™ Medical Device Sealant LOCTITE® SI 5248™ Medical Device Silicone Adhesive LOCTITE® SF 7701™ Medical Device Adhesive Primer LOCTITE® SF 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® S1 5091™ Silicone Potting Compound, High Adhesion
LOCTITE® 5600™ Silicone Potting Compound
LOCTITE® 5600™ Silicone Potting Compound
LOCTITE® 5409FR™ Hot Melt Adhesive, Polyamide
LOCTITE® 15606™ Silicone

LOCTITE® UK 3364™ Adhesive LOCTITE® SI 5611F™ Silicone LOCTITE® SI 5611S™ Silicone Potting Compound

LOCTITE® 565™ Thread Sealant, Controlled Strength

#### LOCTITE® EA E-40EXP™ Epoxy LOCTITE® SI 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**

### CANADIAN FOOD INSPECTION AGENCY (CFIA)

### Product with Letters of No Objection from the Canadian Food Inspection Agency for Food Plant use in Canada

LOCTITE® SF 7712™ Accelerator (Isopropyl Alcohol)
LOCTITE® SF 7708™ Primer Adhesion Promoter (Heptane)
LOCTITE® SF 7708™ Primer Adhesion Promoter (Water/Alcohol)
LOCTITE® SF 7109™ Primer Adhesion Promoter (Water/Alcohol)
LOCTITE® SF 7113™ Accelerator (Heptane)
LOCTITE® SF 74113™ Accelerator (Acetone)
LOCTITE® SF 7427™ Primer (Acetone)
LOCTITE® SF 7469™ Primer (Acetone)
LOCTITE® SF 7649™ Primer (Acetone)
LOCTITE® 4010™ Black Toughened
LOCTITE® 4040 Instant Adhesive
LOCTITE® 4040™ Instant Adhesive
LOCTITE® 410™ Black Toughened
LOCTITE® 410™ Black Toughened
LOCTITE® 416™ Instant Adhesive
LOCTITE® 415™ Instant Adhesive
LOCTITE® 4210™ Instant Adhesive
LOCTITE® 422™ Instant Adhesive
LOCTITE® 4210™ Thermal Resistant
LOCTITE® A 4210™ Thermal Resistant
LOCTITE® EA 668™ Epoxy
LOCTITE® EA 668™ Epoxy
LOCTITE® EA 668™ Epoxy
LOCTITE® EA 665™ Epoxy
LOCTITE® EA 665™ Epoxy
LOCTITE® EA 6907™ Epoxy
LOCTITE® EA 6907™ Epoxy
LOCTITE® EA 6900™ Epoxy
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LOCTITE® SF 23811™ Fragrance-Free Cleaner & Degreaser

TEROSON® VR 20 FL+ Cleaner LOCTITE® SF 7693™ Cold Galvanizing Compound

LOCTITE® SF F720™ Black Tough Rubber Coating LOCTITE® SF F720™ Blue Tough Rubber Coating LOCTITE® SF F720™ Red Tough Rubber Coating LOCTITE® SF F720™ Yellow Tough Rubber Coating LOCTITE® SF F720" Yellow Tough Rubber Coating
LOCTITE® SF 544" Rust Treatment
LOCTITE® SF 5488" Belt Dressing & Conditionner
LOCTITE® PC 7226" Pneu Wear
LOCTITE® PC 7226" Brushable Ceramic - Grey
LOCTITE® PC 7228" Brushable Ceramic - White
LOCTITE® PC 7228" High Temperature Brushable Ceramic
LOCTITE® PC 72319" Chemical Resistant Coating
LOCTITE® PC 7319" Chemical Resistant Coating
LOCTITE® PC 9660" Maxi-Coat Rust Inhibitor (Aerosol)
LOCTITE® PC 9660" Maxi-Coat Rust Inhibitor (Liquid)
LOCTITE® PC 9660" Maxi-Coat Rust Inhibitor (Liquid)
LOCTITE® PC 9660" Maxi-Coat Rust Inhibitor (Liquid)
LOCTITE® PC 4445" Fast Cure Epoxy Mixer Cups
LOCTITE® EA 3471" Steel Putty
LOCTITE® EA 3473" Fast Set Steel Putty
LOCTITE® EA 3478" Stuperior Metal
LOCTITE® EA 9480" Underwater Repair Epoxy
LOCTITE® PC 3466" Aluminum Liquid
LOCTITE® PC 32620" Marine Chocking LOCTITE® SF 754™ Rust Treatment LOCTITE® PC 3965" Fast Set Steel Epoxy
LOCTITE® PC 7202™ Marine Chocking
LOCTITE® PC 7204™ High Performance Quartz
LOCTITE® PC 7222™ Wear Resistant Putty
LOCTITE® PC 7254™ Aluminum Putty
LOCTITE® PC 9410™ Magna-Crete
LOCTITE® PC 9410™ Floor Fill
LOCTITE® PC 9626™ Deep Pour Grout LOCTITE® 518™ Flange Sealant LOCTITE® 548™ Gasket Eliminator LOCTITE® MR GS1™ Gasket Sealant LOCTITE® NS 5109™ High Temperature Gasket Sealant LOCTITE® SI 587™ Blue High Performance RTV Silicone Gasket Maker LOCTITE® SI 593™ Black RTV Silicone Adhesive Sealant LOCTITE® SI 594 ™White RTV Silicone Adhesive Sealant LOCTITE® SI 595™ Clear RTV Silicone Adhesive Sealant LOCTITE® SI 596™ Red High Temp RTV Silicone Adhesive Sealant LOCTITE® SI 598™ Black High Performance RTV Silicone Gasket Maker LOCTITE® SI 5699™ Grey High Performance RTV Silicone Gasket Maker
LOCTITE® SI 5900® Heavy Body RTV Silicone Flange Sealant LOCTITE® SI 5900® Instant Gasket LOCTITE® SI 5905™ RTV Black Silicone Flange Sealant LOCTITE® SI 5910® RTV Silicone Flange Sealant LOCTITE® SI 5920® Copper High Temp RTV Silicone Gasket Maker

LOCTITE® UR 7001™ Urethane Sealant - Grey

LOCTITE® LB 8008 C5-A® Copper Based Anti-Seize LOCTITE® LB 8014™ Food Grade Metal Free Anti-Seize

LOCTITE® LB 771™ Nickel Grade Anti-Seize

LOCTITE® LB 8060 Silver Grade Anti-Seize (Stick)
LOCTITE® LB 8060 Silver Grade Anti-Seize (Stick)
LOCTITE® LB 8065 Copper Based Anti-Seize (Stick)
LOCTITE® LB 8070 Heavy Duty Anti-Seize (Stick)
LOCTITE® LB 8104 Food Grade Grease
LOCTITE® LB 8151 Silver Grade Anti-Seize
LOCTITE® LB 8151 Silver Grade Anti-Seize
LOCTITE® LB 8151 Silver Grade Anti-Seize
LOCTITE® LB 8807 Silver Grade Anti-Seize
LOCTITE® LB 8807 Silver Grade Anti-Seize
LOCTITE® LB 8801 Silver Grade Anti-Seize
LOCTITE® LB 8802 Clear High Performance Synthetic Grease
LOCTITE® G80 Retaining Compound General Purpose
LOCTITE® 638 Retaining Compound High Temperature
LOCTITE® 638 Retaining Compound Maximum Strength
LOCTITE® 641 Retaining Compound Maximum Strength
LOCTITE® 660 Retaining Compound High Strength/Rapid Cure
LOCTITE® 660 Retaining Compound High Strength/High Viscosity
LOCTITE® 10-Ring Making Kit
LOCTITE® 10-Ring Making Kit
LOCTITE® 10-Ring Making Kit
LOCTITE® 545 Thread Sealant Hydraulic/Pneumatic Sealant
LOCTITE® 561 Thread Sealant Hydraulic/Pneumatic Sealant
LOCTITE® 561 Thread Sealant Lower Strength
LOCTITE® 561 Thread Sealant Lower Strength
LOCTITE® 561 Thread Sealant Lower Strength
LOCTITE® 567 Thread Sealant Hydraulic Sealant
LOCTITE® 569 Thread Sealant Hydraulic Sealant
LOCTITE® 592 Thread Sealant Hydraulic Sealant
LOCTITE® 592 Thread Sealant Hydraulic Sealant
LOCTITE® 10-Ring Maxing Kit
LOCTITE® 113 Thread Sealant Slow Cure
LOCTITE® 113 Thread Sealant With PTFE
LOCTITE® 220 Threadlocker Medium Strength/Wicking
LOCTITE® 221 Threadlocker Medium Strength/Small
Screw/Mil-Spec.
LOCTITE® 243 Threadlocker Medium Strength
LOCTITE® 263 Threadlocker Medium Strength
LOCTITE® 266 Threadlocker High Strength
LOCTITE® 266 Threadlocker High Strength
LOCTITE® 266 Threadlocker High Strength
LOCTITE® 267 Threadlocker High Strength
LOCTITE® 260 Threadlocker High Strength
LOCTITE® 260 Threadlocker High Strength
LOCTITE® 200 Threadlocker High Strength
LOCTITE® 200 Threadlocker High Strength
LOCTITE® 200 Threadlocker High Strength
LOCTITE® 260 Threadlocker High

LOCTITE® 2760™ Threadlocker High Strength/Surface Insensitive

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### **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 na.henkel-adhesives.com/loctite.

# **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 indentor 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	-	Ice Hockey Puck	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)

 $x 3.14 \times 16.4 = cc/ml$  requirement per part

Potting/Encapsulating Applications:

Area  $(3.14 \times R2) \times Potting Depth \times 16.4 = cc/ml$  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**

### **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 <sup>™</sup>
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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# **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 COSTEFFECTIVE, 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**



# 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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# **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.

# **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.

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**NDUSTRY WORKSHOPS** 

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

# **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.

# **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.

PRODUCT WORKSHOPS

### 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.

# **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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0112	LOCTITE® 0-Ring Making Kit - Standard	149, 150	19736	LOCTITE® AA 3311™ Light Cure Adhesive	155
0144	LOCTITE® AA 312™ Structural Adhesive	35	19737	LOCTITE® AA 3311™ Light Cure Adhesive	155
3333	LOCTITE® AA 312™ Structural Adhesive	35	19739	LOCTITE® AA 3321™ Light Cure Adhesive	155
2224	LOCTITE® AA 366™ Light Cure Adhesive	22	19740	LOCTITE® AA 3321™ Light Cure Adhesive	155
2292	LOCTITE® 444™ Instant Adhesive	10	19743	LOCTITE® 4161™ Instant Adhesive	159
2294	LOCTITE® 444™ Instant Adhesive	10	19744	LOCTITE® 4161™ Instant Adhesive	159
2695	LOCTITE® 7090™ Activator		19822	LOCTITE® SF 7380™ Activator	35
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7412	LOCTITE® SI 5091™ Silicone Potting Compound	21, 103	19824	LOCTITE® SF 7380™ Activator	35
7421	LOCTITE® 455™ Instant Adhesive	7, 9	19862	LOCTITE® AA 3100™ Light Cure Adhesive	22
7430	LOCTITE® 5127™ Flexible Anaerobic Gasket Flange Sealant	71	19886	LOCTITE® SF 7701™ Primer	158, 159
7528	LOCTITE® SI 5083™ Silicone Adhesive Sealant	21	19887	LOCTITE® SF 7701™ Primer	158, 159
7529	LOCTITE® 426™ Instant Adhesive	9	19889	LOCTITE® SF 713™ Accelerator	158, 159
7635	LOCTITE® SI 5083™ Silicone Adhesive Sealant	21	19890	LOCTITE® 7451™ Accelerator	159
7944	LOCTITE® AA 3491™ Light Cure Adhesive	22	19907	LOCTITE® SF 7380™ Activator	35
8013	LOCTITE® 4013™ Instant Adhesive	159	20172	LOCTITE® SF 7070™ ODC-Free Cleaner & Degreaser	126, 130, 131
8014	LOCTITE® 4014™ Instant Adhesive	159	20176	LOCTITE® SI 5900® Flange Sealant	73, 75
8030	LOCTITE® 409™ Instant Adhesive	10	20177	LOCTITE® SI 5900® Flange Sealant	73, 75
8074	LOCTITE® SI 5091™ Silicone Potting Compound, High Adhesion	21	20178	LOCTITE® SI 5900® Flange Sealant	73, 75
8390	LOCTITE® 712™ Accelerator	10	20170	LOCTITE® SI 5999™ Flange Sealant	75
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8397	LOCTITE® SF 770™ Primer	7, 10	20269	LOCTITE® 4014™ Instant Adhesive	159
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8495	LOCTITE® SI 5950™ Flange Sealant	77	20420	LOCTITE® 382™ Instant Adhesive	10
8575	LOCTITE® SF 7452™ Accelerator	8, 10	21088	LOCTITE® SF 7387™ Activator	35
8576	LOCTITE® SF 7452™ Accelerator	8, 10	21347	LOCTITE® SF 7649™ Primer	35, 71, 126, 138, 146
8580	LOCTITE® SF 7452™ Accelerator	8, 10	21348	LOCTITE® SF 7649™ Primer	35, 71, 126, 138, 146
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8582	LOCTITE® SI 5699™ Grey,	73, 75	21363	LOCTITE® AA 3751™ Light Cure Adhesive	22
0.000	High Performance RTV Silicone Gasket Maker		21425	LOCTITE® EA 445™ Fast Cure Epoxy Mixer Cups	119
8583	LOCTITE® SI 5699™ Grey, High Performance RTV Silicone Gasket Maker	73, 75	21426	LOCTITE® EA 445™ Fast Cure Epoxy Mixer Cups	119
8607	LOCTITE® 232™ Retaining Compound	125	21434	LOCTITE® 277™ Threadlocker	138
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8637	LOCTITE® SF 7452™ Accelerator	8, 10	21441	LOCTITE® 603™ Retaining Compound	125
8680	LOCTITE® 4011™ Instant Adhesive	157, 159	21442	LOCTITE® 603™ Retaining Compound	125
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8682	LOCTITE® 4031™ Instant Adhesive	157, 159	21464	LOCTITE® 222™ Threadlocker	137
8683	LOCTITE® 4031™ Instant Adhesive	157, 159	21472	LOCTITE® SI 5920™ Copper.	75
8686	LOCTITE® 4061™ Instant Adhesive	159	21472	High Performance RTV Silicone Gasket Maker	75
8687	LOCTITE® 4031™ Instant Adhesive	159	21525	LOCTITE® 509™ Flange Sealant	71
8688	LOCTITE® 4081™ Instant Adhesive	159	21744	LOCTITE® SI 5999™ Flange Sealant	75
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9269	LOCTITE® SF 7649™ Primer	35, 71, 126, 138, 146	22477	LOCTITE® SF 7471™ Primer T™	71, 126, 138, 146
9368	LOCTITE® 7090™ Activator	71, 126, 138, 146	22671	LOCTITE® SF 7075™ Activator	35
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CAN'T FIND A LOCTITE® PRODUCT?

