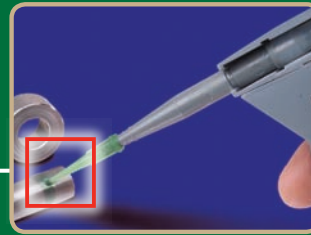


Your Source for **RETAINING**

[Table of Contents]

RETAINING	127
RETAINING COMPOUNDS	129
RETAINING COMPOUNDS EQUIPMENT	133



CHOOSING A RETAINING COMPOUND

Retaining compounds are typically used to join non-threaded cylindrical assemblies made of some sort of metal. Metals can be designated as active or inactive. Active metals (carbon steel, copper or bronze) will typically corrode faster than inactive metals (stainless steel, plated parts or anodized aluminum). When working with inactive metals, it is generally recommended that a primer be used to increase the cure speed of the retaining compound.

Historically, new Loctite® retaining compounds have been formulated as liquids due to their reactivity. This ensures that they remain stable and ready for use. Recent breakthroughs have led to the development of a stable, semisolid stick formulation. This has opened the door to applications where previously the liquids were considered too messy or inconvenient. This new semisolid formulation allows direct contact of the compound to the part. It ensures not only that the product is placed exactly where it is needed, but also that it stays there as the cylindrical assembly is positioned and assembled.

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

STRAIGHT FROM *The Source*

THE FOLLOWING ARE KEY FACTORS TO CONSIDER WHEN CHOOSING A RETAINING COMPOUND

- 1. Gap Size Between Parts** – Typically, low viscosity retaining compounds (125 to 2000 cP) are used for gaps up to 0.010 in. For gaps greater than 0.010 in., retaining compounds with higher viscosities (>2000 cP) should be used.
- 2. Temperature Resistance** – Most Loctite® retaining compounds are made to withstand temperatures up to 300°F (149°C). For those applications that require resistance greater than 300°F (149°C), Henkel offers a line of high temperature-resistant Loctite® retaining compounds that can withstand temperatures up to 450°F (232°C).
- 3. Bond Strength** – In applications that require a permanent bond, a high-strength retaining compound is recommended. If at some point in the future, parts will need to be taken apart for service, it is better to use a low- or medium-strength product.
- 4. Cure Speed** – Many production applications require retaining compounds with fast cure speed in order to maximize production rate. On the other hand, some applications require a slower cure so that adjustments can be made after the parts have been assembled. Our range of Loctite® retaining compounds offers varying rates of cure, enabling you to choose the one that best matches your application.



Your Source RETAINING COMPOUNDS SELECTOR GUIDE

WHAT TYPE OF PARTS ARE BEING ASSEMBLED?

Worn Parts Up to 0.020 in. Gap

Loctite® 660™ Quick Metal™ Retaining Compound

Item # 66010 6 ml tube
66040 50 ml tube

Loose-Fitting Parts Between 0.010 in. to 0.015 in. Gap

TEMPERATURES ABOVE 300°F (149°C)

Loctite® 620™ Retaining Compound

Item # 62005 0.5 ml capsule
62015 10 ml bottle
62040 50 ml bottle
62070 250 ml bottle
62085 1 liter bottle

300°F (149°C) MAXIMUM TEMPERATURE

Loctite® 232™ Retaining Compound

Item # 18607 1 liter bottle
27863 250 ml bottle

LOW STRENGTH

Loctite® 641™ Retaining Compound

Item # 28802 10 ml bottle
21458 50 ml bottle

MEDIUM STRENGTH

Loctite® 638™ Retaining Compound

Item # 21447 10 ml bottle
21448 50 ml bottle
21449 250 ml bottle

HIGH STRENGTH 5-MINUTE FIXTURE

Loctite® 680™ Retaining Compound

Item # 68005 0.5 ml capsule
68015 10 ml bottle
68035 50 ml bottle
68060 250 ml bottle
68090 1 liter bottle

