



LOCTITE®

MAINTENANCE EXPERT GUIDE

Henkel



Solutions for Maintenance Experts

At Henkel, we understand the challenges you face in maintaining and repairing industrial equipment. To make sure your operations run smoothly, you need the right people – and the right tools.

Loctite® offers maintenance experts solutions for all bonding, sealing, cleaning and lubricating tasks. Whatever your task is – you make it work with Loctite®.

Making the right choice

This Maintenance Expert Guide has been developed to make your product selection quick, easy and right at the first time. It covers the most relevant products you need in your everyday maintenance work.

- **Search by product category or by task**
- **Get useful application hints in the “How to apply” sections**

To discover our full product portfolio visit **www.loctite.com** or contact your Henkel Engineer.

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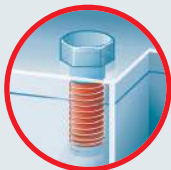
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What's Your Task?



Prevent loosening of threaded parts

12

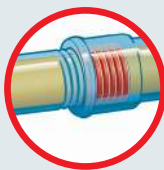


Threadlocking Adhesives

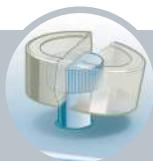


Seal threads / pipes

16



Thread Sealants

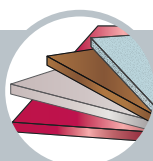


Fast fixturing of small parts

28

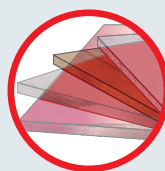


Instant Adhesives

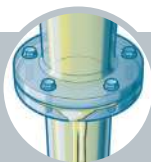


Wide variety of substrates

32

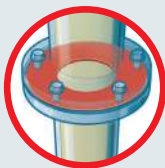


Universal Bonders



Seal bolted flanges

20

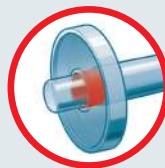


Gasketing Products

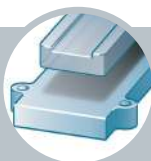


Join cylindrical parts

24

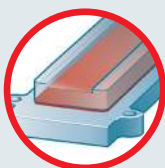


Retaining Compounds

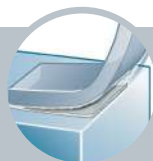


Strong, durable joints of
large parts

34

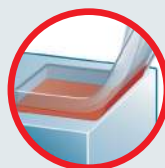


Structural Bonding



Impact and vibration-
resistant joints

42



**Flexible Sealing
and Bonding**

What's Your Task?

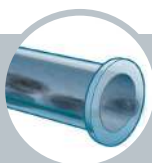


Repair and rebuild metal parts

46



Metal-filled Compounds

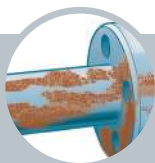


Protect equipment against abrasion and corrosion

50



Protective Coatings and Compounds

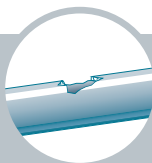


Protect surfaces against external influences

64

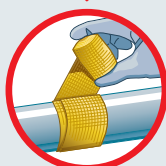


Surface Treatment and Rust Prevention Products



Fix leakages or other damages

68



Emergency Repair Products



Remove oil, grease and dirt

54



Cleaners



Prevent seizing and corrosion
of moving parts

60



Lubricants



Easy and accurate adhesive dispensing

72



Equipment



Product Approvals

Within certain industries product approvals are required and have to be considered for product selection. Some of the most important approvals are:

- **WRAS** – Potable water approval, United Kingdom
- **KTW** – Potable water approval, Germany
- **DVGW** – Gas approval, Germany
- **NSF** – Food and potable water approvals, United States
- **VDI 6022** – Anti-fungus approval, Germany

Available approvals are listed for each product on the respective pages.

For further details please visit www.loctite.com or contact your Henkel Technical Service Team.



LOCTITE® Maintenance Heroes

Loose threads, leaking pipes – many repair tasks occur unexpectedly. Be prepared – with our LOCTITE® Maintenance Heroes; products every maintenance expert should have at hand.



LOCTITE® 243

- Medium strength threadlocker
- Oil tolerant



LOCTITE® 55

- Thread sealing cord
- Allows reliable re-adjustments



LOCTITE® SI 5980

- Ready-to-use flange sealant
- Oil resistant



LOCTITE® 3090

- Gap filling instant adhesive
- Bonds variety of substrates

LOCTITE® 401

- General purpose instant adhesive
- Excellent adhesion on multiple substrates



LOCTITE® 3463

- Steel-filled kneedable stick
- Ideal for emergency sealing of tanks and pipes



LOCTITE® 7063

- Parts cleaner
- Degrease and clean surfaces prior to bonding



LOCTITE® 8201

- Multi-purpose oil



LOCTITE® 8150

- Aluminium anti-seize
- Protect against seizing and corrosion



Health & Safety Products



Henkel's Health & Safety products improve your safety at work while ensuring exceptional performance.

