

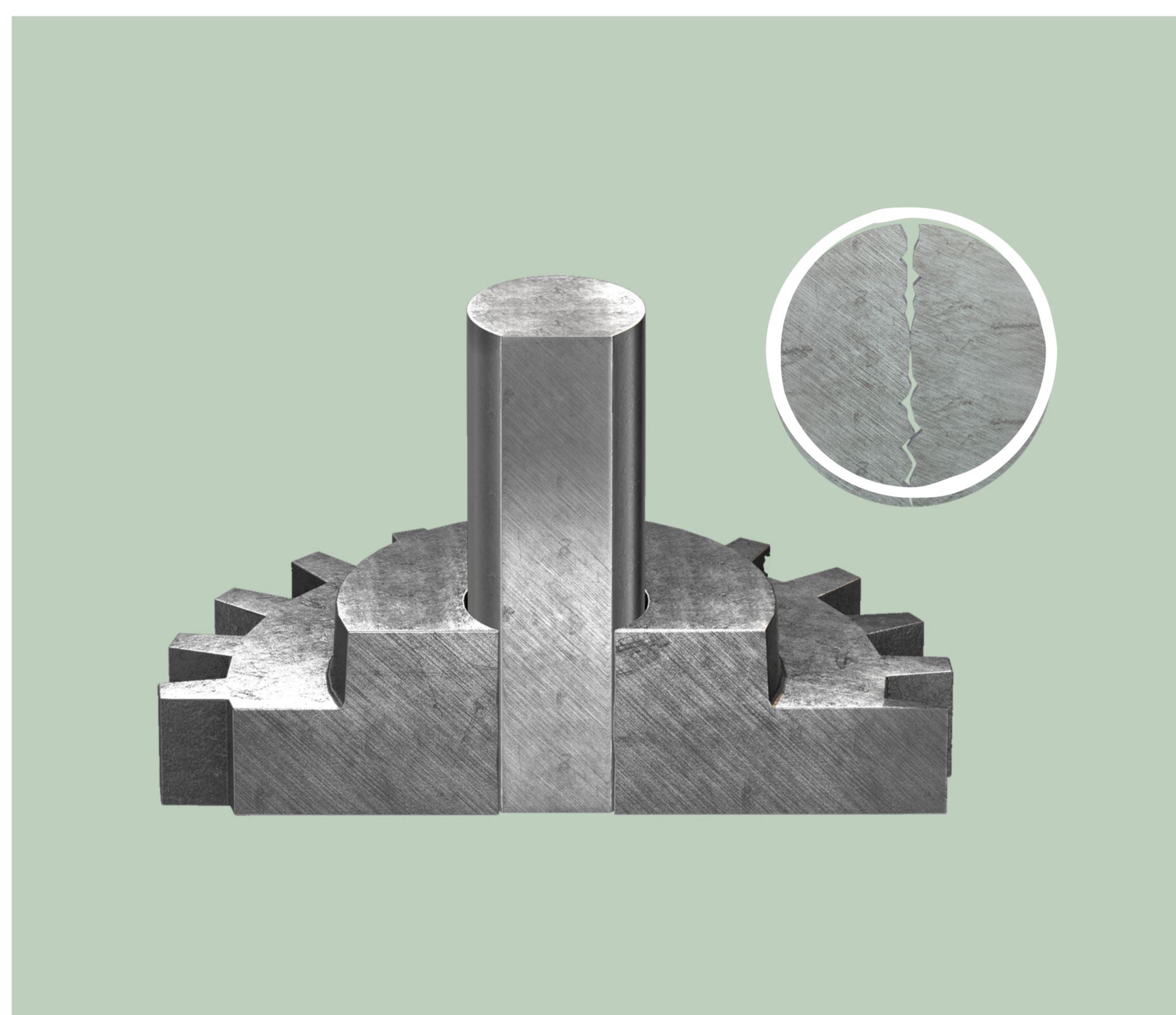


Henkel Adhesive Technologies

RETAINING COMPOUNDS **PRODUCT** **GUIDE**