CONTACT HENKEL CUSTOMER SERVICE AT 1.800.LOCTITE (1.800.562.8483)

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	Rapid Setting Concrete Repair Material	110	97443	LOCTITE® EA 3471™ Stainless Steel Putty	119
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7972	LOCTITE® ¼" Black PTFE-Lined Feed Tube	180	98210	½" Stainless Steel Tips, 21 Gauge, Purple, 50 pack	175
8003	LOCTITE® ZETA® 7415 UV Benchtop Conveyor	25, 165	98211	½" Stainless Steel Tips, 21 Gauge, Purple, 1,000 pack	175
3004	LOCTITE® Electrodeless Lamp Assembly and Power Supply (208 VAC)	25, 165	98212	½" Stainless Steel Tips, 23 Gauge, Orange, 50 pack	175
3005	LOCTITE® Electrodeless Lamp Assembly and Power Supply (240 VAC)	25, 165	98213	½" Stainless Steel Tips, 23 Gauge, Orange, 1,000 pack	175
8009	LOCTITE® Light Cure Dispense Valve	11, 23, 128, 140, 148, 160, 167, 170	98214	½" Stainless Steel Tips, 27 Gauge, Clear, 50 pack	175
8013	LOCTITE® Cyanoacrylate Dispense Valve	11, 127, 140, 148, 160, 167, 170	98215	½" Stainless Steel Tips, 27 Gauge, Clear, 1,000 pack	175
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8033	LOCTITE® Hysol® 075 Hot Melt Dispenser	16, 17, 18, 107, 108, 168	98217	1" Stainless Steel Tips Helical Thread, 14 Gauge, White, 1,000 pack	174
8034	LOCTITE® Hysol® 075-LT Hot Melt Dispenser	16, 17, 18, 107, 108, 168	98218	1" Stainless Steel Tips Helical Thread, 15 Gauge, Amber, 50 pack	174
8036	LOCTITE® Hysol® 175-AIR Hot Melt Dispenser	16, 17, 18, 107, 108, 168	98219	1" Stainless Steel Tips Helical Thread, 15 Gauge, Amber, 1,000 pack	174
8037	LOCTITE® Hysol® 175-SPRAY Hot Melt Dispenser	16, 17, 18, 107, 108, 168	98220	1" Stainless Steel Tips Helical Thread, 16 Gauge, Black, 50 pack	174
98039	LOCTITE® ZETA® 7401 UV Chamber	25, 165	98221	1" Stainless Steel Tips Helical Thread, 16 Gauge, Black, 1,000 pack	174
98040	LOCTITE® Hysol® 175-AIR-HT Hot Melt Dispenser	16, 17, 18, 107, 108, 168	98222	1" Stainless Steel Tips Helical Thread, 18 Gauge, Green, 50 pack	174
8041	LOCTITE® Hysol® 175-SPRAY-HT Hot Melt Dispenser	16, 17, 18, 107, 108, 168	98223	1" Stainless Steel Tips Helical Thread, 18 Gauge, Green, 1,000 pack	174
98050	LOCTITE® Foot Pedal Dispenser	12, 24, 166	98224	1" Stainless Steel Tips Helical Thread, 20 Gauge, Pink, 50 pack	174
8061	11/4" Polyethylene Tapered Tips, 16 Gauge, Grey, 1,000 pack	175	98225	1" Stainless Steel Tips Helical Thread, 20 Gauge, Pink, 1,000 pack	174
8062	11/4" Polyethylene Tapered Tips, 18 Gauge, Green, 1,000 pack	175	98226	1" Stainless Steel Tips Helical Thread, 21 Gauge, Purple, 50 pack	174
8063	11/4" Polyethylene Tapered Tips, 20 Gauge, Pink, 1,000 pack	175	98227	1" Stainless Steel Tips Helical Thread, 21 Gauge, Purple, 1,000 pack	174
8064	11/4" Polyethylene Tapered Tips, 22 Gauge, Blue, 1,000 pack	175	98228	1" Stainless Steel Tips Helical Thread, 22 Gauge, Blue, 50 pack	174
8065	½" Stainless Steel Tips, 15 Gauge, Amber, 1,000 pack	175	98229	1" Stainless Steel Tips Helical Thread, 22 Gauge, Blue, 1,000 pack	174
8066	½" Stainless Steel Tips, 18 Gauge, Green, 1,000 pack	175	98230	1" Stainless Steel Tips Helical Thread, 23 Gauge, Orange, 50 pack	174
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98068	½" Stainless Steel Tips, 25 Gauge, Red, 1,000 pack	175	98232	1" Stainless Steel Tips Helical Thread, 25 Gauge, Red, 50 pack	174
98069	1½" Polypropylene Tips Helical Thread, 15 Gauge, Amber, 1,000 pack	175	98233	1" Stainless Steel Tips Helical Thread, 25 Gauge, Red, 1,000 pack	174
98070	1½" Polypropylene Tips Helical Thread, 18 Gauge, Green, 1,000 pack	175	98234	1" Stainless Steel Tips Helical Thread, 27 Gauge, Light Grey, 50 pack	174
98071	1½" Polypropylene Tips Helical Thread, 20 Gauge, Pink, 1,000 pack	175	98235	1" Stainless Steel Tips Helical Thread, 27 Gauge, Light Grey, 1,000 pack	174
98074	LOCTITE® High Density Polyethylene, 15 Gauge, White, 1,000 pack	175	98236	45° by ½" Stainless Steel Tips Helical Thread, 14 Gauge, White, 50 pack	174
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98082	11/2" Polypropylene Tips Helical Thread, 25 Gauge, Red, 1,000 pack	175	98238	90° by 1/2" Stainless Steel Tips Helical Thread, 14 Gauge, White, 50 pack	174
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98100	1/2" Stainless Steel Tips, 22 Gauge, Blue, 50 pack	175	98241	45° by ½" Stainless Steel Tips Helical Thread, 15 Gauge, Amber, 1,000	174
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98115	1/4" Stainless Steel Tips Helical Thread, 32 Gauge, Yellow, 1,000 pack	174	98242	$90^{\circ}$ by $1\!\!/\!\!2$ " Stainless Steel Tips Helical Thread, 15 Gauge, Amber, 50 pack	174
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98125	LOCTITE® 3 ml Pneumatic Syringe Piston (1,000 pack)	180	00044	pack	474
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98164	1½" Stainless Steel Tips Helical Thread, 14 Gauge, White, 1,000 pack	174	98247	90° by ½" Stainless Steel Tips Helical Thread, 18 Gauge, Green, 1,000 pack	
98165	1½" Stainless Steel Tips Helical Thread, 15 Gauge, Amber, 50 pack	174	98248	45° by ½" Stainless Steel Tips Helical Thread, 20 Gauge, Pink, 50 pack	174
98166	1½" Stainless Steel Tips Helical Thread, 15 Gauge, Amber, 1,000 pack		98249	45° by ½" Stainless Steel Tips Helical Thread, 20 Gauge, Pink, 1,000 pack	
98167	1½" Stainless Steel Tips Helical Thread, 18 Gauge, Green, 50 pack	174	98250	90° by 1/2" Stainless Steel Tips Helical Thread, 20 Gauge, Pink, 50 pack	174
98168	1½" Stainless Steel Tips Helical Thread, 18 Gauge, Green, 1,000 pack	174	98251	90° by ½" Stainless Steel Tips Helical Thread, 20 Gauge, Pink, 1,000 pack	
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98171	1½" Stainless Steel Tips Helical Thread, 21 Gauge, Purple, 50 pack	174	98254	•	174
98172	1½" Stainless Steel Tips Helical Thread, 21 Gauge, Purple, 30 pack		98255	90° by ½" Stainless Steel Tips Helical Thread, 21 Gauge, Purple, 50 pack	174
98173	1½" Stainless Steel Tips Helical Thread, 21 Gauge, Pulple, 1,000 pack 1½" Stainless Steel Tips Helical Thread, 22 Gauge, Blue, 50 pack	174	50200	pack	174
98174		174	98256	45° by ½" Stainless Steel Tips Helical Thread, 22 Gauge, Blue, 50 pack	174
98175	1½" Stainless Steel Tips Helical Thread, 22 Gauge, Blue, 1,000 pack	174	98257	45° by ½" Stainless Steel Tips Helical Thread, 22 Gauge, Blue, 1,000 pack	
98176	1½" Stainless Steel Tips Helical Thread, 23 Gauge, Orange, 30 pack		98258	90° by ½" Stainless Steel Tips Helical Thread, 22 Gauge, Blue, 50 pack	174
98176	1½" Stainless Steel Tips Helical Thread, 25 Gauge, Orange, 1,000 pack 1½" Stainless Steel Tips Helical Thread, 25 Gauge, Red, 50 pack	174	98259	90° by ½" Stainless Steel Tips Helical Thread, 22 Gauge, Blue, 1,000	174
98178	1½" Stainless Steel Tips Helical Thread, 25 Gauge, Red, 1,000 pack	174		pack	
98179	1½" Stainless Steel Tips Helical Thread, 23 Gauge, Neu, 1,000 pack		98260	45° by ½" Stainless Steel Tips Helical Thread, 23 Gauge,	174
8180	1½ Stainless Steel Tips Helical Thread, 27 Gauge, Light Grey, 50 pack 1½" Stainless Steel Tips Helical Thread, 27 Gauge,	174		Orange, 50 pack	
	Light Grey, 1,000 pack		98261	45° by ½" Stainless Steel Tips Helical Thread, 23 Gauge, Orange, 1,000 pack	174
8181	LOCTITE® 10 / 20 ml Svringe Manual Pluncers	175	98262	90° by ½" Stainless Steel Tips Helical Thread, 23 Gauge, Orange, 50 pack	174
98192	LOCTITE® 10 / 30 ml Syringe Manual Plungers	36, 45, 72	98263	90° by ½" Stainless Steel Tips Helical Thread, 23 Gauge,	174
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98196	1/4" Stainless Steel Tips Helical Thread, 18 Gauge, Green, 50 pack	174	98264		174
98197	1/4" Stainless Steel Tips Helical Thread, 18 Gauge, Green, 1,000 pack	174	98265	45° by ½" Stainless Steel Tips Helical Thread, 25 Gauge,	174
98198	1/4" Stainless Steel Tips Helical Thread, 20 Gauge, Pink, 50 pack	174		Red, 1,000 pack	
8199	1/4" Stainless Steel Tips Helical Thread, 20 Gauge, Pink, 1,000 pack	174	98266	$90^{\circ}$ by ½" Stainless Steel Tips Helical Thread, 25 Gauge, Red, 50 pack	174
98200	1/4" Stainless Steel Tips Helical Thread, 21 Gauge, Purple, 50 pack	174	98267	90° by ½" Stainless Steel Tips Helical Thread, 25 Gauge,	174
98201	1/4" Stainless Steel Tips Helical Thread, 21 Gauge, Purple, 1,000 pack	174		Red, 1,000 pack	