Anaerobic products

- White SDS*
- No hazard symbols, risk or safety phrases
- Proven performance



Instant adhesives

- No Health & Safety related risk phrases in the SDS
- Classified as non-irritant
- Low odour, low bloom
- Improved product performance



*No entries in section 2, 3, 15 & 16 of Material Safety Data Sheet acc. to (EC) No. 1907/2006 – ISO 11014-1.

Gasketing products

- No hazard symbols
- Low odour

Water and glycol resistance

Oil resistance

High temperature resistance



Heavy-duty maintenance cleaners

- No or limited hazardous substances
- Low toxicity to water organisms and biodegradable surfactants
- Low volatile organic substances (VOC)

Fountain cleaning

Floor cleaning

High pressure cleaning

Spray cleaning

Hand cleaning

BONDERITE C-MC 1030

BONDERITE C-MC NEXO SOL

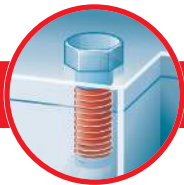
BONDERITE C-MC N DB

BONDERITE C-MC 352

LOCTITE 7850

Threadlocking Adhesives

What strength do you require?



SOLUTION

Size of thread (up to)

Service temperature range (°C)

Approvals

Comments

Low

LOCTITE® 222

Easy Disassembly



M36




-55 to +150

P1 NSF

- Good when low disassembly torque is required
- Slow curing – longer adjustment time

Technology Benefits

- Resist vibration loosening
- Threads are completely sealed eliminating fretting corrosion
- Clean and easy to apply
- Replace mechanical threadlocking devices – lower costs and inventory

Medium		High
LOCTITE® 243	LOCTITE® 248 STICK	LOCTITE® 270
The Allrounder	Non Dripping	Permanent Locking
		
M36	M50	M20
-55 to +180	-55 to +150	-55 to +180
P1 NSF	—	P1 NSF
<ul style="list-style-type: none"> • General purpose • Good performance also on passive metals • Oil tolerant 	<ul style="list-style-type: none"> • Easy-to-use stick • For overhead applications 	<ul style="list-style-type: none"> • For permanent locking if regular removal for maintenance is not required



Threadlocking Adhesives

How to apply LOCTITE® 222, 243, 248, 270

1. Preparation

Cleaning

It is recommended to use LOCTITE® 7063 to degrease and clean surfaces prior to applying the adhesive.



Activation

If cure speed is too slow due to passive metals or low temperature (below 5 °C), use activator LOCTITE® 7240 or LOCTITE® 7649 (see cure speed vs. activator graph in the TDS).



2. Application

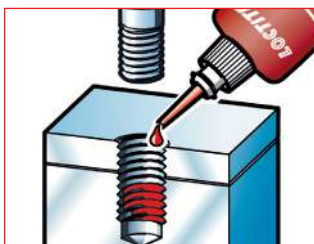
A LOCTITE® 222, 243, 270

Apply liquid threadlocker on the targeted area.



Through hole:

Assemble bolt first and then apply threadlocker.



Blind hole:

Apply into lower third of blind hole.



Post assembly:

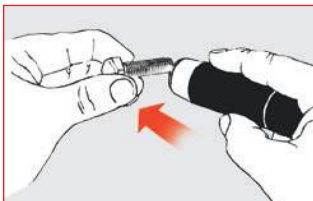
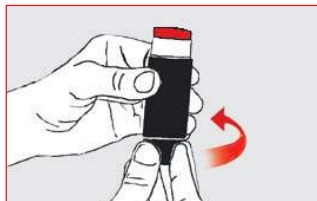
Assemble nut and bolt and dispense product at the edge of nut and bolt.

Equipment

Recommended dispensing equipment: IDH 608966 or IDH 88631 (see chapter **Equipment**).

B LOCTITE® 248

Apply threadlocker on the targeted area.

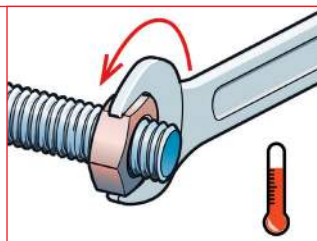
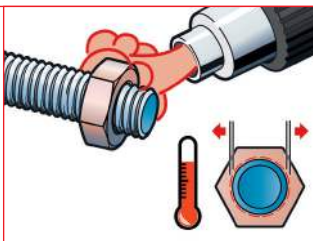
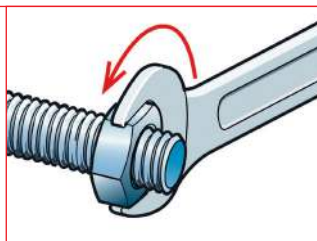


- Twist stick to the amount required
- Apply sufficient product around the thread of the bolt

3. Assembly

- Assemble and tighten
- If several bolts are pre-tightened first, fully tight them within the fixture time of the product or use a slow curing product

4. Disassembly



- Disassemble with standard hand tools
- If not possible, apply localised heat to approximately 250 °C, disassemble while hot
- For corroded or seized parts use LOCTITE® 8040 Freeze & Release

For detailed information please refer to the Technical Datasheet or contact your Henkel Technical Service Team.