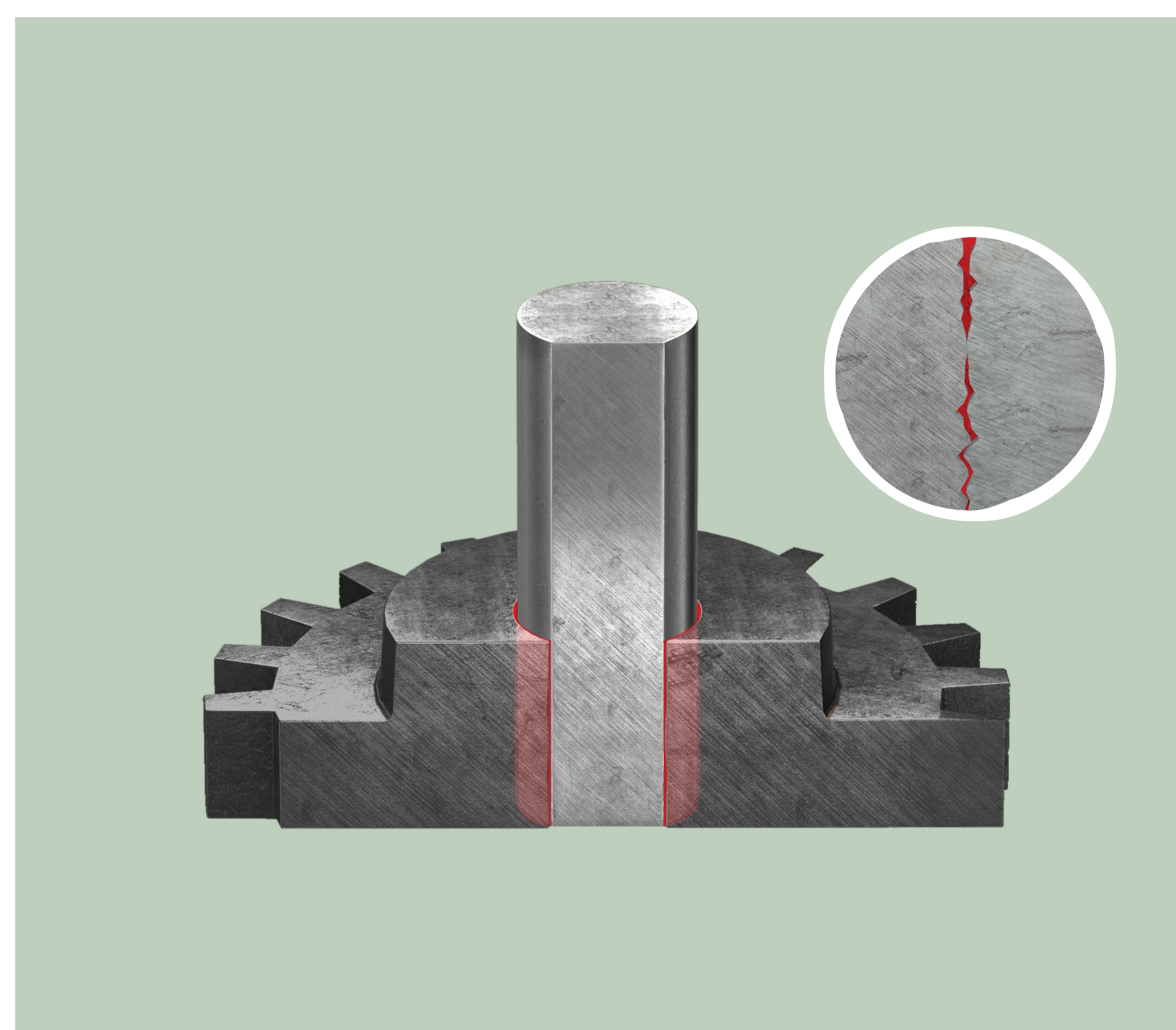


LOCTITE® RETAINING COMPOUNDS SECURE COMPONENTS. FOR STRONG RELIABLE ASSEMBLIES.