HIGH STRENGTH 10-MINUTE FIXTURE

Loctite® 635™ Retaining Compound

Item # 63531 50 ml bottle
63541 250 ml bottle

HIGH STRENGTH 1-HOUR FIXTURE

Close-Fitting Parts Up to 0.010 in. Gap

400°F (204°C) MAXIMUM TEMPERATURE

Loctite® QuickStix™ 668™ Retaining Compound

Item # 39148 19 g stick

450°F (232°C) MAXIMUM TEMPERATURE

Loctite® 640™ Retaining Compound

Item # 64031 50 ml bottle
64041 250 ml bottle

300°F (149°C) MAXIMUM TEMPERATURE

Oil Contamination

YES

Loctite® 603™ Retaining Compound

Item # 21440 10 ml bottle
21441 50 ml bottle
21442 250 ml bottle

NO

Loctite® 609™ Retaining Compound

Item # 60905 0.5 ml capsule
60921 10 ml bottle
60931 50 ml bottle
60941 250 ml bottle
60943 1 liter bottle

MEDIUM STRENGTH

Loctite® 648™ Retaining Compound

Item # 21443 10 ml bottle
21444 50 ml bottle
21445 250 ml bottle

HIGH STRENGTH 5-MINUTE FIXTURE

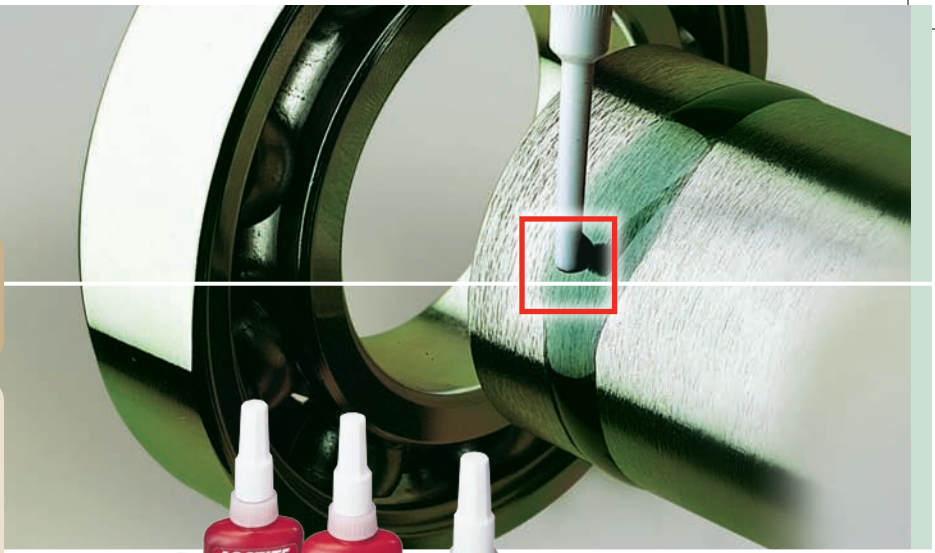
Loctite® 675™ Retaining Compound

Item # 67541 250 ml bottle

HIGH STRENGTH 20-MINUTE FIXTURE

Your Source for **RETAINING**
RETAINING COMPOUNDS

- Increases the shear strength of cylindrical, non-threaded assemblies
- An industry standard for assembling press- and slip-fitted parts
- Fills the “inner space” between components and cures 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



[Close-Fitting Parts]

Loctite® 232™
Retaining Compound

HEAVY PRESS FIT/MEDIUM STRENGTH

A medium viscosity, medium strength retaining compound with slow cure and lubricity for heavy press fits and highly torqued threaded assemblies.

Item # 18607 1 liter bottle
27863 250 ml bottle

Loctite® 603™
Retaining Compound

PRESS FIT/OIL TOLERANT

A retaining compound tolerant of oil and other contamination. Seals and secures cylindrical assemblies up to 0.005 in. diametral clearance. Fixtures in 10 minutes. Prevents fretting and corrosion of metal assemblies.