Thread Sealants

Are the threads / pipes metal or plastic?

Metal, plastic or a combination of both



SOLUTION

LOCTITE® 55

Thread Sealing Cord



Max. pipe size (inch)

4

Service temperature range (°C)

-55 to +149

Approvals

DVGW, KTW, WRAS

Comments

- Immediate full pressure sealing
- Allows reliable re-adjustments

Technology Benefits

- Prevent leakage of gases and liquids
- Resist vibration and shock loads
- Clean and easy to apply
- Replace all tapes and hemp & paste

Metal

Are the threads coarse or fine?

Coarse

Fine

LOCTITE® 577

The Allrounder



3

-55 to +150

P1 NSF, DVGW

- General purpose
- For overhead applications
- Slow curing

LOCTITE® 542

Fine Threads



3/4

-55 to +150

DVGW

- For fine threads in hydraulic, pneumatic and general fittings
- Fast curing



Thread Sealants

How to apply LOCTITE® 577, 542

1. Preparation

Cleaning

It is recommended to use LOCTITE® 7063 to degrease and clean surfaces prior to applying the adhesive.

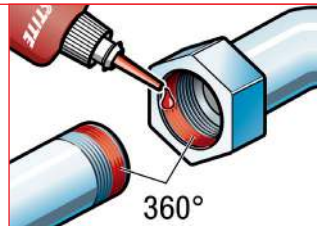


Activation

If cure speed is too slow due to passive metals or low temperature (below 5 °C), use activator Loctite® 7240 or Loctite® 7649 (see cure speed vs. activator graph in TDS).

2. Application

- Apply a 360° bead to the leading male thread, leaving the first thread free
- For bigger threads, apply both on male and female thread



Equipment

Recommended dispensing equipment: IDH 608966 or IDH 88631 (see chapter **Equipment**).

3. Assembly

Assemble fittings using wrench tightening in accordance to manufacturers' recommendations.

4. Disassembly

- Disassemble with standard hand tools. If not possible, apply localised heat to approximately 250 °C, disassemble while hot
- For corroded or seized parts use LOCTITE® 8040 Freeze & Release

How to apply LOCTITE® 55

1. Preparation

Cleaning

Clean threads if necessary and roughen smooth threads.



2. Application

- Wind the cord onto the pipe thread in the same direction as the thread, starting from the end of the pipe. For recommended number of wraps see label. For optimized performance apply criss-cross
- Cut off the cord with the integrated cutting tool at the top of the tube



3. Assembly

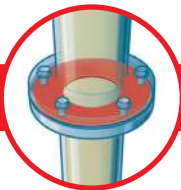
- Assemble using accepted trade practices
- Adjustment of 45° is possible after tightening



For detailed information please refer to the Technical Datasheet or contact your Henkel Technical Service Team.

Gasketing Products

Is your flange rigid or flexible?



SOLUTION

Rigid

LOCTITE® 518

The Allrounder



Substrate to be sealed

Metal

Max. gap (mm)

0,25

Service temperature range (°C)

-55 to +150

Approvals

—

Comments

- General purpose
- Excellent chemical resistance
- Oil tolerant

Technology Benefits

- Prevent leakage and failure by filling all voids
- No need for re-torquing
- One product fits all shapes – low costs and inventory

Flexible

LOCTITE® 510

High Temperature



Metal

0,25

-55 to +200

P1 NSF

- For high temperature applications

LOCTITE® SL 5980

The Allrounder



Metal, plastic or both

1

-55 to +200

—

- General purpose
- Oil resistant
- Easy dispensing
- Leading in Health & Safety

LOCTITE® SI 5990

High Temperature



Metal, plastic or both

1

-55 to + 350

—

- For high temperature applications
- Easy dispensing
- Leading in Health & Safety



Gasketing Products

How to apply LOCTITE® 518, 510, SI 5980, SI 5990

1. Preparation

Cleaning

- Apply LOCTITE® 7200 on old gasketing adhesive and use a wood or plastic scraper to remove residues. Remove burrs
- It is recommended to use LOCTITE® 7063 to degrease and clean surfaces prior to applying the adhesive