# CAN'T FIND A LOCTITE® PRODUCT? CONTACT HENKEL CUSTOMER SERVICE AT 1.800.LOCTITE (1.800.562.8483)

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	Light Grey, 50 pack		98425	1/2" Stainless Steel Tips Helical Thread, 21 Gauge, Purple, 1,000 pack	174
98269	45° by ½" Stainless Steel Tips Helical Thread, 27 Gauge,	174	98430	LOCTITE® 200/400 ml Mix Nozzle, 500 pack	177
98270	Light Grey, 1,000 pack 90° by ½" Stainless Steel Tips Helical Thread, 27 Gauge,	174	98439	LOCTITE® Showcase Needle Variety Kit	175
30210	Light Grey, 50 pack		98440	LOCTITE® LED 7700 On/Off Foot Switch	26, 156
98271	90° by 1/2" Stainless Steel Tips Helical Thread, 27 Gauge,	174	98441	LOCTITE® Micro Needle Valve Mounting Bracket Kit	170
	Light Grey, 1,000 pack		98445	LOCTITE® Light Cure Acrylic Adhesive Dispensing System	160, 166
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98273	1¼" Polyethylene Tapered Tips, 14 Gauge, Tan, 1,000 pack	170	98447	LOCTITE® Replacement Rollers 1" wide, 3 pack	175
98314	LOCTITE® 55 ml Clear Syringe Barrel Kit	470	98448	LOCTITE® Roller Assembly 2" wide band	175
98315	LOCTITE® 30 ml Suringe Maunting Product Kit	470	98449	LOCTITE® Replacement Rollers 2" wide, 3 pack	175
98316 98318	LOCTITE® 300 ml Syringe Mounting Bracket Kit	470	98452	LOCTITE® UV & Visible Light Safety Glasses, Orange	26, 155
98320	LOCTITE® 300 ml Cartridge Mounting Bracket Kit  LOCTITE® 10 ml Adapter for 98316	470	98455	LOCTITE® 50 ml Mix Nozzle, 10 pack	40, 119
98321	LOCTITE® 5 ml Adapter for use with 98316		98472	LOCTITE® 50 ml Dual Cartridge Manual Applicator	40, 46, 48, 119, 166
98322	LOCTITE® 3 ml Adapter for use with 98316	170	98479	LOCTITE® 3 ml Pneumatic Syringe Barrel and Piston Kit, Natural (50 pack)	180
98326	LOCTITE® Valve Mounting Bracket Kit		98480	LOCTITE® 3 ml Pneumatic Syringe Barrel and Piston Kit,	180
98327	LOCTITE® Valve Mounting Bracket Kit	170		Natural (1,000 pack)	
98328	LOCTITE® Mounting Rails for 3-Axis Benchtop Robots and Dispense Stations		98481	LOCTITE® 3 ml Pneumatic Syringe Barrel and Piston Kit, Black (50 pack)	180
98329	LOCTITE® Mounting Rails for 3-Axis Benchtop Robots and Dispense Stations	170	98482	LOCTITE® 3 ml Pneumatic Syringe Barrel and Piston Kit, Black (1,000 pack)	180
98336	LOCTITE® Mounting Adapter for 4-Axis Robots	170	98483	LOCTITE® 5 ml Pneumatic Syringe Barrel and Piston Kit,	180
98343	LOCTITE® Mounting Kit for 3-Axis SCARA Robots	170	00404	Natural (50 pack)	100
98345	LOCTITE® Soft Squeeze Bottle	11, 166	98484	LOCTITE® 5 ml Pneumatic Syringe Barrel and Piston Kit, Natural (1,000 pack)	180
98346	LOCTITE® Soft Squeeze Bottle	11, 166	98485	LOCTITE® 5 ml Pneumatic Syringe Barrel and Piston Kit,	180
98347	LOCTITE® Soft Squeeze Bottle	11, 166		Black (50 pack)	
98357	LOCTITE® Z Height Adjustment Plate for 3-Axis Benchtop Robot	170	98486	LOCTITE® 5 ml Pneumatic Syringe Barrel and Piston Kit,	180
98364	LOCTITE® 50 ml Mix Nozzle, 2,000 pack	176	98487	Black (1,000 pack)  LOCTITE® 10 ml Pneumatic Syringe Barrel and Piston Kit,	180
98367	LOCTITE® 200/400 ml Snap Tip Mix Nozzle	177	30407	Natural (50 pack)	100
98371	LOCTITE® Cartridge-Needle Adapter	175	98488	LOCTITE® 10 ml Pneumatic Syringe Barrel and Piston Kit,	180
98372	LOCTITE® PC 7303™ High Temperature Pneu-Wear	57		Natural (1,000 pack)	
98377	LOCTITE® Posi-Link™ Controller	166, 171, 172	98489	LOCTITE® 10 ml Pneumatic Syringe Barrel and Piston Kit, Black (50 pack)	180
98379	LOCTITE® Posi-Link™ 10-50 Actuator	172	98490	LOCTITE® 10 ml Pneumatic Syringe Barrel and Piston Kit,	180
98382	LOCTITE® PC 7317™ Nordbak® Pneu-Wear	55, 57	50450	Black (1,000 pack)	100
98383	LOCTITE® PC 7317™ Nordbak® Pneu-Wear		98491	LOCTITE® 30 ml Pneumatic Syringe Barrel and Piston Kit,	180
98385	1¼" Polyethylene Tapered Tips Helical Thread and UV Light Block Additive, 14 Gauge, White, 50 pack		98492	Natural (50 pack)  LOCTITE® 30 ml Pneumatic Syringe Barrel and Piston Kit,	180
98386	1¼" Polyethylene Tapered Tips Helical Thread and UV Light Block Additive, 14 Gauge, White, 1,000 pack		98493	Natural (500 pack)  LOCTITE® 30 ml Pneumatic Syringe Barrel and Piston Kit,	180
98387	1¼" Polyethylene Tapered Tips Helical Thread and UV Light Block Additive, 16 Gauge, Grey, 50 pack	175	98494	Black (50 pack)  LOCTITE® 30 ml Pneumatic Syringe Barrel and Piston Kit,	180
98388	1¼" Polyethylene Tapered Tips Helical Thread and UV Light Block Additive, 16 Gauge, Grey, 1,000 pack	175	98495	Black (500 pack)  LOCTITE® 55 ml Pneumatic Syringe Barrel and Piston Kit,	180
98389	1¼" Polyethylene Tapered Tips Helical Thread and UV Light Block Additive, 18 Gauge, Green, 50 pack	175	98496	Natural (250 pack)  LOCTITE® 55 ml Pneumatic Syringe Barrel and Piston Kit,	180
98390	11/4" Polyethylene Tapered Tips Helical Thread and	175		Natural (50 pack)	
98391	UV Light Block Additive, 18 Gauge, Green, 1,000 pack  1/4" Polyethylene Tapered Tips Helical Thread and	175	98497	LOCTITE® 55 ml Pneumatic Syringe Barrel and Piston Kit, Black (50 pack)	180
98392	UV Light Block Additive, 20 Gauge, Pink, 50 pack  11/4" Polyethylene Tapered Tips Helical Thread and  UK Light Block Additive, 20 Cauge, Pink, 1,000 pack	175	98498	LOCTITE® 55 ml Pneumatic Syringe Barrel and Piston Kit, Black (250 pack)	180
00202	UV Light Block Additive, 20 Gauge, Pink, 1,000 pack	175	98499	LOCTITE® Tip Caps, 1,000 pack	175
98393	11/4" Polyethylene Tapered Tips Helical Thread and UV Light Block Additive, 22 Gauge, Blue, 50 pack		98501	LOCTITE® Applicator Holder	179
98394	1¼" Polyethylene Tapered Tips Helical Thread and UV Light Block Additive, 22 Gauge, Blue, 1,000 pack	175	98520 98522	LOCTITE® Spray Valve LOCTITE® LED Holder	72, 128, 139, 140, 147, 148, 167, 17 26, 156
98396	1/2" Stainless Steel Tips Helical Thread, 15 Gauge, Amber, 50 pack	174	98544	LOCTITE® Hysol® 050 Hot Melt Applicator	18, 108
98397	1/2" Stainless Steel Tips Helical Thread, 15 Gauge, Amber, 1,000 pack		98545	LOCTITE® Hysol™ 050-HT Hot Melt Dispenser	18, 108
98398	½" Stainless Steel Tips Helical Thread, 18 Gauge, Green, 50 pack		98548	LOCTITE® Benchtop Peristaltic Dispenser	12, 24, 128, 140, 160, 166
98399	1/2" Stainless Steel Tips Helical Thread, 18 Gauge, Green, 1,000 pack		98557	LOCTITE® 3 ml Pneumatic Syringe Barrel, Natural (1,000 pack)	180
98400	1/2" Stainless Steel Tips Helical Thread, 20 Gauge, Pink, 50 pack	174	98559	LOCTITE® 5 ml Pneumatic Syringe Barrel, Natural (1,000 pack)	180
98401	1/2" Stainless Steel Tips Helical Thread, 20 Gauge, Pink, 1,000 pack	174	98561	LOCTITE® 10 ml Pneumatic Syringe Barrel, Natural (1,000 pack)	180
98402	½" Stainless Steel Tips Helical Thread, 22 Gauge, Blue, 50 pack	174	98563	LOCTITE® 30 ml Pneumatic Syringe Barrel, Natural (500 pack)	180
98403	½" Stainless Steel Tips Helical Thread, 22 Gauge, Blue, 1,000 pack	174	98565	LOCTITE® 55 ml Pneumatic Syringe Barrel, Natural (250 pack)	180
98404	½" Stainless Steel Tips Helical Thread, 25 Gauge, Red, 50 pack	17-1	98576	LOCTITE® 5 ml Pneumatic Syringe Barrel, Black (1,000 pack)	180
98405	$\ensuremath{\mathcal{V}}$ " Stainless Steel Tips Helical Thread, 25 Gauge, Red, 1,000 pack	174	98578	LOCTITE® 10 ml Pneumatic Syringe Barrel, Black (1,000 pack)	180
98406	LOCTITE® Poppet Valve Mounting Bracket Kit	170	98581	LOCTITE® 55 ml Pneumatic Syringe Barrel, Black (250 pack)	180
98408	LOCTITE® Mounting Kit for 3-Axis SCARA Robots	110	98584	LOCTITE® 5 ml Pneumatic Syringe Piston (1,000 pack)	180
98413	LOCTITE® ZETA® 7411-S UV Flood System	20, 100	98587	LOCTITE® 30/55 ml Pneumatic Syringe Piston (1,000 pack)	180
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8611	½" Stainless Steel Tips Helical Thread, 23 Gauge, orange, 50 pack	174	804261	LOCTITE® 200/400 ml Square Mix Nozzle, 1,000 pack	177
8612	½" Stainless Steel Tips Helical Thread, 23 Gauge, Orange, 1,000 pack	174	806038	LOCTITE® 7703 LED Light Source	26, 156, 165
8622	LOCTITE® 50 ml Mix Nozzle, 10 pack	176	826190	LOCTITE® 50 ml Square Mix Nozzle, 1,000 pack	176
8623	LOCTITE® 50 ml Mix Nozzle, 10 pack	176	830704	14" Stainless Steel Tips Helical Thread, 14 Gauge, Olive, 50 pack	174
8624	1/4" Stainless Steel Tips Helical Thread, 25 Gauge, Red, 50 pack	174	831304	LOCTITE® PC 9410™ High Strength,	64, 65
8625	1/4" Stainless Steel Tips Helical Thread, 25 Gauge, Red, 1,000 pack	174	001004	Rapid Setting Concrete Repair Material	04, 00
8626	1/4" Stainless Steel Tips Helical Thread, 27 Gauge, Tied, 1,000 pack	174	848088	LOCTITE® 200/400 ml Square Mix Nozzle, 1,000 pack	177
8627	1/4" Stainless Steel Tips Helical Thread, 27 Gauge, Clear, 30 pack	174	874905	LOCTITE® 200/400 ml Square Mix Nozzle, 10 pack	31, 116, 177
8628	1/4" Stainless Steel Tips Helical Thread, 27 dauge, clear, 1,000 pack	174	875472	LOCTITE® 200/400 ml Square Mix Nozzle, 500 pack	177
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0029	¼" Stainless Steel Tips Helical Thread, 30 Gauge, Lavender, 1,000 pack	1/4	877641	TEROSON® MS 939™	29, 31
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8642	LOCTITE® Posi-Link™ Dual Cartridge Nests	172	883979	LOCTITE® 7703-HD LED Light Source	26, 156, 165
8646	LOCTITE® Universal Syringe Bracket for Posi-Link™	170	916050	LOCTITE® Nozzle Adapter/Check Valve	18, 108
8647	LOCTITE® 50 ml Dual Cartridge Bracket for Posi-Link™	170	916282	LOCTITE® Hysol® 050A Hot Melt Dispenser	16, 17, 18, 107, 108, 168
8652	LOCTITE® Light-blocking Shield for Dispense Tips, 10 pack	175	918088	LOCTITE® 200/400 ml Mix Nozzle, 10 pack	177
3655	LOCTITE® 3 ml Pneumatic Syringe Barrel, Black (1,000 pack)	180	922089	LOCTITE® SI 5600™ Silicone Adhesive Sealant - Part B	30, 31
3656	LOCTITE® 3 ml Syringe Air Line Adapter	179	922122	LOCTITE® SI 5600™ Silicone Adhesive Sealant - Part A	30, 31
3657	LOCTITE® 5 ml Syringe Air Line Adapter	179	922122	LOCTITE® SI 5000 Silicone Adhesive Sealant - Part A	30, 31
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552177	LOCTITE® UR 3370™ Adhesive/Sealant	48	1629598	LOCTITE® PC 6255™ Acrylic Pedestrian Grade	61, 62
552178	LOCTITE® UR 3370™ Adhesive/Sealant	48	1629599	LOCTITE® PC 6261™ Heavy Duty Pedestrian Grade	61, 62
552179	LOCTITE® UR 3370™ Adhesive/Sealant	48	1629607	LOCTITE® PC 6317™ Low Profile Pedestrian Grade	61, 62
560557	TEROSON® MS 5510™ Elastic Sealant	30, 31	1633986	LOCTITE® PC 6317™ Low Profile Pedestrian Grade	61, 62
562040	TEROSON® MS 5510™ Elastic Sealant	30, 31	1635175	$\ensuremath{\ensuremath{\mathcal{U}}}$ " Stainless Steel Tips Helical Thread, 23 Gauge, Orange, 1,000 pack	174
562042	TEROSON® MS 5510™ Elastic Sealant	30, 31	1635176	1/4" Stainless Steel Tips Helical Thread, 23 Gauge, Orange, 50 pack	174
562044	TEROSON® MS 5510™ Adhesive/Sealant	30, 31	1635546	LOCTITE® RB10 Rotary Dispensing System	170
565679	TEROSON® MS 5570™ Adhesive	29, 32	1638885	LOCTITE® VA10 Mounting Bracket	170
567505	TEROSON® MS 5570™ Adhesive	32	1661548	LOCTITE® EQ CL15 UV Wand System	26, 156, 165
67506	TEROSON® MS 5510™ Elastic Sealant	30, 31	1661866	$\text{LOCTITE}^{\tiny{\textcircled{\tiny{0}}}}$ 549 $^{\tiny{\textcircled{\tiny{1}}}}$ Instant Seal Plastic Gasket Thread Sealant	71
67663	TEROSON® MS 5510™ Elastic Sealant	30, 31	1667557	LOCTITE® UK 1351 B25™	47, 48
67697	TEROSON® MS 5510™ Elastic Sealant	30, 31	1668032	LOCTITE® UK 1366 B10™	47, 48
	TEROSON® MS 5510™ Elastic Sealant	30, 31	1670898	LOCTITE® RB15 200D Gantry Robot, 3-Axis	169
	LOCTITE® Robot Needle Calibration Kit	170	1675274	LOCTITE® UR 3370™ Adhesive/Sealant	48
	LOCTITE® 200/400 ml Square Mix Nozzle, 10 pack	178	1677288	LOCTITE® AA 3035™ Adhesive	38, 39
	LOCTITE® 200/400 ml Mix Nozzle, 1,000 pack	178	1682223	LOCTITE® RB20 500D Dual Benchtop Robot, 3-Axis	169
	LOCTITE® 200/400 ml Square Mix Nozzle, 10 pack	178	1689437	LOCTITE® AA 330™ Adhesive	34, 35
	LOCTITE® 200/400 ml Square Mix Nozzle, 10 pack	178	1689439	LOCTITE® AA 330™ Adhesive	34, 35
	LOCTITE® 200/400 ml Square Mix Nozzle, 1,000 pack	178	1689700	LOCTITE® AA 330™ Adhesive	34, 35
	LOCTITE® 200/400 ml Mix Nozzle, 10 pack	178	1690727	LOCTITE® AA 330™ Adhesive	34, 35
				LOCTITE® AA 330™ Adhesive	34, 35