Item # 21440 10 ml bottle
21441 50 ml bottle
21442 250 ml bottle

Source's PICK

Loctite® 609™
Retaining Compound

PRESS FIT/GENERAL PURPOSE

A low viscosity retaining compound that bonds rigid metal assemblies. Ideal for gap distances up to 0.005 in. diametral. Fixtures in 10 minutes and provides a shear strength of 3,000 psi after 24 hours. Easily joins dissimilar metals. Withstands temperatures to 300°F (149°C).

Item # 60905 0.5 ml capsule
60921 10 ml bottle
60931 50 ml bottle
60941 250 ml bottle
60943 1 liter bottle

Loctite® 648™
Retaining Compound

**PRESS FIT/HIGH STRENGTH/
RAPID CURE**

A retaining compound recommended for continuous working temperatures up to 300°F (149°C). Fills gaps up to 0.006 in. diametral clearance. Fixtures in 5 minutes.

Item # 21443 10 ml bottle
21444 50 ml bottle
21445 250 ml bottle

[General-Purpose]

Loctite® QuickStix™ 668™
Retaining Compound

A high temperature retaining compound in a revolutionary semisolid formula. Patented, no-mess package offers added convenience and portability. Ideal for gaps up to 0.005 in. in diameter. Withstands temperatures to 400°F (204°C).

Item # 39148 19 g stick

[Medium Strength]

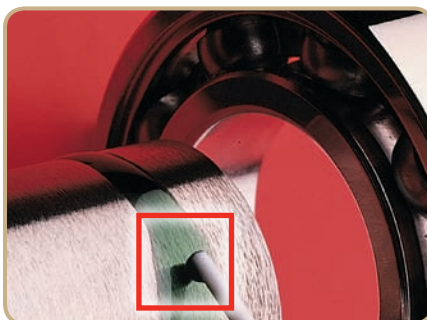
Loctite® 641™
Retaining Compound

**PRESS & SLIP FIT/
CONTROLLED STRENGTH**

A controlled strength retaining compound that is ideal for cylindrical parts that require disassembly. Recommended for maximum diametral clearance of 0.008 in. Fixtures in 20 minutes.

Item # 28802 10 ml bottle
21458 50 ml bottle

Sources REVEALED



[Industries]

- Pulp and Paper
- Power Generation

- Steel Mills
- Automotive

[High Temperature]

Source's PICK

Loctite® 620™ Retaining Compound

SLIP FIT/HIGH TEMPERATURE

A high temperature (450°F/232°C), high viscosity liquid retaining compound. Provides a shear strength of over 3,800 psi on steel. Locks and secures metal cylindrical assemblies up to 0.015 in. diametral clearance. Prevents metal fretting and corrosion. Seals against leakage.

Item #	62005	0.5 ml capsule
	62015	10 ml bottle
	62040	50 ml bottle
	62070	250 ml bottle
	62085	1 liter bottle

[Loose-Fitting Parts]

Loctite® 635™ Retaining Compound

SLIP FIT/HIGH STRENGTH/SLOW CURE

A high viscosity, high strength retaining compound with slow cure speed to permit readjustment of parts during assembly.

Item #	63531	50 ml bottle
	63541	250 ml bottle

Source's PICK

Loctite® 638™ Retaining Compound

SLIP FIT/MAXIMUM STRENGTH

A maximum strength retaining compound for use where high dynamic force or cyclic loading is expected. Locks cylindrical assemblies up to 0.010 in. diametral clearance. Fixtures in 5 minutes.

Item #	21447	10 ml bottle
	21448	50 ml bottle
	21449	250 ml bottle

Loctite® 680™ Retaining Compound

SLIP FIT/HIGH STRENGTH

A high strength, high viscosity room temperature curing adhesive used to join fitted cylindrical parts. It fixtures in 10 minutes and provides a shear strength of 4,000 psi after 24 hours. Capable of filling diametral gaps up to 0.015 in. (0.27 mm). Loctite® 680™ allows relaxed machining tolerances, and replaces clamp rings, set screws, and snap rings.