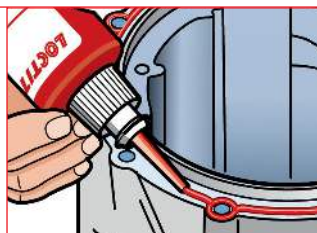


Activation

- If cure speed of LOCTITE® 518 and LOCTITE® 510 is too slow due to passive metals and low temperature (below 5 °C), use activator LOCTITE® 7240 or LOCTITE® 7649 (see cure speed vs. activator graph in the TDS)
- LOCTITE® SI 5980 and LOCTITE® SI 5990 do not need an activator

2. Application

- Apply as a continuous closed bead onto one flange surface. Place the bead close to the inner rim of the flange and encircle all holes. Small scratches can be filled by the adhesive
- LOCTITE® 510 and LOCTITE® 518 can also be applied by roller onto large flanges



Equipment

Recommended dispensing equipment: IDH 363544 or IDH 142240 (see chapter **Equipment**).

3. Assembly

Assemble flanges and tighten bolts as soon as possible.

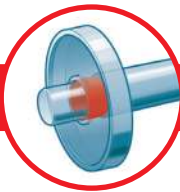
4. Disassembly

- Disassemble bolts with standard hand tools
- Use lifting-screws, casted-on bosses or recesses to lift flanges apart
- For corroded or seized parts, use LOCTITE® 8040 Freeze & Release

For detailed information please refer to the Technical Datasheet or contact your Henkel Technical Service Team.

Retaining Compounds

How large is the gap?



SOLUTION

< 0,1 mm

LOCTITE® 603

Ideal for Bearings



Handling strength after (min.)¹

8

Service temperature range (°C)

-55 to +150

Approvals

P1 NSF, WRAS



Comments

- For use on cylindrical fitting parts with tight gaps
- High oil tolerance

¹ At room temperature on steel joints.

Technology Benefits

- Fill all voids to prevent loosening, corrosion and fretting
- Suitable for high loads even with existing design
- 100 % contact – even stress distribution across the joint

0,1 to 0,25 mm	0,25 to 0,5 mm
LOCTITE® 638	LOCTITE® 660
The Allrounder	Gap Filling
	
4	15
-55 to +150	-55 to +150
P1 NSF, WRAS	P1 NSF
<ul style="list-style-type: none"> • General purpose • Fast curing 	<ul style="list-style-type: none"> • For repair of worn out seats, keys, splines, bearings or tapers without remachining • To be used with activator Loctite® 7240



Retaining Compounds

How to apply LOCTITE® 603, 638, 660

1. Preparation

Cleaning

- Use LOCTITE® 7200 for easier removal of residues in case of old retaining adhesive
- It is recommended to use LOCTITE® 7063 to degrease and clean surfaces prior to applying the adhesive
- For larger gaps than 0,5 mm or worn out shafts, bearing seats or keyways, use LOCTITE® metal-filled compounds (see chapter **Metal-filled Compounds**)



Activation

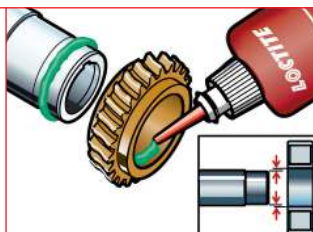
If cure speed is too slow due to passive metals or low temperature (below 5 °C), use activator Loctite® 7240 or Loctite® 7649 (see cure speed vs. activator graph in the TDS).



2. Application

A For slip fitted assemblies: LOCTITE® 603, 638, 660

Apply adhesive around the leading edge of the male component and the inside of the female component and use rotating motion during assembly to ensure good coverage.



B For press fitted assemblies: LOCTITE® 603

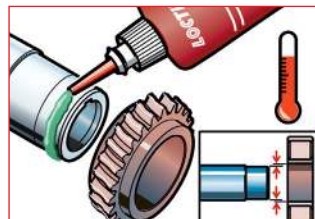
Apply adhesive thoroughly to both bond surfaces and assemble at high press on rates.



C For shrink fitted assemblies:

Apply the adhesive onto the pin, heat the collar to create sufficient clearance for free assembly.

For product selection contact your Henkel Technical Service Team.



Equipment

Recommended dispensing equipment: IDH 608966 or IDH 88631 (see chapter **Equipment**).

3. Disassembly

- Apply localised heat to approximately 250 °C, disassemble while hot
- For corroded or seized parts, use LOCTITE® 8040 Freeze & Release



For detailed information please refer to the Technical Datasheet or contact your Henkel Technical Service Team.

Instant Adhesives

Do you need a non-drip / non-run product?



SOLUTION

No

Gaps < 0,15 mm

LOCTITE® 401

The Allrounder



Fixture time (sec.)