PRODUCT &		PAGE Number	PRODUCT 8	
ITEM NO. 1691394	DESCRIPTION  LOCTITE® AA 330™ Adhesive	34, 35	1999560	DESCRIPTION  LOCTITE® LB 8070™ Anti-Seize
1714379	LOCTITE® HD10 300 ml Pneumatic Cartridge Dispenser	11, 24, 32, 45, 72, 78, 80, 104, 166	2011543	EQ HM18 Reactive Urethane Cartridge Dispense
1716378	LOCTITE® PC 6315™ Zero V.O.C.	62	2011343	LOCTITE® AA H3101™ Adhesive
1728412	LOCTITE® Nordbak® 7223™ Wearing Compound Cure Accelerator	56, 57	2018435	LOCTITE® AA H3101™ Adhesive
1730181	LOCTITE® VA15 Diaphragm Valve	11, 167	2020048	LOCTITE® AA H3151™ Structural Adhesive
1736175	LOCTITE® Nordbak® 7224™ Pneu-Wear Cure Accelerator	55, 57	2025105	LOCTITE® AA H3151™ Structural Adhesive
1738359	LOCTITE® SI 5640™ Silicone Potting Compound	101, 103	2032203	TEROSON® PU 8519™ P Primer/Activator
1738365	LOCTITE® SI 5640™ Silicone Potting Compound	101, 103	2040377	TECHNOMELT® AS 4226™ NA
1738366	LOCTITE® SI 5640™ Silicone Potting Compound	101, 103	2040430	LOCTITE® EQ HM22 Hot Melt Dispenser
1762904	TECHNOMELT® PA 7878™ BLACK	110, 112	2046040	SF 7840™ Fragrance-Free Biodegradable Cleane
1762906	TECHNOMELT® PA 7841™	109, 112	2046043	LOCTITE® SF 7840™ Biodegradable Cleaner & D
1762907	TECHNOMELT® AS 7875™	110, 112	2046047	LOCTITE® SF 7840™ Biodegradable Cleaner & D
1762908	TECHNOMELT® PA 7852™	112	2046048	LOCTITE® SF 7840™ Biodegradable Cleaner & D
1762909	TECHNOMELT® PA 7857™ BLACK	110, 112	2046049	LOCTITE® SF 7840™ Biodegradable Cleaner & D
1762910	TECHNOMELT® PA 7808™ BLACK	110, 112	2049852	1-Hole Nozzle
1762931	TECHNOMELT® PA 7833™	112	2049853	Nozzle with Adapter/Check Valve
1762932	TECHNOMELT® PA 7808™	112	2049855	LOCTITE® Nozzle Adapter/Check Valve
1762953	TECHNOMELT® PA 7838™ BLACK	109, 112	2057196	LOCTITE® AA H8600™ Adhesive
1763724	TECHNOMELT® PA 7873™	110, 112	2057561	LOCTITE® AA H8610™ Structural Adhesive
1764108	TECHNOMELT® PA 7848™ BLACK	109, 112	2060831	LOCTITE® AA H4800™ Adhesive
1764113	TECHNOMELT® PA 7846™ BLACK	109, 112	2060835	LOCTITE® AA H8600™ Adhesive
1786073	LOCTITE® LB 8008™	83, 85	2060839	LOCTITE® AA H8700™ Structural Adhesive
1786074	LOCTITE® LB 8017™ Moly Dry Film Lubricant	87, 90	2060847	LOCTITE® AA H8700™ Structural Adhesive
1804373	LOCTITE® Power Grab® Industrial Construction Adhesive	27, 28	2060848	LOCTITE® AA H4500™ Adhesive
1806199	LOCTITE® SF 7113™ Accelerator	10	2061020	LOCTITE® AA H4500™ Adhesive
1807961	LOCTITE® 3092™ Instant Adhesive	8, 9	2061246	LOCTITE® AA H4800™ Adhesive
1835196	LOCTITE® 680™ Retaining Compound	125	2068378	TEROSON® MS 939™ NA
1835201	LOCTITE® 680™ Retaining Compound	125	2068749	LOCTITE® 577™ Thread Sealant
1835205	LOCTITE® 680™ Retaining Compound	125	2069400	TEROSON® MS 939™ NA
1835206	LOCTITE® 680™ Retaining Compound	125	2069980	LOCTITE® AA H8500™ Adhesive
1835212	LOCTITE® 680™ Retaining Compound	125	2069982	LOCTITE® AA H8500™ Adhesive
1835917	LOCTITE® 648™ Retaining Compound	123, 125	2069983	LOCTITE® AA H8510™ Structural Adhesive
1835918	LOCTITE® 648™ Retaining Compound	123, 125	2069988	TEROSON® MS 939™ NA
1835920	LOCTITE® 648™ Retaining Compound	123, 125	2069989	TEROSON® MS 939™ NA
1835922	LOCTITE® 648™ Retaining Compound	123, 125	2069990	TEROSON® MS 939™ NA
1835924	LOCTITE® 638™ Retaining Compound	123, 125	2069991	TEROSON® MS 939™ NA
1835925	LOCTITE® 638™ Retaining Compound	123, 125	2069992	TEROSON® MS 939™ NA
1835936	LOCTITE® 638™ Retaining Compound	123, 125	2069997	TEROSON® MS 939™ NA
1835937	LOCTITE® 638™ Retaining Compound	123, 125	2071767	TECHNOMELT® PA 6782™ Low Pressure Molding
1838885	LOCTITE® VA 25 Dispense Valve – 50 bar	167	2073202	LOCTITE® PC 7350™ Conveyor Belt Repair
1844659	LOCTITE® 648™ Retaining Compound	123, 125	2084201	LOCTITE® PC 7350™ Conveyor Belt Repair
1850211	LOCTITE® EQ VA30 Jet Controller	24, 160	2087072	LOCTITE® 567™ Thread Sealant
1850212	LOCTITE® EQ VA30 Jet Valve	23, 24, 160	2096061	LOCTITE® 518™ Flange Sealant
1852753	LOCTITE® LB 8507™	83, 85	2096062	LOCTITE® 518™ Flange Sealant
1852755	LOCTITE® LB 8012™	85	2096064	LOCTITE® 518™ Flange Sealant
1863184	LOCTITE® PA 7805™ Hot Melt Adhesive	15	2087067	LOCTITE® 567™ Thread Sealant
1863185	TECHNOMELT® PA 7804™ Hot Melt Adhesive	13, 15	2087068	LOCTITE® 567™ Thread Sealant
1865406	LOCTITE® LB 8713™ Super Penetrating Oil	90	2087069	LOCTITE® 567™ Thread Sealant
1871874	200μm Nozzle Plate	23, 160	2087073	LOCTITE® 567™ Thread Sealant
1871880	125 µm Nozzle Plate	23, 160	2102974	LOCTITE® 518™ Flange Sealant
1872279	75µm Nozzle Plate	23, 160	2102986	LOCTITE® 518™ Flange Sealant
1875841	LOCTITE® 4902™ Instant Adhesive	7, 9, 157, 159	2115386	TEROSON® 9360™
1875842	LOCTITE® 4902™ Instant Adhesive	7, 9, 157, 159	2138422	TEROSON® MS 930™
1875847	LOCTITE® 4903™ Instant Adhesive	9, 159	2138423	TEROSON® MS 930™
1878379	LOCTITE® MR 5898™	116	2138424	TEROSON® MS 930™
1878840	LOCTITE® MR 5898™	116	2138425	TEROSON® MS 930™
1898443	TEROSON® MS 9380™ Elastic Adhesive	29, 32	2138427	TEROSON® MS 930™
1899447	TEROSON® MS 9320™ Elastic Adhesive	30, 32	2138428	TEROSON® MS 930™
1906102	LOCTITE® LB 8108™ High Performance Synthetic Grease	87	2138429	TEROSON® MS 930™
1906122	LOCTITE® LB 8529™ Lithium Grease	90	2138430	TEROSON® MS 930™
1906177	LOCTITE® LB 8421™ Gear/Chain Lube	90	2138431	TEROSON® MS 930™
1915601	LOCTITE® 4090™ Structural Instant Adhesive	8, 9		
1925259	TECHNOMELT® PA 7844™ BLACK	110, 112		
1960414	LOCTITE® VA26 Dispense Valve – 50 bar	32, 36, 45, 78, 104, 167		
1999141	LOCTITE® LB 8150™ Anti-Seize	83, 85		
1999556	LOCTITE® LB 8023™ Marine Grade Anti-Seize	84, 85		
1999559	LOCTITE® LB 8008™ Anti-Seize	83, 85		
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1999560	LOCTITE® LB 8070™ Anti-Seize	84, 85
2011543	EQ HM18 Reactive Urethane Cartridge Dispenser	17, 18, 107, 108, 168
2018429	LOCTITE® AA H3101™ Adhesive	38, 39
2018435	LOCTITE® AA H3101™ Adhesive	38, 39
2020048	LOCTITE® AA H3151™ Structural Adhesive	39
2025105	LOCTITE® AA H3151™ Structural Adhesive	39
2032203 2040377	TEROSON® PU 8519™ P Primer/Activator TECHNOMELT® AS 4226™ NA	80 112
2040377	LOCTITE® EQ HM22 Hot Melt Dispenser	17, 18, 107, 108, 168
2046040	SF 7840™ Fragrance-Free Biodegradable Cleaner & Degreaser	131
2046043	LOCTITE® SF 7840™ Biodegradable Cleaner & Degreaser	130, 131
2046047	LOCTITE® SF 7840™ Biodegradable Cleaner & Degreaser	130, 131
2046048	LOCTITE® SF 7840™ Biodegradable Cleaner & Degreaser	130, 131
2046049	LOCTITE® SF 7840™ Biodegradable Cleaner & Degreaser	130, 131
2049852	1-Hole Nozzle	18
2049853	Nozzle with Adapter/Check Valve	18, 108
2049855	LOCTITE® Nozzle Adapter/Check Valve	18, 108
2057196	LOCTITE® AA H8600™ Adhesive	37, 39
2057561	LOCTITE® AA H8610™ Structural Adhesive	39
2060831 2060835	LOCTITE® AA H4800™ Adhesive  LOCTITE® AA H8600™ Adhesive	38, 39 37, 39
2060839	LOCTITE® AA H8700™ Structural Adhesive	39
2060847	LOCTITE® AA H8700™ Structural Adhesive	39
2060848	LOCTITE® AA H4500™ Adhesive	37, 39
2061020	LOCTITE® AA H4500™ Adhesive	37, 39
2061246	LOCTITE® AA H4800™ Adhesive	38, 39
2068378	TEROSON® MS 939™ NA	32
2068749	LOCTITE® 577™ Thread Sealant	145
2069400	TEROSON® MS 939™ NA	32
2069980	LOCTITE® AA H8500™ Adhesive	37, 39
2069982	LOCTITE® AA H8500™ Adhesive	37, 39
2069983	LOCTITE® AA H8510™ Structural Adhesive	39
2069988	TEROSON® MS 939™ NA	32
2069989	TEROSON® MS 939™ NA TEROSON® MS 939™ NA	32 32
2069991	TEROSON® MS 939™ NA	32
2069992	TEROSON® MS 939™ NA	32
2069997	TEROSON® MS 939™ NA	29, 32
2071767	TECHNOMELT® PA 6782™ Low Pressure Molding	112
2073202	LOCTITE® PC 7350™ Conveyor Belt Repair	115, 116
2084201	LOCTITE® PC 7350™ Conveyor Belt Repair	115, 116
2087072	LOCTITE® 567™ Thread Sealant	143, 145
2096061	LOCTITE® 518™ Flange Sealant	69, 70, 71
2096062	LOCTITE® 518™ Flange Sealant	69, 70, 71
2096064	LOCTITE® 518™ Flange Sealant	69, 70, 71
2087067	LOCTITE® 567™ Thread Sealant	143, 145
2087068 2087069	LOCTITE® 567™ Thread Sealant  LOCTITE® 567™ Thread Sealant	143, 145 143, 145
2087009	LOCTITE® 567™ Thread Sealant	143, 145
2102974	LOCTITE® 518™ Flange Sealant	69, 70, 71
2102986	LOCTITE® 518™ Flange Sealant	69, 70, 71
2115386	TEROSON® 9360™	29, 32
2138422	TEROSON® MS 930™	32
2138423	TEROSON® MS 930™	32
2138424	TEROSON® MS 930™	32
2138425	TEROSON® MS 930™	32
2138427	TEROSON® MS 930™	32
2138428	TEROSON® MS 930™	32
2138429	TEROSON® MS 930™ TEROSON® MS 930™	32
2138430 2138431	TEROSON® MS 930™	32 32
2130431	ILITOGOR WG 330	JL.

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ANZ023N01	739925	19266	135284	21426	209718	23811	230491
00101	302892	19267	135285	21434	231089	24205	230718
00112	228171	19268	229932	21440	231097	24221	135354
00144	228173	19269	135286	21441	231099	24231	135355
03333	228191	19368	135287	21442	231101	24241	135356
12224	135239	19605	135294	21443	1835922	24243	209729
12292	135241	19606	135295	21444	1835920	25523	219481
12294	228354	19727	237036	21445	1835918	25524	219487
12695	88068	19728	135297	21447	1835937	25882	231643
17412	135257	19730	135298	21448	1835936	26205	231922
17421	135258	19731	182815	21449	1835925	26221	231926
7430	229501	19733	475362	21456	231119	26231	135374
17528	229524	19734	195722	21457	209719	26241	135375
17529	219289	19736	88189	21458	231121	26243	231928
17635	229559	19737	146461	21463	231125	26325	231944
17944	142886	19739	135299	21464	231127	27105	232532
18013	88129	19740	135300	21472	231133	27121	135380
18014	229650	19743	237038	21525	231153	27131	135381
18030	229654	19744	230059	21744	231230	27141	88441
8074	229664	19822	230084	21746	231232	27143	209743
8390	135265	19824	135303	21747	231234	27240	88442
8396	135266	19862	160800	21748	231236	27270	195542
8397	229731	19886	88195	21920	92339	27285	232550
8398	229732	19887	88196	21921	231339	27731	88448
8490	135267	19889	135305	21925	231346	27741	88449
8495	229752	19890	110330	22041	231424	27743	209744
8575	229766	19907	230117	22205	231483	27858	232707
8576	135269	20172	135310	22221	135333	27863	232710
8580	229769	20176	212184	22231	135334	28027	232839
8607	142452	20177	230153	22241	135335	28028	232840
8636	229783	20178	230154	22309	231525	28029	244567
8637	229784	20170	230155	22355	231562	28298	233100
8680	142059	20251	1690727	22423	231611	28366	195893
8681	146477	20252	1691005	22424	231613	28400	233200
8682	229804	20253	1691394	22440	135336	28465	233263
8683	229805	20268	237041	22477	135337	28466	233265
8686	229806	20269	202152	22671	88261	28628	233375
8687	229807	20352	135316	23034	135338	28654	236382
8688	229808	20419	193949	23440	230199	28802	233546
8690	223088	20420	230276	23691	146471	29005	233724
8691	92335	21088	209714	23692	230363	29021	233731
8692	229810	21347	231020	23694	223103	29031	135392
8693	229811	21348	209715	23695	195574	29041	135393
8694	229812	21349	195802	23696	230367	29043	209745
8695	229813	21362	135321	23697	88299	29287	233956
8861	135276	21363	135322	23698	168331	29289	237095
8862	229848	21425	209717	23792	237061	29290	237095

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29291	237097	29513	196508	31065	235351	35286	135413
29294	233962	29514	234172	31279	237305	35939	392457
29295	233964	29515	234174	31291	237145	35940	392458
29296	237098	29709	234337	31361	237158	36160	411833
29299	237099	29710	234339	32037	312052	36294	423298
29301	237101	29711	234340	32040	312053	36295	423299
29302	233970	30138	234630	32047	312054	36331	135415
29303	233972	30220	234691	32083	312057	36334	424216
29304	237102	30221	234693	32304	312050	36390	135416
29305	237103	30509	270637	32429	303420	36478	434084
29306	237104	30510	234883	32430	88478	36480	434088
29309	219298	30512	234887	32490	232679	36481	434089
29311	237106	30513	234889	32530	135401	36483	434101
29314	237107	30514	234891	32586	198322	36484	434102
29315	237108	30515	198819	32629	135402	36485	434103
29316	237109	30516	1522029	32685	135404	36492	434108
29317	233981	30518	234896	33058	1689700	36493	434109
29318	233983	30525	1540591	33064	1689437	36631	135418
29319	237110	30526	234910	33081	1689439	36766	443946
29321	237112	30527	226595	33201	232741	36767	443948
29322	233984	30529	234914	33241	250318	36768	443949
29323	233986	30530	270638	33275	232743	36780	457453
29324	237113	30533	270639	33290	160794	36781	457456
29325	237114	30535	234922	33403	247075	36782	457457
29326	237115	30536	270640	33470	232749	36783	457458
29327	233988	30537	234923	33510	265477	36786	1906102
29328	233990	30538	234926	34018	274809	36792	444350
29329	237116	30539	234928	34026	275026	36805	444375
29330	237117	30540	234930	34347	294934	36923	450568
29331	237118	30542	198818	34395	299175	37061	459782
29334	237119	30543	1906122	34517	302677	37087	462476
29335	237120	30544	234933	34518	302678	37127	463973
29336	237121	30545	234935	34731	324130	37229	466863
29339	233999	30548	234941	34931	88489	37230	466864
29340	234001	30558	226654	34943	337637	37312	476035
29348	261797	30560	270642	34944	337638	37316	476904
29349	237126	30671	235017	34979	338124	37388	483618
29350	237127	30673	235021	34980	338125	37439	487909
29353	237128	30674	235023	34982	338127	37442	487921
29354	237129	30676	235025	34983	338128	37535	495549
29355	237130	30678	235029	34985	338130	37684	509181
29356	234012	30680	235033	34988	338133	37685	509182
29357	234014	30756	235065	34989	338134	37686	509183
29460	563159	30764	235067	34990	135409	37708	518485
29462	562738	30765	235070	35173	354965	37711	518547
29487	234138	31064	235349	35241	135412	37719	519469

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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
9202	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	40878	828622	46548	234044
39413	232895	39984	252175	40889	829325	46551	135465
39426	232922	39985	233605	40900	831721	46561	234046
39420 39431	232932	39986	265625	40900	233744	48040	135466
39431 39439	232949	39995	233626	40904			234048
					135442	48061	
39444	232959	39996	233628	40969	837532	49504	234072
39463	232996	39997	233630	40974	233754	49550	135467
39468	233006	39998	233632	40994	840057	49561	209591
39473	233017	39999	233634	40995	840071	49650	234156
39478	233027	40086	693986	40997	840073	49661	209747
39510	244688	40087	693987	41004	233757	49850	135469
39515	233102	40088	693988	41045	135444	49861	142607
39523	233118	40089	693989	41061	135445	50965	135473
39528	233128	40104	233641	41104	233768	51001	234192