Item #	68005	0.5 ml capsule
	68015	10 ml bottle
	68035	50 ml bottle
	68060	250 ml bottle
	68090	1 liter bottle

[Machinery Repair]

Loctite® 660™ Quick Metal® Retaining Compound

PRESS FIT REPAIR

A creamy, non-running gel that is applied onto cylindrical parts to fill surface imperfections and repair worn areas. It contains no metal, but once assembled hardens to a strength that often doubles that of a press fit. Use Loctite® 660™ to salvage worn metallic parts, or to keep machinery running until new parts arrive. Use to 300°F (149°C).

Item #	66010	6 ml tube
	66040	50 ml tube

Your Source for **RETAINING**
RETAINING COMPOUNDS



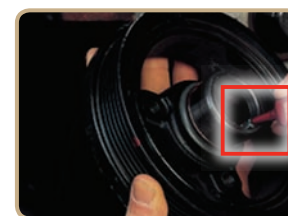
[Loctite® Retaining Compounds Properties Chart]

LOCTITE® PRODUCT	ITEM NUMBER	PACKAGE TYPE & SIZE	TYPICAL USE	COLOR	MAXIMUM GAP FILL (DIAMETER-INCHES)	VISCOSITY (cP)	SHEAR STRENGTH STEEL/STEEL* (psi)	TEMPERATURE RANGE	CURE SPEED*	RECOMMENDED PRIMER CURE SPEED*	SPECIFIC GRAVITY	AGENCY APPROVALS	
CLOSE-FITTING PARTS	632™	18607 27863	1 liter bottle 250 ml bottle	Medium strength for heavy press fits	Brown	0.015 in.	5,000	1,350 psi* (2 hr heat cure)	-65°F (-54°C) to 300°F (149°C)	Fixture -> 1 hr. Full - 24 hrs.	7088™, N™ or T™	1.02	N/A
	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 (-54°C) to 300°F (149°C)	Fixture - 10 min. Full - 24 hrs.	7088™, N™ or T™	1.10	N/A
	609™	60905 60921 60931 60941 60943	0.5 ml capsule 10 ml bottle 50 ml bottle 250 ml bottle 1 liter bottle	1st generation to augment press fits	Green	0.005 in.	125	2,300 (minimum)	-65°F (-54°C) to 300°F (149°C)	Fixture - 10 min. Full - 24 hrs.	7088™, N™ or T™	1.10	MIL-R-46082B for existing designs, ASTM D-5363**, CFIA
	648™	21443 21444 21445	10 ml bottle 50 ml bottle 250 ml bottle	Fast fixturing for close-fitting parts, high strength for stainless steel	Green	0.006 in.	500	3,900	-65°F (-54°C) to 300°F (149°C)	Fixture - 5 min. Full - 24 hrs.	7088™, N™ or T™	1.13	N/A
	675™	67541	250 ml bottle	First generation for close-fitting parts	Green	0.005 in.	125	3,000	-65°F (-54°C) to 300°F (149°C)	Fixture - 20 min. Full - 24 hrs.	7088™, N™ or T™	1.09	MIL-R-46082B for existing designs, ASTM D-5363**
GENERAL-PURPOSE	QUICKSTIX™ 668™	39148	19 g stick	General-purpose, high temperature	Green Stick	0.005 in.	Semisolid	3,800	-65°F (-54°C) to 400°F (204°C)	Fixture - 30 min. Full - 24 hrs.	7088™, N™ or T™	1.1228	N/A
HIGH TEMPERATURE	620™	62005 62015 62040 62070 62085	0.5 ml capsule 10 ml bottle 50 ml bottle 250 ml bottle 1 liter bottle	For high temperature applications	Green	0.015 in.	8,500	3,800	-65°F (-54°C) to 450°F (232°C)	Fixture - 30 min. Full - 24 hrs.	7088™, N™ or T™	1.16	CFIA, ABS
	640™	64031 64041	50 ml bottle 250 ml bottle	For high temperature applications	Green	0.007 in.	600	3,000	-65°F (-54°C) to 450°F (232°C)	Fixture - 1 hr. Full - 24 hrs.	7088™, N™ or T™	1.12	MIL-R-46082B for existing designs, ASTM D-5363**

ITEMS IN RED = Source's PICK

* Varies with substrates.
** For new designs.