3 – 10

Service temperature range (°C)

-40 to +120

Approvals

P1 NSF

Comments

- General purpose
- Low viscosity

Technology Benefits

- Excellent adhesion on multiple substrates especially plastics and rubbers
- Very fast positioning and fixturing of parts
- Small parts bonding

Yes

Gaps < 0,15 mm

Gaps ≤ 5 mm

LOCTITE® 454

LOCTITE® 3090

Gel

Gap Filling



5 – 10

90 – 150

-40 to +120

-40 to +80

P1 NSF

—

- High viscosity gel
- For overhead applications

- Multi-purpose
- Highly gap filling
- For cosmetic aspects and low bloom applications



Instant Adhesives

How to apply LOCTITE® 401, 454, 3090

1. Preparation

Cleaning

It is recommended to use LOCTITE® 7063 to degrease and clean surfaces prior to applying the adhesive.



Priming

To improve adhesion on difficult to bond plastic surfaces, apply LOCTITE® 7239 or LOCTITE® 770 to the bond area by brushing or dipping. Avoid applying excess primer. Allow the primer to dry.



Activation

If cure speed is too slow, use appropriate activator LOCTITE® 7458 (see cure speed vs. activator graph in the TDS). Apply activator to one bond surface by spray, brush or dipping (not to primed surfaces). Allow the activator to dry.



Mixing

Mixing with static mixer (LOCTITE® 3090):

Before mounting the static mixer onto the cartridge, push out small amount of product to equalize pistons. Mount static mixer and push some mixed product out until a uniform color is reached, then the static mixer provides a well mixed product.



2. Application

Apply adhesive by drop or bead to one of the bond surfaces (not to activated surfaces).



Equipment

Recommended dispensing equipment: (see chapter **Equipment**)

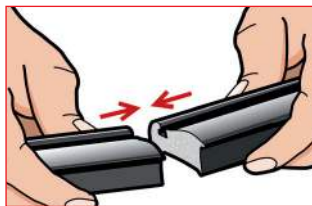
- For precise dispensing of small amounts of adhesive use dispensing needles
- Spare static mixers for Loctite® 3090: IDH 1453183

3. Assembly

Assemble the parts immediately. The parts should be accurately located, as the short fixture time leaves little opportunity for adjustment. Bond should be held fixed or clamped until the adhesive has fixtured.

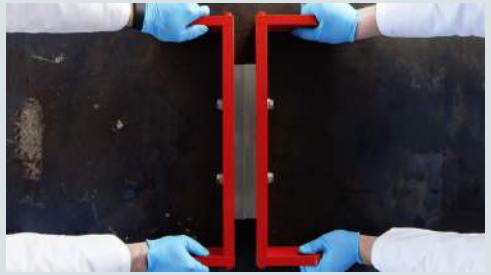
Hint:

If necessary excess product can be cured by activator LOCTITE® 7455. Spray or drop activator on excess product.



Universal Bonders

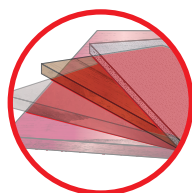
Do you need an ultra fast cure?



Technology Benefits

- Bonds a wide variety of substrates
- Very fast positioning and fixturing of parts
- Tough and impact resistant bonds

SOLUTION



Fixture time (sec.)

Service temperature range (°C)

Approvals

Comments

Yes

No

LOCTITE® 4070

Ultra Fast and Versatile



<1

+120°C

Slightly cloudy to light yellow gel

- Ultra-fast fixture—reduces maintenance down time
- High gap filling capability—excellent for universal repairs
- Suitable for a variety of substrates, including metals, most plastics and rubbers—opening up your design possibilities

LOCTITE® 4090

Impact and temperature resistant



3-5

+150°C

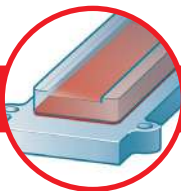
Slightly cloudy to light yellow gel

- Good moisture, temperature (up to 150°C) and chemical resistance
- Impact and vibration resistant
- Suitable for a variety of substrates, including metals, most plastics and rubbers—opening up your design possibilities



Structural Bonding – Acrylics and Polyurethanes

What is your focus?



SOLUTION

General bonding

TEROSON PU 6700

The Allrounder



Technology

2K-PU

Fixture time (min.)

30

Shear strength (GBMS N/mm²)

>12

Service temperature range (°C)

-40 to +80

Comments

- General purpose
- Suitable for painted surfaces
- Gap filling
- Slightly flexible

Technology Benefits

- Rigid to slightly flexible structural bonding
- High strength
- Good chemical resistance
- Excellent adhesion on multiple substrates

Difficult to bond plastics

Cosmetic appearance

LOCTITE® 3038

Multi-Bond 330 General Purpose



LOCTITE® V5004

Clear Bondline



1K-Acrylic

2K-Acrylic

> 40

3

13

21

-50 to +100

-50 to +80

- Very good adhesion to difficult to bond plastics like PE, PP

- Fast curing
- High strength
- Clear bondline



Structural Bonding – Acrylics and Polyurethanes

How to apply TEROSON PU 6700, V5004

1. Preparation

Cleaning

It is recommended to use LOCTITE® 7063 to degrease and clean surfaces prior to applying the adhesive.