Problem

Without retaining compounds:
Mechanical fitting methods leave gaps
between fitted parts which cause cylindrical
assembly failure.



Solution

With retaining compounds:
Gaps are unitized to provide higher
torsional loads and prevent fretting
corrosion.

HIGH LOADS HIGH STRENGTH PRODUCTS

Retaining compounds secure bearings, keyways and cylindrical parts into housings or onto shafts, forming strong assemblies. LOCTITE® retaining compounds offer an effective and economical method to eliminate challenges like loosening, corrosion, backlash and wearing by unitizing the assembly and providing uniform stress distribution.



HOW TO CHOOSE A RETAINING COMPOUND.

GAP size

Up to 0.006 in.

Typically, lower viscosity retaining compounds are used for gaps up to 0.006 in. These are typically tight fitting interference fits like those found in shrink fits.

0.006 to 0.010 in.

For gaps above 0.006 in. retaining compounds with higher viscosities that allow for better gap fill are used. These include bonded slip fits.

0.010 to 0.020 in.

For assemblies with large gaps that are badly worn, special paste-like retaining compounds should be used.

Temperature resistance

Most LOCTITE® retaining compounds are able to withstand temperatures of 300°-355°F. However, certain chemistries are available that withstand temperatures up to 450°F for assemblies which see higher service temperatures.

Strength

A high-strength retaining compound is recommended for applications that do not need to be disassembled or require extremely high torsional loads. If parts need to be taken apart for maintenance, a lower strength product should be used to aid in disassembly.

 Bestseller

638™

High Strength, Slip Fit

LOCTITE® 638™ is recommended for slip fit parts with larger gaps. Excellent performance for dynamic, axial and radial loads. Tolerates minor surface contaminants and cures on inactive metals without an activator.

 **Gap:** Up to .010 in.

 **Temperature Resistance:** 355°F

 **Strength:** 4,500 psi



 Bestseller

660™

Badly Worn Assemblies

LOCTITE® 660™ is designed for repairing worn coaxial parts without remachining. Enables re-use of worn bearing seats, keys, splines or tapers or for retaining shims.

 **Gap:** Up to .020 in.

 **Temperature Resistance:** 300°F

 **Strength:** 3,335 psi





FIND THE RIGHT PRODUCT FOR YOUR APPLICATION

GAP SIZE

Gap Size Up To 0.006 in.

- LOCTITE® 648™
- LOCTITE® 641™
- LOCTITE® 609™

Gap Size 0.006 to 0.010 in.

- LOCTITE® 638™
- LOCTITE® 620™

Gap Size 0.010 to 0.020 in.

- LOCTITE® 660™



Gap Size up to 0.006 in.

Retaining compounds



609™



General Purpose

-  Temperature Resistance: 300°F
-  Strength: 2,300 psi
- Cure Speed: 24 hours
- Fixture Time: 10 minutes



641™



Medium Strength

-  Temperature Resistance: 300°F
-  Strength: 1,700 psi
- Cure Speed: 24 hours
- Fixture Time: 20 minutes



648™

High Strength

-  Temperature Resistance: 355°F
-  Strength: 3,900 psi
- Cure Speed: 24 hours
- Fixture Time: 3 minutes

Gap Size - 0.006 to 0.010 in.
Retaining compounds



620™
High Temperature

Temperature Resistance: 450°F

Strength: 3,800 psi

Cure Speed: 24 hours
Fixture Time: 60 minutes



638™
General Purpose

Temperature Resistance: 355°F

Strength: 4,500 psi

Cure Speed: 24 hours
Fixture Time: 4 minutes

Gap Size - 0.010 to 0.020 in.
Retaining compounds



660™
Badly Worn Assemblies

Temperature Resistance: 300°F

Strength: 3,335 psi

Cure Speed: 24 hours
Fixture Time: 15 minutes

SURFACE PREPARATION

RETAINING COMPOUNDS



SF 7070™
Cleaner IDH 231562
A general purpose parts cleaner formulated for metals and plastics. The product is able to remove most oils, greases, lubrication fluids, metal cuttings and dries residue free.