🌐 = Indicates Worldwide Availability



[Loctite® Retaining Compounds Properties Chart]

LOCTITE® PRODUCT	ITEM NUMBER	PACKAGE TYPE & SIZE	TYPICAL USE	COLOR	MAXIMUM GAP FILL (DIAMETER)	VISCOSITY (cP)	SHEAR STRENGTH STEEL/STEEL* (psi)	TEMPERATURE RANGE	CURE SPEED*	RECOMMENDED PRIMER CURE SPEED*	SPECIFIC GRAVITY	AGENCY APPROVALS	
635™	63531 63541	50 ml bottle 250 ml bottle	First generation high strength for slip fits	Green	0.010 in.	2,000	4,500	-65°F (-54°C) to 300°F (149°C)	Fixture – 1 hr. Full – 24 hrs.	7088™, N™ or T™	1.05	MIL-R-46082B for existing designs, ASTM D5363**	
	638™	21447 21448 21449	10 ml bottle 50 ml bottle 250 ml bottle	High strength for loose-fitting parts	Green	0.015 in.	2,500	4,500	-65°F (-54°C) to 300°F (149°C)	Fixture – 5 min. Full – 24 hrs.	7088™, N™ or T™	1.09	CFIA
	680™	68005 68015 68035 68060 68090	0.5 ml capsule 10 ml bottle 50 ml bottle 250 ml bottle 1 liter bottle	High strength for slip-fitted parts	Green	0.015 in.	1,250	2,800	-65°F (-54°C) to 300°F (149°C)	Fixture – 10 min. Full – 24 hrs.	7088™, N™ or T™	1.11	NSF/ANSI 61, ABS
641™	641™	28802 21458	10 ml bottle 50 ml bottle	Medium strength for easier disassembly	Yellow	0.008 in.	525/1,950 Thixotropic	1,700	-65°F (-54°C) to 300°F (149°C)	Fixture – 20 min. Full – 24 hrs.	7088™, N™ or T™	1.07	CFIA
	660™ QUICK METAL®	66010 66040	6 ml tube 50 ml tube	For repair of worn machinery parts	Silver	0.020 in.	250,000/ 1,500,000 Thixotropic	3,335	-65°F (-54°C) to 300°F (149°C)	Fixture – 20 min. Full – 24 hrs.	7088™, N™ or T™	1.13	CFIA

ITEMS IN RED = Source's PICK

* Varies with substrates.
** For new designs.

= Indicates Worldwide Availability

RETAINING HINTS





- Clean parts with Loctite® ODC-Free Cleaner & Degreaser before applying the adhesive.
- If the threadlocker will be applied below 40°F (4°C), pre-treat with Loctite® 7649™ Primer N™.
- If the parts were in contact with aqueous washing solutions or cutting fluids that leave a protective layer on the surface, wash with hot water before use.