Priming

To improve adhesion of TEROSON PU 6700 on difficult to bond plastics apply TEROSON RB 150 to the bond area. Avoid applying excess primer. Allow the primer to dry.

Mixing

With static mixer:

Before mounting the static mixer onto the cartridge, push out small amount of product to equalize pistons. Mount static mixer and push some mixed product out until a uniform color is reached, then the static mixer provides a well mixed product.

2. Application

Apply product directly after mixing to the bonding area.

Hint:

After use, leave the static mixer in place and use it as a cap.



Equipment

Recommended dispensing equipment: (see chapter **Equipment**)

	Dispensing equipment	Mixers / nozzles
TEROSON PU 6700	• IDH 267452	• IDH 1487440
LOCTITE® V5004	• IDH 267452	• IDH 1467955

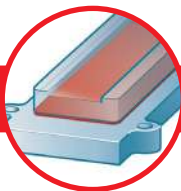
3. Assembly

- Parts should be assembled immediately
- Keep the assembled parts from moving during curing
- The joint should be allowed to develop full strength before subjecting to any service loads

For detailed information please refer to the Technical Datasheet or contact your Henkel Technical Service Team.

Structural Bonding – Epoxies

What is your focus?



SOLUTION

High technical performance

LOCTITE® 9492

High Temperature



Colour

White

Fixture time (min.)

75

Shear strength (GBMS N/mm²)

20

Service temperature range (°C)

-55 to +180

Comments

- High temperature resistance
- High chemical resistance

Technology Benefits

- Rigid structural bonding
- Very high strength
- Very good chemical resistance
- Excellent adhesion on multiple substrates

General bonding

LOCTITE® 3430

The Allrounder



Ultra clear

15

22

-55 to +100

- Five-minute epoxy
- Water resistance

LOCTITE® DOUBLE BUBBLE

Easy to Use



Clear

5

9

-55 to +100

- For small and quick repairs
- Fast curing



Structural Bonding – Epoxies

How to apply LOCTITE® 9492, 3430, Double Bubble

1. Preparation

Cleaning

It is recommended to use LOCTITE® 7063 to degrease and clean surfaces prior to applying the adhesive.



Mixing

- **Hand mixing (LOCTITE® 3430, Double Bubble):**

Mix A and B components according to the specified mixing ratio.
Thoroughly mix the two components before use



- **With static mixer (LOCTITE® 9492):**

Before mounting the static mixer onto the cartridge, push out small amount of product to equalise pistons.
Mount static mixer and push some mixed product out until a uniform colour is reached, then the static mixer provides a well mixed product

2. Application

Apply product directly after mixing to the bonding area.

Hint:

After use, leave the static mixer in place and use it as a cap.



Equipment

- Recommended dispensing equipment for LOCTITE® 9492 (see chapter **Equipment**): IDH 267452
- Spare static mixers: IDH 1487440

3. Assembly

- Parts should be assembled immediately
- Keep the assembled parts from moving during curing
- The joint should be allowed to develop full strength before subjecting to any service load

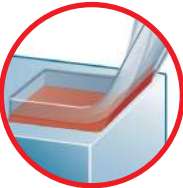
Hint:

Excess of uncured product can be wiped away with LOCTITE® 7063.

Flexible Sealing and Bonding

What is your focus?

SOLUTION



Elastic sealing		
	TEROSON MS 930 known as Terostat MS 930	LOCTITE® 5366
	The Allrounder	Transparent
		
Technology	1K-SMP	1K-Silicone
Skin formation time (min.)	18	5
Service temperature range (°C)	-40 to +80	-50 to +250
Approvals	BSS 7239	—
Comments	<ul style="list-style-type: none">• General purpose	<ul style="list-style-type: none">• Transparent• Very high temperature resistance

Technology Benefits

- Withstand impact shock, vibration and bending
- Good weathering resistance
- Wide temperature range
- Excellent adhesion on multiple substrates

Elastic bonding

Seam Sealing

TEROSON MS 9399

known as Terostat MS 9399

The Allrounder



2K-SMP

35

-40 to +100

ASTM E 662/E 162
VDI 6022

- General purpose
- Fast curing

LOCTITE® SI 5616

Fast Curing



2K-Silicone

–

-50 to +180

–

- Very fast curing
- High temperature resistance

TEROSON MS 9320 SF

known as Terostat MS 9320 SF

Sprayable Sealant



1K-SMP

12

-40 to +100

–

- Fast curing
- No cracks, no rust penetration

Flexible Sealing and Bonding

How to apply TEROSON MS 930, LOCTITE® 5366, TEROSON MS 9399, LOCTITE® SI 5616, TEROSON MS 9320 SF

1. Preparation

Cleaning

It is recommended to use TEROSON 450 to degrease and clean surfaces prior to applying the adhesive. It also improves adhesion on difficult to bond materials.