SF 7649™
Cleaner IDH 209715
Designed to promote the curing speed of LOCTITE® anaerobic adhesives and sealants without any significant loss of joint strength. Especially recommended for applications with passive metals or inert surfaces and with large bond gaps.

EQUIPMENT

RETAINING COMPOUNDS



New LOCTITE® Pro Pump Handheld Dispenser
Cleaner IDH 2564842
Our all-new easy to use, light-weight, durable applicator that allows for precision application of threadlockers, retaining compounds and thread sealants.



LOCTITE® Dual Channel Integrated Reservoir
Cleaner 1390321/ 1390322
This dispenser combines a dual channel dispense controller and reservoir. It provides two timing channels controlling two pneumatic outputs, such as dispense valves, advancing slides, or any other pneumatic device. Well suited for medium to high viscosity (>3,000 cP) adhesives.

ADDITIONAL EQUIPMENT

**Bond-A-Matic®
3000
Dispenser
IDH 209685/218323**

**Pneumatic
Handheld
Applicator
IDH 88643**

**Stationary
Applicator
Valve
IDH 88644/88645**

RETAINING COMPOUNDS

Product	IDH Number	Pack Size	Color	Features	Viscosity (cP)	Thixotropic (yes/no)	Compressive Shear Strength, Steel to Steel, psi (N/mm2)	Fixture Time (min)	Temperature Range
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GAP SIZE – UP TO 0.006 IN.

609™	135512	50 ml	Green	Press fit, low visocisty	120	No	2,300 psi (15 N/mm2)	10	-65°F TO 300°F (-54°C TO 150°C)
	135513	250 ml							
641™	231121	50 ml	Yellow	Medium strength if disassembly is required	600	No	1,700 psi (12 N/mm2)	20	-65°F TO 300°F (-54°C TO 150°C)
	-	-							
648™	1835920	50 ml	Green	High strength, high temperature resistance. Can be applied to slightly oily surfaces	500	No	3,900 psi (27 N/mm2)	3	-65°F TO 355°F (-54°C TO 180°C)
	1835918	250 ml							

GAP SIZE – 0.006 TO 0.010 IN.

620™	135514	50 ml	Green	High strength, high temperature resistance	8,000	No	3,800 psi (26 N/mm2)	60	-65°F TO 450°F (-54°C TO 230°C)
	135515	250 ml							
638™	1835936	50 ml	Green	High strength, high temperature resistance, Can be applied to slightly oily surfaces	2,500	No	4,500 psi (31 N/mm2)	4	-65°F TO 355°F (-54°C TO 180°C)
	1835925	250 ml							

GAP SIZE – 0.010 TO 0.020 IN.

660™	135527	50 ml	Silver	High strength, gap fill for repair	250,000	Yes	3,335 psi (23 N/mm2)	15	-65°F TO 300°F (-54°C TO 150°C)
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A 5 DAY REPAIR REDUCED TO 8 HOURS



“We not only minimized our plant downtime on this repair, we also reduced the likelihood of future repairs and downtime.”

A loose, spinning bearing had damaged a large fan shaft at a cement manufacturer. Hardfacing and machining the shaft would have taken five days of downtime, and it could have led to future weakening and damage from distortion and fretting corrosion. The solution: **LOCTITE® 638™** retaining compound. It fills voids, prevents fretting corrosion and evenly distributes high load stress. A LOCTITE® engineering solutions expert provided training on this new repair method, and in just 8 hours, maintenance personnel cleaned and removed the main bearing, applied **LOCTITE® 638™** to the shaft, slipped the bearing into the proper position and the fan was up and running.

Benefits

LOCTITE® 638™ Retaining Compound:

- Allows maintenance personnel to make efficient, in-plant repairs
- Reduces downtime
- Prevents future damage and maintains long-term repair viability





U.S.A.

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