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51243       234280       58775       234590       80209       235092       83201       1377344         51245       303543       58791       234592       80964       235270       83206       1377777         51246       234282       59214       88567       81246       209795       83216       398479         51252       209754       59231       209761       81251       1906177       83217       398480         51269       234284       59241       88568       81252       1865406       83239       420348         51270       234286       59243       209762       82039       209802       83245       420350         51272       234288       59330       193996       82046       235479       83247       420351         51273       234290       59375       193997       82093       235487       83248       475498         51277       234292       59430       135506       82249       235502       83264       420356         51286       1852753       59475       193998       82251       209804       83267       420357         51299       234302       59630       160809       82253	51221	198792	58031	88565	79040	135544	83183	1377391
51245       303543       58791       234592       80964       235270       83206       1377777         51246       234282       59214       88567       81246       209795       83216       398479         51252       209754       59231       209761       81251       1906177       83217       398480         51269       234284       59241       88568       81252       1865406       83239       420348         51270       234286       59243       209762       82039       209802       83245       420350         51272       234288       59330       193996       82046       235479       83247       420351         51273       234290       59375       193997       82093       235502       83264       420356         51277       234292       59430       135506       82249       235502       83264       420356         51286       1852753       59475       193998       82251       209804       83267       420357         51299       234302       59530       160809       82253       235503       83269       420358         51346       234313       59575       193999       82255	51242	209753	58730	135504	80206	235086	83200	1373425
51246       234282       59214       88567       81246       209795       83216       398479         51252       209754       59231       209761       81251       1906177       83217       398480         51269       234284       59241       88568       81252       1865406       83239       420348         51270       234286       59243       209762       82039       209802       83245       420350         51272       234288       59330       193996       82046       235479       83247       420351         51273       234290       59375       193997       82093       235502       83264       420356         51286       1852753       59430       135506       82249       235502       83264       420356         51286       1852753       59475       193998       82251       209804       83267       420357         51299       234302       59530       160809       82253       235503       83269       420358         51360       234313       59575       193999       82255       209805       83274       416016         51387       234323       59875       135508       83001	51243	234280	58775	234590	80209	235092	83201	1377344
51252       209754       59231       209761       81251       1906177       83217       398480         51269       234284       59241       88568       81252       1865406       83239       420348         51270       234286       59243       209762       82039       209802       83245       420350         51272       234288       59330       193996       82046       235479       83247       420351         51273       234290       59375       193997       82093       235487       83248       475498         51277       234292       59430       135506       82249       235502       83264       420356         51286       1852753       59475       193998       82251       209804       83267       420357         51299       234302       59530       160809       82253       235503       83269       420358         51346       234313       59575       193999       82255       209805       83274       416016         51387       234323       59875       135508       83001       398426       83279       420362         51388       234325       59891       135509       83006	51245	303543	58791	234592	80964	235270	83206	1377777
51269       234284       59241       88568       81252       1865406       83239       420348         51270       234286       59243       209762       82039       209802       83245       420350         51272       234288       59330       193996       82046       235479       83247       420351         51273       234290       59375       193997       82093       235487       83248       475498         51277       234292       59430       135506       82249       235502       83264       420356         51286       1852753       59475       193998       82251       209804       83267       420357         51299       234302       59530       160809       82253       235503       83269       420358         51346       234313       59575       193999       82255       209805       83274       416016         51360       234317       59830       234609       83000       398425       83277       416035         51387       234323       59875       135508       83001       398426       83279       420362         51388       234325       59891       135509       83006       <	51246	234282	59214	88567	81246	209795	83216	398479
51270       234286       59243       209762       82039       209802       83245       420350         51272       234288       59330       193996       82046       235479       83247       420351         51273       234290       59375       193997       82093       235487       83248       475498         51277       234292       59430       135506       82249       235502       83264       420356         51286       1852753       59475       193998       82251       209804       83267       420357         51299       234302       59530       160809       82253       235503       83269       420358         51346       234313       59575       193999       82255       209805       83274       416016         51360       234317       59830       234609       83000       398425       83277       416035         51387       234323       59875       135508       83001       398426       83279       420362         51388       234325       59891       135509       83006       398429       83308       420368	51252	209754	59231	209761	81251	1906177	83217	398480
51272       234288       59330       193996       82046       235479       83247       420351         51273       234290       59375       193997       82093       235487       83248       475498         51277       234292       59430       135506       82249       235502       83264       420356         51286       1852753       59475       193998       82251       209804       83267       420357         51299       234302       59530       160809       82253       235503       83269       420358         51346       234313       59575       193999       82255       209805       83274       416016         51360       234317       59830       234609       83000       398425       83277       416035         51387       234323       59875       135508       83001       398426       83279       420362         51388       234325       59891       135509       83006       398429       83308       420368	51269	234284	59241	88568	81252	1865406	83239	420348
51273       234290       59375       193997       82093       235487       83248       475498         51277       234292       59430       135506       82249       235502       83264       420356         51286       1852753       59475       193998       82251       209804       83267       420357         51299       234302       59530       160809       82253       235503       83269       420358         51346       234313       59575       193999       82255       209805       83274       416016         51360       234317       59830       234609       83000       398425       83277       416035         51387       234323       59875       135508       83001       398426       83279       420362         51388       234325       59891       135509       83006       398429       83308       420368	51270	234286	59243	209762	82039	209802	83245	420350
51277       234292       59430       135506       82249       235502       83264       420356         51286       1852753       59475       193998       82251       209804       83267       420357         51299       234302       59530       160809       82253       235503       83269       420358         51346       234313       59575       193999       82255       209805       83274       416016         51360       234317       59830       234609       83000       398425       83277       416035         51387       234323       59875       135508       83001       398426       83279       420362         51388       234325       59891       135509       83006       398429       83308       420368	51272	234288	59330	193996	82046	235479	83247	420351
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51346     234313     59575     193999     82255     209805     83274     416016       51360     234317     59830     234609     83000     398425     83277     416035       51387     234323     59875     135508     83001     398426     83279     420362       51388     234325     59891     135509     83006     398429     83308     420368	51286	1852753	59475	193998	82251	209804	83267	420357
51360     234317     59830     234609     83000     398425     83277     416035       51387     234323     59875     135508     83001     398426     83279     420362       51388     234325     59891     135509     83006     398429     83308     420368	51299	234302			82253	235503	83269	420358
51387     234323     59875     135508     83001     398426     83279     420362       51388     234325     59891     135509     83006     398429     83308     420368	51346	234313	59575	193999	82255	209805	83274	416016
51388 234325 59891 135509 83006 398429 83308 420368	51360	234317	59830	234609	83000	398425	83277	416035
	51387	234323	59875	135508	83001	398426	83279	420362
51517 209756 60905 234667 83007 398430 83316 420370	51388	234325	59891	135509	83006	398429		420368
	51517	209756	60905	234667	83007	398430	83316	420370

LEGACY ITEM Number	IDH Number						
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
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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
96495	209669	97412	235610	98100	693474	98220	662212
96604	235605	97413	209820	98114	585564	98221	855987
96675	428557	97422	235611	98115	506204	98222	542208
96676	428791	97423	209821	98122	506252	98223	570593
96677	432774	97443	235613	98125	506458	98224	542205
97001	88631	97453	235614	98127	506491	98225	570594
97006	88633	97463	235615	98128	606025	98226	585651

98227         575695         88283A         801466         94,002         605073         96483         774634           98228         175594         85291A         801460         94,404         601,000         98-95         777457           98229         575695         88274         801400         94,404         601,001         98-95         777450           98221         576989         88115         858764         94,005         810001         98-96         774101           98222         576999         88116         860762         94413         61,00001         98-96         777401           98224         68553         88118         960702         94413         61,00001         96000         777761           98224         68553         88131         960702         94413         61,00001         96000         777761           98228         577601         98070         98146         98898         98527         795131           98237         57710         98425         901007         98557         98286           98238         57715         98423         88736         98536         98736           98240         57603         9822         <	LEGACY ITEM Number	IDH Number						
98.229         \$70568         92984         901460         98.04         601.000         98.46         77.1764           98.221         \$70568         98.316         \$28.022         98.05         601001         98.46         77.4762           98.222         \$70589         98.316         \$89.774         98.00         78.2685         94.48         77.4610           98.223         \$70500         98.318         980762         98.413         63.0560         98.498         77.7651           98.224         \$8663         98.318         980762         98.413         63.0560         98.202         78.631           98.225         \$70601         98.326         \$88.888         98145         \$83.056         98.020         78.7851           98.226         \$70601         98.222         \$90777         98.424         601007         98.586         78.7861           98.227         \$70606         98.327         \$58942         98.042         601007         98.567         80.266           98.249         \$70606         98.326         \$77161         98.425         601007         98.577         80.266           98.241         \$70607         98.326         \$58948         98.400 <th< td=""><td>98227</td><td>570595</td><td>98283A</td><td>801476</td><td>98402</td><td>600979</td><td>98493</td><td>774634</td></th<>	98227	570595	98283A	801476	98402	600979	98493	774634
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98213         570598         98315         583854         98408         630080         98407         774012           98223         570599         98316         580762         98418         720655         98408         774010           98234         56063         98318         580762         98414         600666         98501         756316           98234         55061         98320         585888         98415         533008         98520         743155           98238         570802         98321         590776         98424         631033         98520         743155           98238         570803         98322         590777         98425         071007         98559         98521           98238         570804         98322         585942         98400         631391         98559         98531           98240         54209         98328         577151         98439         687388         98599         98531           98241         570806         98328         585942         98440         647174         9856         85403           98242         570807         98338         596788         98440         97277         9857         85402<	98229	570596	98299A	801460	98404	601,000	98495	717764
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98257         570616         98383         209824         98472         720228         98626         830708           98258         585654         98385         600941         98473         720227         98627         830707           98259         570617         98386         600947         98474         720226         98628         830706           98260         542230         98387         600951         98479         774656         98629         830705           98261         570618         98388         600955         98480         774655         98632         826190           98262         585655         98389         600957         98481         774654         98641         841636           98263         570619         98390         600958         98482         774652         98642         841635           98264         570620         98391         600959         98483         774651         98646         841639           98265         570621         98392         600971         98484         774640         98647         841631           98266         569746         98393         600972         98485         774639         98652	98255	570615	98379	756475	98464	720222	98624	830710
98258         585654         98385         600941         98473         720227         98627         830707           98259         570617         98386         600947         98474         720226         98628         830706           98260         542230         98387         600951         98479         774656         98629         830705           98261         570618         98388         600955         98480         774655         98632         826190           98262         585655         98389         600957         98481         774654         98641         841636           98263         570619         98390         600958         98482         774652         98642         841635           98264         570620         98391         600959         98483         774651         98646         841639           98265         570621         98392         600971         98484         774640         98647         841631           98266         569746         98393         600972         98485         774638         98652         853836           98267         570622         98394         600973         98487         774658         98655	98256	542229	98382	209676	98466	720223	98625	830709
98259         570617         98386         600947         98474         720226         98628         830706           98260         542230         98387         600951         98479         774656         98629         830705           98261         570618         98388         600955         98480         774655         98632         826190           98262         585655         98389         600957         98481         774654         98641         841636           98263         570619         98390         600958         98482         774652         98642         841635           98264         570620         98391         600959         98483         774651         98646         841633           98265         570621         98392         600971         98484         774640         98647         841631           98266         569746         98393         600972         98485         774639         98652         853836           98267         570622         98394         600973         98486         774638         98653         842849           98269         570624         98397         600975         98488         774636         98656	98257	570616	98383	209824	98472	720228	98626	830708
98260       542230       98387       600951       98479       774656       98629       830705         98261       570618       98388       600955       98480       774655       98632       826190         98262       585655       98389       600957       98481       774654       98641       841636         98263       570619       98390       600958       98482       774652       98642       841635         98264       570620       98391       600959       98483       774651       98646       841639         98265       570621       98392       600971       98484       774639       98652       853836         98267       570622       98394       600973       98486       774638       98653       84808         98269       570623       98396       600974       98488       774658       98656       862839         98270       585656       98398       567209       98489       774635       98658       862838         98271       570625       98399       600976       98490       774635       98659       862837         98272       553444       98400       600977       98491 <td< td=""><td>98258</td><td>585654</td><td>98385</td><td>600941</td><td>98473</td><td>720227</td><td>98627</td><td>830707</td></td<>	98258	585654	98385	600941	98473	720227	98627	830707
98261       570618       98388       600955       98480       774655       98632       826190         98262       585655       98389       600957       98481       774654       98641       841636         98263       570619       98390       600958       98482       774652       98642       841635         98264       570620       98391       600959       98483       774651       98646       841639         98265       570621       98392       600971       98484       774640       98647       841631         98266       569746       98393       600972       98485       774639       98652       853836         98267       570622       98394       600973       98486       774638       98653       84808         98269       570624       98397       600975       98488       774636       98656       862839         98270       585656       98398       567209       98489       774635       98658       862838         98272       553444       98400       600977       98491       757103       98659       862837	98259	570617	98386	600947	98474	720226	98628	830706
98262       585655       98389       600957       98481       774654       98641       841636         98263       570619       98390       600958       98482       774652       98642       841635         98264       570620       98391       600959       98483       774651       98646       841639         98265       570621       98392       600971       98484       774640       98647       841631         98266       569746       98393       600972       98485       774639       98652       853836         98267       570622       98394       600973       98486       774638       98653       84808         98269       570623       98396       600974       98487       774658       98655       862849         98270       585656       98398       567209       98489       774636       98657       863232         98271       570625       98399       600976       98490       774635       98659       862837         98272       553444       98400       600977       98491       757103       98659       862837	98260	542230	98387	600951	98479	774656	98629	830705
98263       570619       98390       600958       98482       774652       98642       841635         98264       570620       98391       600959       98483       774651       98646       841639         98265       570621       98392       600971       98484       774640       98647       841631         98266       569746       98393       600972       98485       774639       98652       853836         98267       570622       98394       600973       98486       774638       98653       848088         98268       570623       98396       600974       98487       774658       98655       862849         98270       585656       98398       567209       98489       774636       98657       863232         98271       570625       98399       600976       98490       774635       98658       862838         98272       553444       98400       600977       98491       757103       98659       862837	98261	570618	98388	600955	98480	774655	98632	826190
98264       570620       98391       600959       98483       774651       98646       841639         98265       570621       98392       600971       98484       774640       98647       841631         98266       569746       98393       600972       98485       774639       98652       853836         98267       570622       98394       600973       98486       774638       98653       848088         98268       570623       98396       600974       98487       774658       98655       862849         98270       585656       98398       567209       98489       774636       98657       863232         98271       570625       98399       600976       98490       774635       98658       862838         98272       553444       98400       600977       98491       757103       98659       862837	98262	585655	98389	600957	98481	774654	98641	841636
98265       570621       98392       600971       98484       774640       98647       841631         98266       569746       98393       600972       98485       774639       98652       853836         98267       570622       98394       600973       98486       774638       98653       848088         98268       570623       98396       600974       98487       774658       98655       862849         98269       570624       98397       600975       98488       774636       98656       862839         98270       585656       98398       567209       98489       774636       98658       86232         98271       570625       98399       600976       98490       774635       98658       862838         98272       553444       98400       600977       98491       757103       98659       862837	98263	570619	98390	600958	98482	774652	98642	841635
98266       569746       98393       600972       98485       774639       98652       853836         98267       570622       98394       600973       98486       774638       98653       848088         98268       570623       98396       600974       98487       774658       98655       862849         98269       570624       98397       600975       98488       774657       98656       862839         98270       585656       98398       567209       98489       774636       98657       863232         98271       570625       98399       600976       98490       774635       98658       862838         98272       553444       98400       600977       98491       757103       98659       862837	98264	570620	98391	600959	98483	774651	98646	841639
98267       570622       98394       600973       98486       774638       98653       848088         98268       570623       98396       600974       98487       774658       98655       862849         98269       570624       98397       600975       98488       774657       98656       862839         98270       585656       98398       567209       98489       774636       98657       863232         98271       570625       98399       600976       98490       774635       98658       862838         98272       553444       98400       600977       98491       757103       98659       862837	98265	570621	98392	600971	98484	774640	98647	841631
98268       570623       98396       600974       98487       774658       98655       862849         98269       570624       98397       600975       98488       774657       98656       862839         98270       585656       98398       567209       98489       774636       98657       863232         98271       570625       98399       600976       98490       774635       98658       862838         98272       553444       98400       600977       98491       757103       98659       862837	98266	569746	98393	600972	98485	774639	98652	853836
98269       570624       98397       600975       98488       774657       98656       862839         98270       585656       98398       567209       98489       774636       98657       863232         98271       570625       98399       600976       98490       774635       98658       862838         98272       553444       98400       600977       98491       757103       98659       862837	98267	570622	98394	600973	98486	774638	98653	848088
98270       585656       98398       567209       98489       774636       98657       863232         98271       570625       98399       600976       98490       774635       98658       862838         98272       553444       98400       600977       98491       757103       98659       862837	98268	570623	98396	600974	98487	774658	98655	862849
98271     570625     98399     600976     98490     774635     98658     862838       98272     553444     98400     600977     98491     757103     98659     862837	98269	570624	98397	600975	98488	774657	98656	862839
98272 553444 98400 600977 98491 757103 98659 862837	98270	585656	98398	567209	98489	774636	98657	863232
	98271	570625	98399	600976	98490	774635	98658	862838
98273 570626 98401 600978 98492 736396 98660 862834	98272	553444	98400	600977	98491	757103	98659	862837
	98273	570626	98401	600978	98492	736396	98660	862834