Mixing

With static mixer (LOCTITE® SI 5616, TEROSON MS 9399):

Before mounting the static mixer onto the cartridge, push out small amount of product to equalize pistons. Mount static mixer and push some mixed product out until a uniform color is reached, then the static mixer provides a well mixed product.

Hint:

If you see crumbles on the beat surface the product is already partly cured and the final properties will not be reached.

2. Application

- Apply product with suitable dispensing equipment
- In case full surface bonding is necessary please use 2 component products



- For large area bonding applications where both substrates are non water vapour transmitting, do not cover complete bonding area with product



Hints:

- Application on plastics such as PMMA or PC may cause stress cracking of the plastic; suitability for these materials should be tested prior to use
- After use, leave the static mixer in place and use it as a cap

Equipment

- Recommended dispensing equipment: (see chapter **Equipment**)

	Dispensing equipment	Mixer / nozzle
TEROSON MS 930	• IDH 142240	• IDH 581582
LOCTITE® 5366	• IDH 142240	• IDH 1118785
TEROSON MS 9399	• IDH 150035	• IDH 1487440
LOCTITE® SI 5616	• IDH 142240	• IDH 1620298
TEROSON MS 9320 SF	• IDH 142241 (for spraying) • IDH 142240 (for standard bead)	• IDH 547882 (for spraying) • IDH 581582 (for standard bead)

For detailed information please refer to the Technical Datasheet or contact your Henkel Technical Service Team.

Metal-filled Compounds

What type of repair?



SOLUTION

Emergency repair

LOCTITE® 3463

Metal Magic Steel™ Stick



Fixture time at 20 °C (min.)

10

Compressive strength (N/mm²)

83

Service temperature range (°C)

-30 to +120

Comments

- Steel-filled kneadable stick
- For emergency sealing of tanks and pipes

Technology Benefits

- Repair and rebuild worn metal parts
- No need to heat or weld
- Can be drilled, tapped or machined after cure

Shaft repair

General rebuilding of metal parts

LOCTITE® 3478

High Compressive Strength



360

125

-30 to +120

- Rebuild worn steel shafts and bearings
- High compressive strength

LOCTITE® 3471

Steel Rebuilding



180

70

-20 to +120

- Repair worn steel parts
- Non-sagging putty

LOCTITE® 3475

Aluminium Rebuilding



180

70

-20 to +120

- Repair worn aluminium parts
- Non-sagging putty



Metal-filled Compounds

How to apply LOCTITE® 3463

1. Preparation

- Thoroughly clean and abrade surfaces. Finally clean with LOCTITE® 7063
- Cut required product quantity and then remove plastic film. Twist and knead until material is smooth and colour is consistent



2. Application

Firmly apply to bond area and form to desired shape. For smooth finish wipe over with a wet cloth.

How to apply LOCTITE® 3478

1. Preparation

Tool damaged area of shaft and reduce by minimum 3 mm compared to nominal diameter.

Cleaning

It is recommended to use LOCTITE® 7063 to degrease and clean surfaces prior to applying the adhesive.



Mixing

Stir each component separately. Mix A and B components according to the specified mixing ratio by volume or weight. Thoroughly mix for up to two minutes until an even mix is achieved.

2. Application

- Turn shaft and apply a thin layer of LOCTITE® 3478. Then build up product layer. Apply LOCTITE® 3478 with an excess compared to nominal shaft diameter
- After full cure, tool repair area and reduce to nominal diameter

How to apply LOCTITE® 3471, 3475

1. Preparation

Cleaning

It is recommended to use LOCTITE® 7063 to degrease and clean surfaces prior to applying the adhesive.

Mixing

Stir each component separately. Mix A and B components according to the specified mixing ratio by volume or weight. Thoroughly mix for up to two minutes until an even mix is achieved.



2. Application

- Apply the product to the working area with the spatula provided
- Keep the repaired parts from moving during cure
- Full cure is achieved at room temperature after 72 hours; heating the part to 40 °C will reduce the time span to 24 hours
- Due to heat generation during the curing process larger quantities tend to cure more rapidly



For detailed information please refer to the Technical Datasheet or contact your Henkel Technical Service Team.

Protective Coatings and Compounds

Particle size of abrasive material?