HELPFUL HINTS

Your Source for **RETAINING**
RETAINING COMPOUNDS
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	USED TO DISPENSE	PACKAGE TYPES & SIZES	VISCOSITY RANGE	PACKAGE TYPES & SIZES	CONSUMABLES – DISPENSE ACCESSORIES
BOTTLE DISPENSING							
	SOFT SQUEEZE BOTTLES	98345	All Fluids	2 fl. oz. packages	Low to Medium	Manual	N/A
		98346	All Fluids	4 fl. oz. packages			
		98347	All Fluids	8 fl. oz. packages			
	50 ML AND 250 ML HAND PUMPS	98414 97001	Retaining Compounds, Threadlockers	50 ml bottle 250 ml bottle	Low to Medium	Manual	Dispense Tips & Accessories – Pages 184-188
	1 LITER COLLAPSIBLE BOTTLE HOLDER	98311	Adhesives, Retaining Compounds, Threadlockers	1 liter collapsible bottle	Low to Medium	Manual	N/A
TUBE DISPENSING							
	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 RESERVOIR CONTROLLERS									
	INTEGRATED SEMI-AUTOMATIC DISPENSER	1390322	0 to 15 psi	Gel Adhesives, Instant Adhesives, Light Cure/Acrylics, Retaining Compounds, Threadlockers	250 ml bottle 1 lb. bottle 1 liter bottle 2 kg bottle 200 g squeeze tube	Low to Medium	Yes	Dispense Tips & Accessories – Pages 184-188	
		1390321	0 to 100 psi				Medium to High		Yes
RESERVOIRS									
	BOND-A-MATIC® 3000 RESERVOIR	982720	0 to 15 psi	Gel Adhesives, Instant Adhesives, Light Cure/Acrylics, Retaining Compounds, Threadlockers	250 ml bottle 1 lb. bottle 1 liter bottle 2 kg bottle 200 g squeeze tube	Low to Medium	Yes	Dispense Tips & Accessories – Pages 184-188	
		982726					No		
		982723	0 to 100 psi				Medium to High		Yes
		982727					No		
	SHOT MISER™ RESERVOIR	98090	0 to 100 psi	Instant Adhesives, Light Cure/Acrylics, Retaining Compounds, Threadlockers	250 ml bottle 1 lb. bottle 200 g squeeze tube	Low to High	No		
	2.25 GALLON PRESSURE RESERVOIR	98359	0 to 60 psi	Gel Adhesives, Instant Adhesives, Light Cure/Acrylics, Retaining Compounds, Threadlockers	250 ml bottle 1 lb. bottle 1 liter bottle 2 kg bottle 200 g squeeze tube	Low to Medium	No		
	4 LITER GRAVITY FEED RESERVOIR	982880	N/A	Retaining Compounds, Threadlockers	Direct Fill	Low to Medium	Yes		








LOCTITE® BRANDED EQUIPMENT – Loctite® is a full service supplier of equipment and offers a wide variety of equipment services to its customers. **For more Loctite® branded equipment, go to page 173.**

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

STRAIGHT FROM The Source

LOCTITE® PRODUCT		ITEM NUMBER	DISPENSE PATTERNS	USED TO DISPENSE	PACKAGE TYPES & SIZES	VISCOSITY RANGE	VACUUM SUCK-BACK	CONSUMABLES – DISPENSE ACCESSORIES	
DISPENSE SYSTEMS	VOLUMETRIC BOTTLE DISPENSING								
		BENCHTOP PERISTALTIC DISPENSER	98548	Dot, Drop, Bead	Instant Adhesives, Light Cure/Acrylics, Retaining Compounds, Threadlockers	Any	0 to 5,000 cP	N/A	Dispense Tips and Accessories – Pg 186-187
	COMPLETE PRESSURE-TIME BOTTLE DISPENSE SYSTEM								
		BOND-A-MATIC® 3000 DISPENSER 0-15 psi	982719	Dot, Drop, Bead	Gel Adhesives, Instant Adhesives, Light Cure/Acrylics, Retaining Compounds, Threadlockers	200 ml bottle 1 lb. bottle	Low	N/A	Dispense Tips and Accessories – Pg 186-187
		BOND-A-MATIC® 3000 DISPENSER 0-100 psi	982722			1 liter bottle 2 kg bottle 200 g squeeze tube			
	SHOT MISER™ VALVE CONTROLLER	98079	Dot, Drop, Bead	Instant Adhesives, Light Cure/Acrylics, Retaining Compounds, Threadlockers	250 ml bottle 1 lb. bottle	Low to Medium	N/A		
	SHOT MISER™ DISPENSE VALVE	98085							
	SHOT MISER™ RESERVOIR	98090							