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98661	862831	980160	218334	984264	478557	986035	224019
98667	874905	981821	218330	984268	478561	986060	215995
98668	875472	981866	218328	984272	570646	986300	218300
98671	911007	981994	218327	984650	630561	986301	307033
98672	884683	982644	478510	984688	478570	989268	743219
98687	916050	982719	209685	984832	478574	989269	743220
98693	235625	982720	478513	985110	478581	989516	773794
98732	209825	982722	218323	985111	478582	989518	774127
98733	209826	982723	435042	985112	478583	989763	864176
98742	235626	982726	478516	985113	416691	989771	864180
98743	209827	982727	478517	985114	478584	989777	864513
98853	209681	982880	218322	985115	478585	989787	867896
98992	235628	983330	243343	985122	570665	989788	867895
99112	235631	983436	218483	985211	478587	989789	867897
99361	235632	983437	218315	985216	478588	989852	864512
99365	235633	983438	218312	985225	418307	997367	486729
99545	235637	983439	218311	985246	478600	998390	218293
99626	235638	983509	856044	985249	470572	998400	209688
99912	235641	984261	478554	985397	478603		
99913	219292	984262	478555	986000	209687		
99914	235642	984263	478556	986025	478604		

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LOCTITE® LB 8211 <sup>TM</sup> Krytox® RFE Advanced PTFE Dry Lubricant	LOCTITE® Krytox® RFE Advanced PTFE Dry Lubricant	LOCTITE® UK 3184™ Polyurethane Adhesive Hardener	LOCTITE® 3184™ Hysol® Polyurethane Hardener	LOCTITE® AA 366™ Light Cure Adhesive	LOCTITE® 366™ Light Cure Adhesive	LOCTITE® SI 5045™ Flange Sealant	LOCTITE® 5045™ Flange Sealant
LOCTITE® LB 8213 <sup>TM</sup> Krytox® RFE High	LOCTITE® Krytox® RFE PFPE High Performance	LOCTITE® AA 3201™ Light Cure Adhesive	LOCTITE® 3201™ Light Cure Adhesive	LOCTITE® AA 3751™ Light Cure Adhesive	LOCTITE® 3751™ Litetak® Light Cure Adhesive	LOCTITE® SI 5050™ Silicone Adhesive Sealant	LOCTITE® 5050™ Fastgasket® Silicone Adhesive Sealant
Performance Lubricant LOCTITE® LB 8209™	Lubricant  LOCTITE® Krytox® RFE	LOCTITE® AA 3211 <sup>TM</sup> Light Cure Adhesive	LOCTITE® 3211™ Light Cure Adhesive	LOCTITE® 380™ Instant Adhesive	LOCTITE® 380 <sup>TM</sup> Black Max® Instant Adhesive	LOCTITE® SI 5055™ Silicone Adhesive Sealant	LOCTITE® 5055™ Silicon Adhesive Sealant
Krytox® RFE PFPE Lubricant	PFPE Lubricant	LOCTITE® AA 324™ Structural Adhesive	LOCTITE® 324™ Structural Adhesive	LOCTITE® 382™ Instant Adhesive	LOCTITE® 382 <sup>TM</sup> Tak Pak® Instant Adhesive	LOCTITE® SI 5056™ Silicone Adhesive Sealant	LOCTITE® 5056™ Silicor Adhesive Sealant
LOCTITE® EA 0151 <sup>™</sup> Adhesive	LOCTITE® 0151™ Hysol® Epoxy Adhesive	LOCTITE® AA 325™ Structural Adhesive	LOCTITE® 325™ Structural Adhesive	LIGHT Cure Adhesive	LOCTITE® 3921™ Light Cure Adhesive	LOCTITE® SI 5083™ Silicone Adhesive Sealant	LOCTITE® 5083™ Nuva- Sil® Silicone Adhesive
TECHNOMELT® 0430™ Hot Melt Adhesive	LOCTITE® 0430 <sup>TM</sup> Hysol® SprayPac <sup>TM</sup> Polyshot <sup>TM</sup> Hot Melt Adhesive	LOCTITE® AA 326™ Adhesive	LOCTITE® 326™ Structural Adhesive	LOCTITE® AA 3922 <sup>TM</sup> Light Cure Adhesive	LOCTITE® 3922™ Light Cure Adhesive	LOCTITE® SI 5091™	Sealant  LOCTITE® 5091™ Nuva-
TECHNOMELT® 0450™ Hot Melt Adhesive	LOCTITE® 0450™ Hysol® SprayPac™ Polyshot™	LOCTITE® AA 3301™ Light Cure Adhesive	LOCTITE® 3301™ Light Cure Adhesive	LOCTITE® AA 3926™ Light Cure Adhesive  LOCTITE® AA 392™	LOCTITE® 3926™ Light Cure Adhesive  LOCTITE® 392™	Silicone Potting Compound, High Adhesion	Sil® Silicone Potting Compound, High Adhesic
TECHNOMELT® 1942™	Hot Melt Adhesive LOCTITE® 1942™ Hysol®	LOCTITE® AA 330™ Adhesive	LOCTITE® 330™ Depend® Adhesive	Adhesive	Structural Adhesive  LOCTITE® 3933™ Light	LOCTITE® SI 5240™ Light Cure Adhesive	LOCTITE® 5240 <sup>TM</sup> Nuva- Sil® Medical Device Sealant
Hot Melt Adhesive  LOCTITE® EA 1C™	Hot Melt Adhesive  LOCTITE® 1CTM Hysol®	LOCTITE® AA 3311™ Light Cure Adhesive	LOCTITE® 3311™ Light Cure Adhesive	Light Cure Adhesive	Cure Adhesive  LOCTITE® 3936™ Light	LOCTITE® 5452™ Thread Sealant	LOCTITE® 5452™ Fast Cure Thread Sealant
Adhesive TECHNOMELT® 1X™ Hot	Epoxy Adhesive  LOCTITE® 1X™ Hysol® Hot	LOCTITE® AA 331™ Adhesive	LOCTITE® 331™ Structural Adhesive	LOCTITE® AA 3936 <sup>TM</sup> Light Cure Adhesive	Cure Adhesive	TEROSON® MS 5510™ Adhesive/Sealant	LOCTITE® 5510™ Adhesive/Sealant
Melt Adhesive TECHNOMELT® 232™ Hot	Melt Adhesive  LOCTITE® 232™ Hysol®	LOCTITE® AA 3321™ Light Cure Adhesive	LOCTITE® 3321™ Light Cure Adhesive	LOCTITE® AA 3942 <sup>TM</sup> Light Cure Adhesive	LOCTITE® 3942™ Light Cure Adhesive	TEROSON® MS 939™	LOCTITE® 5512™ Adhesive Sealant
Melt Adhesive TECHNOMELT® 236™ Hot	Hot Melt Adhesive  LOCTITE® 236™ Hysol®	LOCTITE® AA 332™ Adhesive	LOCTITE® 332™ Structural Adhesive	LOCTITE® AA 3943™ Light Cure Adhesive	LOCTITE® 3943™ Light Cure Adhesive	TEROSON® MS 5570™ Adhesive	LOCTITE® 5570™ Adhesive
Melt Adhesive LOCTITE® AA 3035™	Hot Melt Adhesive LOCTITE® 3035™	LOCTITE® EA 3336™ Light Cure Adhesive	LOCTITE® 3336™ Light Cure Adhesive	LOCTITE® AA 3944 <sup>TM</sup> Light Cure Adhesive	LOCTITE® 3944™ Light Cure Adhesive	TEROSON® MS 9360™ Adhesive	LOCTITE® 5572™ Adhesive
Adhesive LOCTITE® AA 3060™	Structural Adhesive  LOCTITE® 3060™	LOCTITE® AA 3341™ Light Cure Adhesive	LOCTITE® 3341™ Light Cure Adhesive	LOCTITE® AA 3971 <sup>TM</sup> Light Cure Adhesive	LOCTITE® 3971™ Light Cure Adhesive	LOCTITE® MS 9399™ Adhesive, Part A	LOCTITE® 5590™ Adhesive, Part A
Structural Adhesive LOCTITE® AA 3100™	Structural Adhesive  LOCTITE® 3100™ Light	LOCTITE® AA 334™ Structural Adhesive	LOCTITE® 334 <sup>™</sup> Structural Adhesive	LOCTITE® AA 3972™ Light Cure Adhesive	LOCTITE® 3972™ Light Cure Adhesive	LOCTITE® MS 9399™ Adhesive, Part B	LOCTITE® 5590™ Adhesive, Part B
Light Cure Adhesive LOCTITE® AA 3103™	Cure Adhesive  LOCTITE® 3103™ Light	LOCTITE® EA 3355™ Light Cure Adhesive	LOCTITE® 3355™ Light Cure Adhesive	LOCTITE® AA 3974™ Light Cure Adhesive	LOCTITE® 3974™ Light Cure Adhesive	LOCTITE® 55™ Pipe Sealing Cord	LOCTITE® 55™ Pipe Sealing Cord
Light Cure Adhesive LOCTITE® AA 3104™	Cure Adhesive  LOCTITE® 3104™ Light	LOCTITE® UK 3364™ Adhesive	LOCTITE® 3364™ Urethane Adhesive/Potting	LOCTITE® AA 3979™ Light Cure Adhesive	LOCTITE® 3979™ Light Cure Adhesive	LOCTITE® SI 5605 <sup>TM</sup> /5606 <sup>TM</sup> /5607 <sup>TM</sup> Series –	LOCTITE® 5600™ Series – Part A, 3.5 gallon
Light Cure Adhesive LOCTITE® AA 3105™	Cure Adhesive  LOCTITE® 3105™ Light	LOCTITE® UR 3370™	Compound LOCTITE® 3370™	LOCTITE® EA 3982™ Adhesive	LOCTITE® 3982™ Hysol® Epoxy Adhesive	Part A, 3.5 gallon  LOCTITE® SI	LOCTITE® 5600™ Series
Light Cure Adhesive	Cure Adhesive  LOCTITE® 3106™ Light	Adhesive/Sealant	Polyurethane Adhesive/ Sealant	LOCTITE® EA 3984™ Epoxy Adhesive	LOCTITE® 3984 <sup>™</sup> Hysol® Epoxy Adhesive	5605 <sup>TM</sup> /5606 <sup>TM</sup> /5607 <sup>TM</sup> Series – Part A, 575 lb.	– Part A, 575 lb.
Light Cure Adhesive	Cure Adhesive  LOCTITE® 3107™ Light	LOCTITE® SI 3407™ Cure- in-Place Gasket	LOCTITE® 3407™ Optiloc™ Cure-in-Place Gasket	LOCTITE® EA 3985™ Adhesive	LOCTITE® 3985™ Hysol® Epoxy Adhesive	LOCTITE® SI 5600™ Silicone Sealant - Part A	LOCTITE® 5600™ Silicor Sealant - Part A
Light Cure Adhesive	Cure Adhesive  LOCTITE® 3108™ Light	LOCTITE® AA 3491™ Light Cure Adhesive	LOCTITE® 3491™ Light Cure Adhesive	LOCTITE® 404® Instant Adhesive	LOCTITE® 404® Quick Set™ Instant Adhesive	LOCTITE® SI 5600™ Silicone Sealant - Part B	LOCTITE® 5600™ Silicor Sealant - Part B
Light Cure Adhesive	Cure Adhesive	LOCTITE® AA 3494 <sup>TM</sup> Light Cure Adhesive	LOCTITE® 3494™ Light Cure Adhesive	TECHNOMELT® 4046™ Hot Melt Adhesive	LOCTITE® 4046™ Hysol® Hot Melt Adhesive	LOCTITE® SI 5600™/5604™ Silicone Sealant - Part A	LOCTITE® 5600™/5604™ Silicone Sealant - Part A
Structural Adhesive	Structural Adhesive  LOCTITE® 3140™ Hysol®	LOCTITE® AA 349™ Light Cure Adhesive	LOCTITE® 349™ Impruv® Light Cure Adhesive	LOCTITE® HY 4090™ Structural Instant Adhesive	LOCTITE® 4090™ Instant Adhesive	LOCTITE® SI 5604 <sup>TM</sup> Silicone Sealant - Part B	LOCTITE® 5604™ Silicor Sealant - Part B
Epoxy Resin  LOCTITE® PE 3141™ A	Epoxy Resin  LOCTITE® 3141™ Hysol®	LOCTITE® AA 3525 <sup>TM</sup> Light Cure Adhesive	LOCTITE® 3525™ Light Cure Adhesive	LOCTITE® 4306™ Light Cure Adhesives	LOCTITE® 4306™ Flashcure® Light Cure Adhesives	LOCTITE® SI 5605 <sup>TM</sup> Silicone Adhesive /	LOCTITE® 5605™ Silicor Adhesive / Sealants
Epoxy Adhesive Resin LOCTITE® PE 3142™	Epoxy Resin  LOCTITE® 3142™ Hysol®	LOCTITE® AA 3526 <sup>TM</sup> Light Cure Adhesive	LOCTITE® 3526™ Light Cure Adhesive	LOCTITE® 4310™ Light Cure Adhesive	LOCTITE® 4310™ Flashcure® Light Cure	Sealants  LOCTITE® SI 5606™	LOCTITE® 5606™ Silicor
Epoxy Resin LOCTITE® PE 3145™ A	Epoxy Resin LOCTITE® 3145™ Hysol®	LOCTITE® AA 352™ Light Cure Adhesive	LOCTITE® 352™ Light Cure Adhesive	LOCTITE® 4311™ Light	Adhesive LOCTITE® 4311™	Silicone Adhesive / Sealants	Adhesive / Sealants
Epoxy Adhesive Resin LOCTITE® PE 3162™ B	Epoxy Resin LOCTITE® 3162™ Hysol®	LOCTITE® AA 3554™ Light Cure Adhesive	LOCTITE® 3554™ Indigo™ Visible Light Cure	Cure Adhesive	Flashcure® Light Cure Adhesive	LOCTITE® SI 5607™ Silicone Adhesive / Sealants	LOCTITE® 5607™ Silicon Adhesive / Sealants
Epoxy Hardener LOCTITE® PE 3163™ B	Epoxy Hardener  LOCTITE® 3163™ Hysol®	LOCTITE® AA 3555™	Adhesive LOCTITE® 3555™	LOCTITE® 444™ Instant Adhesive	LOCTITE® 444 <sup>TM</sup> Tak Pak® Instant Adhesive	LOCTITE® SI 5611FTM Silicone Potting Compound	LOCTITE® 5611FTM Silicone Potting Compour
Epoxy Hardener LOCTITE® PE 3164™ B	Epoxy Hardener LOCTITE® 3164™ Hysol®	Light Cure Adhesive	Indigo™ Visible Light Cure Adhesive	LOCTITE® SI 5031™ Silicone Potting Compound	LOCTITE® 5031™ Nuva- Sil® Silicone Potting Compound	LOCTITE® SI 5611S™ Silicone Potting Compound	LOCTITE® 5611™ Silicor Potting Compound
Epoxy Hardener LOCTITE® PE 3165™	Epoxy Hardener  LOCTITE® 3165™ Hysol®	LOCTITE® AA 3556™ Light Cure Adhesive	LOCTITE® 3556™ Indigo™ Visible Light Cure Adhesive	LOCTITE® SI 5033™ Silicone Adhesive Sealant	LOCTITE® 5033 <sup>TM</sup> Nuva- Sil® Silicone Adhesive	LOCTITE® SI 5620™ Silicone Potting Compound	LOCTITE® 5620™ Silicol Potting Compound
Epoxy Hardener LOCTITE® UK 3173™	Epoxy Hardener  LOCTITE® 3173™ Hysol®	TECHNOMELT® PUR™ 3631™ Hot Melt Adhesive	LOCTITE® 3631™ Hysol® Hot Melt Adhesive	LOCTITE® SI 5039™	Sealant  LOCTITE® 5039™ Nuva-	LOCTITE® SI 5623™	LOCTITE® 5623™ Silicon
Polyurethane Resin	Polyurethane Resin  LOCTITE® 3182™ Hysol®	THUL WIGH AUTIESIVE	HOLINIGIL AUTIGOIVE	Silicone Adhesive Sealant	Sil® Silicone Adhesive Sealant	Silicone Potting Compound  LOCTITE® SI 5625™  Silicone Potting Compound	Potting Compound  LOCTITE® 5625™ Silicon  Potting Compound
Polyurethane Hardener	Polyurethane Hardener					Silicone Potting Compound	Potting Compound