LOCTITE® PRODUCT		ITEM NUMBER	TYPE	VISCOSITY RANGE	DISPENSE PATTERNS	USED TO DISPENSE	STROKE ADJUSTMENT	ACTUATION	CONSUMABLES – DISPENSE ACCESSORIES	
HANDHELD VALVES	GENERAL-PURPOSE APPLICATORS									
		LV HAND-HELD APPLICATOR	97130	Pneumatic	Low	Drop, Dot, Bead	Instant Adhesives, Retaining Compounds, Threadlockers	Yes	Foot	Dispense Tips & Accessories – Pages 184-188
	GENERAL-PURPOSE APPLICATORS									
		MANUAL HAND-HELD APPLICATOR	97111	Manual	Low to Medium	Drop, Dot, Bead	Light Cure/Acrylics, Retaining Compounds, Threadlockers	Yes	Finger	Dispense Tips & Accessories – Pages 184-188
		PNEUMATIC HAND-HELD APPLICATOR	97112	Pneumatic	Low to Medium	Drop, Dot, Bead	Light Cure/Acrylics, Retaining Compounds, Threadlockers	Yes	Foot	
	PNEUMATIC HAND-HELD APPLICATOR	97116	Pneumatic	Low to Medium	Drop, Dot, Bead	Light Cure/Acrylics, Retaining Compounds, Threadlockers	Yes	Finger		
GENERAL-PURPOSE APPLICATORS										
	VARI-DROP™ APPLICATORS	97131 97132	Pinch Tube	Low to Medium	Drop, Dot, Bead	Instant Adhesives, Retaining Compounds, Threadlockers	Yes	Finger	Dispense Tips & Accessories – Pages 184-188	

LOCTITE® PRODUCT		ITEM NUMBER	TYPE	VISCOSITY RANGE	DISPENSE PATTERNS	USED TO DISPENSE	STROKE ADJUSTMENT	SUCK-BACK	CONSUMABLES – DISPENSE ACCESSORIES	
VALVES & PUMPS	HIGH PRECISION VALVES									
		STATIONARY APPLICATOR VALVE	97113 97114	High Precision	Low to Medium	Drop, Dot, Bead	Gel Instant Adhesives, Instant Adhesives, Retaining Compounds, Threadlockers	Yes	Yes	Dispense Tips & Accessories – Pages 184-188
	HIGH PERFORMANCE DIAPHRAGM VALVES									
		LIGHT CURE DISPENSE VALVE	98009	High Performance Diaphragm	Low to Medium	Drop, Dot, Bead	Instant Adhesives, Retaining Compounds, Threadlockers	Yes	No	Dispense Tips & Accessories – Pages 184-188
		CYANOACRYLATE DISPENSE VALVE	98013	High Performance Diaphragm	Low to Medium	Drop, Dot, Bead, Microdot	Instant Adhesives, Retaining Compounds, Threadlockers	Yes	No	
	GENERAL DUTY DIAPHRAGM VALVES									
		DIAPHRAGM VALVE	97135 97136	General Duty Diaphragm	0 to 2,500 cP 2,500 to 5,000 cP	Drop, Dot, Bead	Light Cure/Acrylics, Instant Adhesives, Retaining Compounds, Threadlockers	No	No	Dispense Tips & Accessories – Pages 184-188
	HIGH VISCOSITY FLUID & PASTE VALVES									
		POPPET VALVE	986300	High Viscosity Fluid and Paste	Medium to High	Drop, Bead	Anaerobic Gasketing, Retaining Compounds, Threadlockers	Yes	Yes	Dispense Tips & Accessories – Pages 184-188
	PINCH TUBE VALVE									
	SHOT MISER™ DISPENSE VALVE	98085	Pinch Tube Valve	Low to Medium	Drop, Dot, Bead	Instant Adhesives, Retaining Compounds, Threadlockers	No	No	Dispense Tips & Accessories – Pages 184-188	
POSITIVE DISPLACEMENT PUMP										
	POSITIVE DISPLACEMENT PUMP	983330	Positive Displacement Valve	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 & Accessories – Pages 184-188	