LOCTITE® SI 5640™ Silicone Potting Compound  LOCTITE® SI 5699™ Grey, High Performance RTV Silicone Gasket Maker  LOCTITE® SI 5899™ Grey, High Performance RTV Silicone Gasket Maker  LOCTITE® A 5810A™ LOCTITE® SB0A  LOCTITE® A 7802™ Hot Melt Adhesive  TECHNOMELT® PA 7804™ Hot Melt Adhesive  Hot Melt Adhesive  TECHNOMELT® PA 7804™ Hot Melt Adhesive Hot Melt Adhesive  Hot Melt Adhesive  TECHNOMELT® PA 7805™ Hot Melt Adhesive Hot Melt Adhesive  TECHNOMELT® PA 7805™ Hot Melt Adhesive Hot Melt Adhesive  TECHNOMELT® PA 7805™ Hot Melt Adhesive Hot Melt Adhesive  TECHNOMELT® PA 7805™ Hot Melt Adhesive	Contact Adhesive  LOCTITE® CoolMelt™ Hot Melt Adhesive  LB 8423™ Dielectric Grease  LOCTITE® EA E-00CL™ Adhesive  LOCTITE® EA E-00NS™	LOCTITE® Contact Adhesive  LOCTITE® CoolMelt™ Hysol® Hot Melt Adhesive  LOCTITE® Dielectric Grease  LOCTITE® E-OOCL™ Hysol® Epoxy Adhesive	LOCTITE® EA 445™ Fast Cure Epoxy Mixer Cups LOCTITE® EA 9017™ Fast Cure Epoxy	LOCTITE® Fixmaster® Fast Cure Epoxy Mixer Cups LOCTITE® Fixmaster® Fast
High Performance RTV Silicone Gasket Maker  LOCTITE® AA 5810ATM LOCTITE® 5810A  LOCTITE® S1877M Blue, High Performance RTV Silicone Gasket Maker  LOCTITE® S1877M Blue, High Performance RTV Silicone Gasket Maker  LOCTITE® S1877M Blue, High Performance RTV Silicone Gasket Maker  LOCTITE® S18900® Flange Sealant LOCTITE® S9005TM LOCTITE® 5905TM Flange Flange Sealant RTV Sealant RTV Silicone Hot Melt Adhesive  Hot Melt Adhesive Hot Melt Adhesive Hot Melt Adhesive Hot Melt Adhesive  TECHNOMELT® PA 7805TM Hot Melt Adhesive  TECHNOMELT® PA COCTITE® 7809FRTM Adhesive  TECHNOMELT® PA 7811TM Hysol® Hot Melt Adhesive Hot Melt Adhesive  TECHNOMELT® PA 7811TM Hysol® Hot Melt Adhesive	Melt Adhesive  LB 8423 <sup>TM</sup> Dielectric Grease  LOCTITE® EA E-00CL <sup>TM</sup> Adhesive  LOCTITE® EA E-00NS <sup>TM</sup>	Hysol® Hot Melt Adhesive  LOCTITE® Dielectric  Grease  LOCTITE® E-00CL <sup>TM</sup>	Cure Epoxy	
LOCTITE® AA 5810ATM LOCTITE® 5810A Hot Melt Adhesive Hot Melt Adhesive  LOCTITE® SI 587 <sup>TM</sup> Blue, High Performance RTV Silicone Gasket Maker  LOCTITE® SI 587 <sup>TM</sup> Blue, High Performance RTV Silicone Gasket Maker  LOCTITE® SI 5900® Flange Sealant  LOCTITE® S900® Flange Sealant  LOCTITE® S900™ Flange Sealant RTV Silicone  TECHNOMELT® PA 7805 <sup>TM</sup> Hot Melt Adhesive Hot Melt Adhesive  TECHNOMELT® PA 7805 <sup>TM</sup> Hot Melt Adhesive	Grease  LOCTITE® EA E-00CLTM Adhesive  LOCTITE® EA E-00NSTM	Grease LOCTITE® E-00CL™	LOCTITE® DO GOCETM Foot	Cure Poxy Pak™
High Performance RTV Silicone Gasket Maker  LOCTITE® SI 5900® Flange Sealant  LOCTITE® SI 5905™ LOCTITE® SI 5905™ LOCTITE® SI 5905™ LOCTITE® Sealant  LOCTITE® SI 5905™ LOCTITE® Sealant  LOCTITE® SI 5905™ LOCTITE® Sealant  LOCTITE® Si 5905™ LOCTITE® Si 5905™ Flange Flange Sealant RTV Sealant RTV Silicone  Hot Melt Adhesive	Adhesive  LOCTITE® EA E-00NS™		LOCTITE® PC 3965™ Fast Set Steel Epoxy	LOCTITE® Fixmaster® Fast Set Steel Epoxy
LOCTITE® SI 5900® Flange Sealant COTITE® 5900® Flange Sealant Sealant LOCTITE® 5900® Flange Sealant LOCTITE® 5900® Flange Sealant LOCTITE® SI 5905™ LOCTITE® SI 5905™ LOCTITE® SI 5905™ LOCTITE® SI 5905™ Flange Flange Sealant RTV Sealant RTV Silicone Hot Melt Adhesive Hot Melt Adhesive Hot Melt Adhesive			LOCTITE® EA 3473™ Fast Set Steel Putty	LOCTITE® Fixmaster® Fast Set Steel Putty
LOCTITE® SI 5905™ LOCTITE® 5905™ Flange TECHNOMELT® PA 7811™ LOCTITE® 7811™ Flange Sealant RTV Sealant RTV Silicone Hot Melt Adhesive Hot Melt Adhesive		LOCTITE® E-00NS™ Hysol® Epoxy Adhesive	LOCTITE® MR Flex 80™ Liquid	LOCTITE® Fixmaster® Flex 80™ Liquid
	LOCTITE® EA E-05CLTM Adhesive	LOCTITE® E-05CL <sup>TM</sup> Hysol® Epoxy Adhesive	LOCTITE® MR FLEX 80™ Urethane Repair Putty	LOCTITE® Fixmaster® Flex 80™ Putty
TECHNOMELT® PA 7901™ LOCTITE® 7901™ Hy	LOCTITE® EA E-05MR™ sol® Adhesive	LOCTITE® E-05MR <sup>™</sup> Hysol® Epoxy Adhesive	LOCTITE® MR 5023™ Flex Conveyor Belt Repair Kit	LOCTITE® Fixmaster® Flex™ Conveyor Belt
Sealant RTV Silicone Sealant RTV Silicone LOCTITE® SF 7951™ LOCTITE® 7951™ Pr	LOCTITE® EA E-120HP™ mer Adhesive	LOCTITE® E-120HP™ Hysol® Epoxy Adhesive	LOCTITE® PC 9416™	Repair Kit  LOCTITE® Fixmaster®
LOCTITE® SI 5920™  Copper, High Performance  RTV Silicone Gasket Maker  Silicone Gasket Maker  LOCTITE® 9430™  LOCTITE® 9430™  LOCTITE® 9430™  Adhosise	LOCTITE® EA E-20HP <sup>TM</sup> Sol® Adhesive	LOCTITE® E-20HP™ Hysol® Epoxy Adhesive	Floor Fill  LOCTITE® PC 7204™ High Performance Quartz	Floor Fill  LOCTITE® Fixmaster® High Performance Quartz
LOCTITE® SI 5950™ LOCTITE® 5I 5950™ Flange Sealants Fastgasket® Flange Sealants Sealants Foxy Adhesive LOCTITE® EA 9432NA™ LOCTITE® 9432NA™ LOCTITE® 9432NA™ Foxy Adhesive Hysol® Epoxy Adhesive	LOCTITE® EA E-20NS™ Adhesive	LOCTITE® E-20NS™ Hysol® Epoxy Adhesive	LOCTITE® PC 9410™ High	LOCTITE® Fixmaster® Magna-Crete™
LOCTITE® SI 5964™ Cure- LOCTITE® 5964™ LOCTITE® EA 9460™ LOCTITE® 9460™ Hy	LOCTITE® E-214HP™	LOCTITE® E-214HP™ Hysol® Epoxy Adhesive	Strength, Rapid Setting Concrete Repair Material	, and the second
in-Place Gasket  Procure™ Cure-in-Place Gasket  LOCTITE® SI 5970™  LOCTITE® SI 5970™  LOCTITE® SP070™  LOCT	LOCTITE® EA E-30CL <sup>TM</sup> Sol® Adhesive, Glass Bonder	LOCTITE® E-30CL <sup>TM</sup> Hysol® Epoxy Adhesive, Glass Bonder	LOCTITE® PC 9620™ High Strength, Rapid Setting Grout and Concrete Repair	LOCTITE® Fixmaster® Magna-Grout™
LOCTITE® SI 5970™ LOCTITE® 5970™ Alcoxy Flange Sealant  Gasket Maker  LOCTITE® A A A-671™  LOCTITE® SI 598™ Black	LOCTITE® EA E-30UT™ Adhesive	LOCTITE® E-30UT™ Hysol® Epoxy Adhesive	LOCTITE® L PC 7202™ Marine Chocking	LOCTITE® Fixmaster® Marine Chocking
High Performance RTV  Silicone Gasket Maker  LOCTITE® AA A-67501M  Structural Adhesive  Structural Adhesive  Structural Adhesive	LOCTITE® EA E-40EXP™ Adhesive	LOCTITE® E-40EXPTM Hysol® Epoxy Adhesive	LOCTITE® EA 3463™ 10 Minute Repair Epoxy	LOCTITE® Fixmaster® Metal Magic Steel™
LOCTITE® SI 5999TM LOCTITE® 5999TM Flange Flange Sealant Sealant Purpose Spray Adhesive Spray Ad		LOCTITE® E-40FL <sup>TM</sup> Hysol® Epoxy Adhesive	LOCTITE® PC 7393™ Rapid Rubber Repair Urethane	LOCTITE® Fixmaster® Rapid Rubber Repair Urethane
TECHNOMELT® 6009S™ LOCTITE® 6009S™ Hysol® Hot Melt Adhesivee Hot Melt Adhesivee Dressing & Conditioner Conditioner		LOCTITE® E-40HT™ Hysol® Epoxy Adhesive	LOCTITE® EA 3471™	LOCTITE® Fixmaster® Stainless Steel Putty
LOCTITE® EA 608 <sup>TM</sup> LOCTITE® 608 <sup>TM</sup> Hysol® Adhesive Epoxy Adhesive LOCTITE® 6255 <sup>TM</sup> Acrylic Pedestrian Grade Pedestrian Grade		LOCTITE® E-60HPTM Hysol® Epoxy Adhesive	Stainless Steel Putty  LOCTITE® EA 3472™  Steel Filled Control Fearm	LOCTITE® Fixmaster®
LOCTITE® EA 615 <sup>TM</sup> LOCTITE® 615 <sup>TM</sup> Hysol® LOCTITE® PC 6253 <sup>TM</sup> LOCTITE® Big Foot® AGRYLIC PRIMER Primer		LOCTITE® E-60NC™ Hysol® Epoxy Adhesive,	Steel-Filled Castable Epoxy  LOCTITE® EA 3471™  Steel Putty	Steel Liquid  LOCTITE® Fixmaster®  Steel Putty
LOCTITE® SF 7075™ LOCTITE® 7075™ Activator LOCTITE® PG 6233™ LOCTITE® Big Foot® Flexible Low Profile Flexible Low Profile	Corrosive  LOCTITE® EA E-90FL™	Electrically Non-Corrosive	LOCTITE® PC 7257™	LOCTITE® Fixmaster®
LOCTITE® SF 7088™ LOCTITE® 7088™ Primer Exterior Grade Exterior Grade Exterior Grade  LOCTITE® PC 6261™ LOCTITE® Bio Foot®	Adhesive	Hysol® Epoxy Adhesive  LOCTITE® E-910™ Epoxy	Summer Additive	Summer Additive for Magna-Crete™ and Magna-Grout™
LOCTITE® 7109 <sup>TM</sup>    LOCTITE® 7109 <sup>TM</sup> Tak Heavy Duty Pedestrian Duty Pedestrian Grad Accelerator Pak®    Accelerator Grade		Adhesive  LOCTITE® Extend® Rust	LOCTITE® PC 9422™ Super Grout	LOCTITE® Fixmaster® Super Grout
LOCTITE® SF 7113™         LOCTITE® 7113™         LOCTITE® PC 6317™ Low         LOCTITE® Big Foot® I           Accelerator         Accelerator         Profile Pedestrian Grade         Profile Pedestrian Grade	ow Treatment	Treatment  LOCTITE® Extreme	LOCTITE® EA 3478™ Superior Metal	LOCTITE® Fixmaster® Superior Metal
LOCTITE® 712 <sup>TM</sup> LOCTITE® 712 <sup>TM</sup> Tak Pak® LOCTITE® PC 7643 <sup>TM</sup> LOCTITE® Big Foot® I Accelerator Accelerator METAL PRIMER Primer		Pressure Grease  LOCTITE® Fixmaster® Fast	LOCTITE® EA 9480™ Underwater Repair Epoxy	LOCTITE® Fixmaster® Underwater Repair Epoxy
LOCTITE® SF 713™         LOCTITE® 713™         LOCTITE® PC 6311™         LOCTITE® Big Foot®           Accelerator         Accelerator         Vehicular Grade         Vehicular Grade	Set Grout  LOCTITE® MR 2000™	Set Grout  LOCTITE® Fixmaster®	LOCTITE® PC 7641™ Water-Based Epoxy	LOCTITE® Fixmaster® Water-Based Epoxy
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$		2000° Putty  LOCTITE® Fixmaster®	Primer/Sealer  LOCTITE® PC 7222™	Primer/Sealer  LOCTITE® Fixmaster®
LOCTITE® SF 7387™         LOCTITE® 7387™         LOCTITE® MR 5414™         LOCTITE® Black Contact Adhesive           Activator         Depend® Activator         Black Contact Adhesive         Adhesive		Activator for Magna- Crete™ & Magna-Grout™	Nordbak® Wear Resistant Putty	Wear-Resistant Putty
TECHNOMELT® 740™ Hot LOCTITE® 740™ Hysol® LOCTITE® LB C-200™ LOCTITE® C-200® High Temperature Solid Film Lubricant Lubricant		LOCTITE® Fixmaster® Aluminum Liquid	LOCTITE® PC 7257™ Winter Additive	LOCTITE® Fixmaster® Winter Additive for Magna- Crete <sup>TM</sup> and Magna- Grout <sup>TM</sup>
LOCTITE® 7452™         LOCTITE® 7452™ Tak         LOCTITE® 1LB 8008™         LOCTITE® C5-A® Cop           Accelerator         Pak® Accelerator         C5-A® C7         Anti-Seize Lubricant	LOCTITE® PC 7254™ per Aluminum Putty	LOCTITE® Fixmaster® Aluminum Putty	LOCTITE® LB 8014™	LOCTITE® Food Grade
TECHNOMELT® PA 7460™ LOCTITE® 7460™ Hysol® Hot Melt Adhesive SprayPac™ Polyshot™ LOCTITE® PC 7363™ LOCTITE® Ceramic Tile Adhesive Adhesive Adhesive	LOCTITE® EA 7363™ e Anchor Bolt Grout and Anchor Bolt Grout HP	LOCTITE® Fixmaster® Anchor Bolt Grout and Anchor Bolt Grout HP	LOCTITE® LB 8104™ Food Grade Grease	Anti-Seize  LOCTITE® Food Grade  Grease
	-Free LOCTITE® PC 9428™ Concrete Repair Epoxy	LOCTITE® Fixmaster® Concrete Repair Epoxy	LOCTITE® PC 3967™ Stripped Thread Repair Kit	LOCTITE® Form-A-Thread® Stripped Thread Repair Kit
LOCTITE® SF 768™ Clean UOCTITE® 768™ X-NMS Up Solvent Cleanup Solvent LOCTITE® 768™ X-NMS Paint Stripper (Methylene Chloride) Chloride) Chloride	nt LOCTITE® PC 9012™ Crack Filler NS	LOCTITE® Fixmaster® Crack Filler NS	LOCTITE® LB 8040™ Fast Acting Corrosion Release	LOCTITE® Freeze & Release
LOCTITE® 7700 LED Light Source LOCTITE® 7700 LED Light Source I LOCTITE® SF 7693™ Cold Galvanizing Compound Compound Compound	LOCTITE® PC 6231™ Crack Filler SL	LOCTITE® Fixmaster® Crack Filler SL	LOCTITE® LB 8421™ Gear/Chain Lube	LOCTITE® Gear, Chain and Cable Lubricant
LOCTITE® SF 7701™ LOCTITE® 7701™ Primer  Primer  LOCTITE® SF 7701™ LOCTITE® 7701™ Primer  LOCTITE® SF F720™ LOCTITE® Color Guar Tough Rubber Coating  Coating	LOCTITE® PC 9626™ Deep Pour Grout	LOCTITE® Fixmaster® Deep Pour Grout	LOCTITE® LB 8504™ Anti-Seize	LOCTITE® Graphite-50™ Anti-Seize

# **Cross-Index of New Product Name to Legacy Product Name**

NEW	LEGACY PROPUGE NAME	NEW	LEGACY	NEW	LEGACY	NEW	LEGACY
PRODUCT NAME  LOCTITE® AA H3000™	PRODUCT NAME  LOCTITE® H3000™	PRODUCT NAME  LOCTITE® EA M-121HPTM	PRODUCT NAME  LOCTITE® M-121HPTM	PRODUCT NAME  LOCTITE® PC 9313™ High	PRODUCT NAME  LOCTITE® Nordbak® High	PRODUCT NAME  LOCTITE® SI 593™	PRODUCT NAME  LOCTITE® Superflex® RTV
Adhesive LOCTITE® AA H3101™	Structural Adhesive  LOCTITE® H3101™	Epoxy Adhesive  LOCTITE® EA M-21HP™	Hysol® Epoxy Adhesive LOCTITE® M-21HP™	Impact Wearing Compound  LOCTITE® PC 7234™ High	Impact Wearing Compound  LOCTITE® Nordbak® High	Silicone Adhesive Sealant  LOCTITE® SI 594™	Silicone Adhesive Sealan
Adhesive LOCTITE® AA H3151™	Structural Adhesive LOCTITE® H3151™	Epoxy Adhesive LOCTITE® EA M-31CL™	Hysol® Epoxy Adhesive LOCTITE® M-31CL™	Temperature Brushable Ceramic	Temperature Brushable Ceramic	Silicone Adhesive Sealant  LOCTITE® SI 595™	Silicone Adhesive Sealar  LOCTITE® Superflex® RT
Structural Adhesive	Structural Adhesive	Epoxy Adhesive	Hysol® Epoxy Adhesive	LOCTITE® PC 7303™ High Temperature Pneu-Wear	LOCTITE® Nordbak® High Temperature Pneu-Wear	Silicone Adhesive Sealant	Silicone Adhesive Sealar
LOCTITE® AA H3300™ Adhesive	LOCTITE® H3300™ Structural Adhesive	LOCTITE® LB 8023™ Marine Grade Anti-Seize	LOCTITE® Marine Grade Anti-Seize	LOCTITE® PC 7230™ High Temperature Wearing	LOCTITE® Nordbak® High Temperature Wearing	LOCTITE® SI 5015™ Blue Silicone Adhesive	LOCTITE® Superflex® RT Silicone Adhesive Sealar – Blue
OCTITE® AA H4000™ Structural Adhesive	LOCTITE® H4000™ Structural Adhesive	LOCTITE® PC 9660™ Heavy Duty Rustproofing	LOCTITE® Maxi-Coat™	Compound  LOCTITE® PC 9331™ Low	Compound  LOCTITE® Nordbak® Low	LOCTITE® SI 5019™ Blue Silicone Adhesive	LOCTITE® Superflex® RT Silicone Adhesive Sealar
LOCTITE® AA H4100™ Structural Adhesive	LOCTITE® H4100™ Structural Adhesive	LOCTITE® MR 5426™ Maximum Strength Headliner Adhesive	LOCTITE® Maximum Strength Headliner Adhesive	Odor Wearing Compound  LOCTITE® PC 7317™	Odor Wearing Compound  LOCTITE® Nordbak®	LOCTITE® SI Green RTV	- Blue  LOCTITE® Superflex® RT
LOCTITE® AA H4200™ Structural Adhesive	LOCTITE® H4200™ Structural Adhesive	LOCTITE® LB 8017™ Moly	LOCTITE® Moly Dry Film	Nordbak® Pneu-Wear	Pneu-Wear	Silicone Adhesive	Silicone Adhesive Sealar Equipment Green
LOCTITE® AA H4500™ Adhesive	LOCTITE® H4500™ Structural Adhesive	Dry Film Lubricant  LOCTITE® LB 8012™	Lubricant  LOCTITE® Moly Paste	LOCTITE® PC 7388™ Ultra-High Temperature Wearing Compound	LOCTITE® Nordbak® Ultra- High Temperature Wearing Compound	LOCTITE® Thread Seal Tape	LOCTITE® Thread Seal Tape with PTFE
LOCTITE® AA H4800™ Adhesive	LOCTITE® H4800™ Structural Adhesive	LOCTITE® LB 8700™ Anti-Seize	LOCTITE® Moly-50™ Anti-Seize	LOCTITE® PC 7218™ Wearing Compound	LOCTITE® Nordbak® Wearing Compound	LOCTITE® 5113™	LOCTITE® Thread Sealan with PTFE
LOCTITE® AA H5004™ Adhesive	LOCTITE® H5004™ Structural Adhesive	LOCTITE® N-1000™ High Purity Anti-Seize	LOCTITE® N-1000™ High Purity Anti-Seize	LOCTITE® SF 7070™ ODC-Free Cleaner & Degreaser	LOCTITE® ODC-Free Cleaner & Degreaser	LOCTITE® SI 5109™ RD Silicone Adhesive	LOCTITE® Tile Bond Red High Temp RTV Silicone Adhesive Sealant
LOCTITE® AA H8000™ Adhesive	LOCTITE® H8000™ Structural Adhesive	LOCTITE® LB N-5000™ High Purity Anti-Seize	LOCTITE® N-5000™ High Purity Anti-Seize	LOCTITE® LB 8711™ Penetrating Oil	LOCTITE® Penetrating Oil	LOCTITE® UK U-05FL™ Adhesive	LOCTITE® U-05FL™ Hysol® Urethane Adhesiv
LOCTITE® AA H8000™ Adhesive	LOCTITE® H8000™ Structural Adhesive	LOCTITE® LB 8013™ High Purity Anti-Seize	LOCTITE® N-7000™ High Purity Anti-Seize	LOCTITE® 5117™	LOCTITE® Pipe Joint	LOCTITE® UK U-09FL™ Adhesive	LOCTITE® U-09FL™
LOCTITE® AA H8010™ Structural Adhesive	LOCTITE® H8010™ Structural Adhesive	LOCTITE® SF 7840™ Biodegradable Cleaner & Degreaser	LOCTITE® Natural Blue® Biodegradable Cleaner & Degreaser	LOCTITE® SF 7635™ Pro Strength Degreaser	Compound  LOCTITE® Pro Strength  Degreaser	LOCTITE® UK U-09LV <sup>TM</sup> Adhesive	Hysol® Urethane Adhesi  LOCTITE® U-09LV <sup>TM</sup> Hysol® Urethane Adhesi
LOCTITE® AA H8100™ Adhesive	LOCTITE® H8100™ Structural Adhesive	LOCTITE® SF 7840™ Fragrance-Free	LOCTITE® Natural Blue® Biodegradable Cleaner	LOCTITE® SF 7611™ Pro Strength Parts Cleaner	LOCTITE® Pro Strength Parts Cleaner	LOCTITE® UR 7001™	LOCTITE® Gray Urethane Sealant
LOCTITE® AA H8110™ Adhesive	LOCTITE® H8110™ Structural Adhesive	Biodegradable Cleaner & Degreaser	& Degreaser (Fragrance- Free)	LOCTITE® SF 137DA™ Pro	LOCTITE® Pro Strength	LOCTITE® LB 8632™	LOCTITE® ViperLube®
LOCTITE® AA H8500™ Adhesive	LOCTITE® H8500™ Structural Adhesive	LOCTITE® LB 771™	LOCTITE® Nickel Anti- Seize	Strength Varnish Remover  LOCTITE® 101™ Quick	Varnish Remover  LOCTITE® Quick Service	Clear High Performance Synthetic Grease	Clear High Performance Synthetic Grease
LOCTITE® AA H8510™ Structural Adhesive	LOCTITE® H8510™ Structural Adhesive	LOCTITE® LB 8507™	LOCTITE® Nickel Anti- Seize	Service Toolkit TECHNOMELT®	Toolkit LOCTITE® QuickPac™	LOCTITE® LB 8108™ High Performance Synthetic Grease	LOCTITE® ViperLube® Hi Performance Synthetic Grease
LOCTITE® AA H8600™ Adhesive	LOCTITE® H8600™ Structural Adhesive	LOCTITE® SF 7633™ Non- Chlorinated Parts Cleaner	LOCTITE® Non-Chlorinated Parts Cleaner	QuickPac™ Hot Melt Adhesive	Hysol® Hot Melt Adhesive	LOCTITE® LB 8036™ White Hi-Temp Anti-Seize	LOCTITE® ViperLube® Hi Performance Synthetic
LOCTITE® AA H8610™ Structural Adhesive	LOCTITE® H8610™ Structural Adhesive	LOCTITE® PC 7255™ Nordbak® Sprayable	LOCTITE® Nordbak® 7255™ Sprayable	LOCTITE® 249™ Blue Threadlocker Tape	LOCTITE® QuickTape™ 249™ Blue Threadlocker Tape	LOCTITE® LB 8042™	Grease  LOCTITE® White Lithium
LOCTITE® AA H8700™ Structural Adhesive	LOCTITE® H8700™ Structural Adhesive	Ceramic LOCTITE® PC 7228™	Ceramic  LOCTITE® Nordbak®	LOCTITE® 454™ Instant Adhesive	LOCTITE® QuickTite® Instant Adhesive	White Lithium Grease  LOCTITE® LB 8044™	Grease  LOCTITE® White Lithium
LOCTITE® LB 8070™	LOCTITE® Heavy Duty Anti-Seize	Nordbak® Brushable Ceramic	Brushable Ceramic and Thin Mil Brushable Ceramic	LOCTITE® LB 8801™ Silicone Lubricant	LOCTITE® Silicone Lubricant	TEROSON® EP 5089™	Grease Terokal® 5089™
LOCTITE® LB 8009™	LOCTITE® Heavy Duty Anti-Seize	LOCTITE® PC 7227™ Nordbak® Brushable	LOCTITE® Nordbak® Brushable Ceramic	LOCTITE® LB 8060™	LOCTITE® Silver Grade Anti-Seize	TEROSON® MS 9380™	Structural Adhesive TEROSON 9380 <sup>TM</sup>
_OCTITE® SF 7607™ Heavy-Duty Rubberized	LOCTITE® Heavy-Duty Rubberized Undercoating	Ceramic	and Thin Mil Brushable Ceramic	LOCTITE® LB 8150™	LOCTITE® Silver Grade	TEROSON® MS 9320™	TEROSON® 9320™
Jndercoating  LOCTITE® High	LOCTITE® High	LOCTITE® PC 9628™ Castable Wearing	LOCTITE® Nordbak® Castable Wearing	LOCTITE® LB 8151™	Anti-Seize  LOCTITE® Silver Grade	TEROSON® PU 8517H™	SuperFast Terostat® 8517 H Glass Primer
Performance LB N-5000™ High Purity Anti-Seize	Performance N-5000™ High Purity Anti-Seize	Compound LOCTITE® PC 7319™	Compound  LOCTITE® Nordbak®	LOCTITE® LB 8713™	Anti-Seize  LOCTITE® Solvo-Rust®	Glass Primer TEROSON® PU 8519™ P	Terostat® 8519 P Primer
LOCTITE® EQ HM22 Hot Melt Dispenser	LOCTITE® Hysol® 175 Hot Melt Dispenser	Nordbak® Chemical Resistant Coating	Chemical-Resistant Coating	Super Penetrating Oil  LOCTITE® SI 5049™	Super Penetrating Oil  LOCTITE® SpeedSeal™	Primer/Activator TEROSON® PU 8599™ Direct Glazing Sealant	Activator Terostat® 8599 Direct Glazing Adhesive
LOCTITE® SI 5900® Instant Gasket	LOCTITE® Instant Gasket	LOCTITE® PC 7357™ Combo Bead Wearing	LOCTITE® Nordbak® Combo Bead Wearing	Silicone Sealant  LOCTITE® SI 5011™ Clear	Silicone Sealant  LOCTITE® Superflex®	TEROSON® PU 9096™ PL Direct Glazing Sealant	Terostat® 9096 PL Direct Glazing Adhesive
_OCTITE® SI 5075™ nsulating & Sealing Wrap	LOCTITE® Insulating & Sealing Wrap	Compound  LOCTITE® PC 7455™ Fast Cure Pneu-Wear	Compound  LOCTITE® Nordbak® Fast  Cure Pneu-Wear	Silicone Adhesive	Non-Corrosive RTV Clear Silicone Adhesive Sealant	· ·	
OCTITE® UK M-06FL™ Jrethane Adhesive	LOCTITE® M-06FL <sup>TM</sup> Hysol® Urethane Adhesive	LOCTITE® PC 9599™ Fast Cure Wearing Compound	LOCTITE® Nordbak® Fast Cure Wearing Compound	LOCTITE® SI 596™ RD Silicone Adhesive Sealant	LOCTITE® Superflex® Red High Temp RTV Silicone Adhesive Sealant		

# Notes -

# - Notes -

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

# **THE PROBLEM SOLVER**

A Quick Reference Guide to the Most Common Maintenance Problems

PROBLEM	SOLUTION
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



# The Adhesive Sourcebook

2017 VOLUME 20

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

your Henkel Specialist at

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(within Canada)

MEXICO: 01-800-436-5357

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Visit us on the web at na.henkel-adhesives.com/loctite for immediate access to:

- Distributor Information
- Material Safety Data Sheets
- Technical Data Sheets
- Product Application Assistance
- Literature and our e-Catalog

LOCTITE® is the preferred choice for high performance adhesive and sealant solutions for industrial manufacturing and maintenance.

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For your local LOCTITE® Adhesive and Sealant Specialist, the nearest authorized LOCTITE® product distributor, to place an order, to arrange an in-plant seminar, or for technical product assistance, call: 1-800-LOCTITE (562-8483).

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