SOLUTION

Coarse particles

LOCTITE® 7218

Trowelable Ceramic



Mix ratio by volume / weight (A:B)

2:1 / 100:50

Recommended layer thickness (mm)

min. 6

Service temperature range (°C)

-30 to +120

Approvals

—

Comments

- High wear resistance
- For overhead applications

When choosing the right Loctite® Protective Coating or Compound key factors such as particle size, temperature resistance and chemical / corrosion resistance need to be considered. Please contact your Henkel Technical Engineer for consultancy.

Technology Benefits

- Restore worn surfaces
- Protect parts against abrasion, erosion, chemical attack and corrosion
- Extend part life and increase part efficiency
- Save cost by avoiding part replacement and reducing spare part inventories

Fine particles

LOCTITE® 7255

Sprayable Ceramic



2:1 / 100:50

min. 0,5

-30 to +95

WRAS

- General purpose
- Ultra-smooth

LOCTITE® 7117

Brushable Ceramic



3,34:1 / 100:16

min. 0,5

-30 to +95

—

- General purpose
- High gloss, low friction



Protective Coatings and Compounds

How to apply LOCTITE® 7218, 7255, 7117

1. Preparation

Cleaning

- Thoroughly clean and abrade surfaces, if possible grit blast. Finally clean with LOCTITE® 7063. If necessary rebuild badly worn surfaces using trowelable metal-filled compounds
- For temporary corrosion protection for up to 48 hours apply LOCTITE® 7515 after surface preparation



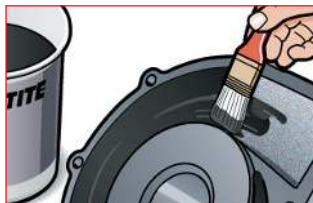
Mixing

- If supplied in ready-to-use packages mix the entire contents of resin and hardener
- If smaller amounts are required, mix A and B components according to the specified mixing ratio by volume or weight (for mixing ratios refer to technical product data sheet or product label)
- Thoroughly mix for up to two minutes until an even mix is achieved



2. Application

- Apply fully mixed product to prepared surface by brush, trowel or spray
- Consider working and cure time (see selection table on previous pages)
- For LOCTITE® 7255 and LOCTITE® 7117 apply minimum 2 layers to achieve a total layer thickness

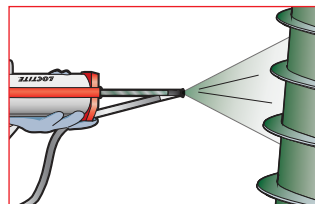


Hints:

- Pre-coating the surface by rubbing the mixed composite into the substrate helps the repair material to fill all crevices, creating a superior bond between the composite and substrate
- Smooth out the uncured product with a warm trowel for a smooth, glossy finish
- Use products with different colours when applying more than one coat. When the first coat begins to wear the second coat will show through, providing an accurate indicator of wear

Special recommendations for sprayable products (LOCTITE® 7255):

- Best coating results are obtained by applying the product specific layer thickness. This is especially important for spray applications on vertical surfaces. For best results also in corners and edges, it is recommended to smooth angles to a radius of 3 mm
- When using LOCTITE® 7255 it is recommended to heat the product prior to application to ensure easy spraying and a smoother surface



Equipment

- Recommended dispensing equipment for LOCTITE® 7255: IDH 1175530 (see chapter **Equipment**)

Cleaners – Heavy-duty Maintenance Cleaners

Which type of heavy-duty maintenance cleaner is required?



SOLUTION

Floor cleaner

BONDERITE C-MC 80
known as LOCTITE® 7861

Heavy-duty Floor Cleaner



Application concentration (g/l)

50 to 200

Service temperature range (°C)

+15 to +100

Comments

- For concrete floors
- Solvent-free

For application of heavy-duty maintenance cleaners please refer to the Technical Data Sheet and instructions for use of your cleaning equipment.

Technology Benefits

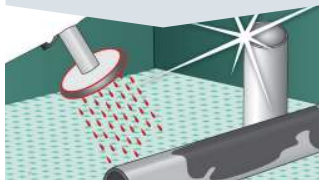
- High quality water-based alkaline, acidic and neutral cleaners
- Clean parts and assemblies in the metalworking industry, in workshops, in the railway and boat industry
- For metal substrates, plastics, concrete, stone, ceramics, glass, painted surfaces etc.

Parts cleaner

BONDERITE C-MC 1030

known as LOCTITE® 7013

Fountain Cleaner



Ready-to-use

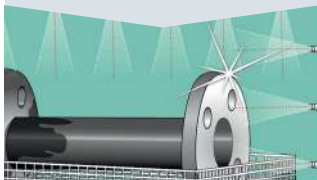
Room temperature

- For all kind of soils
- Solvent-free
- Biodegradable

BONDERITE C-MC 352

known as LOCTITE® 7014

Spray Cleaner



20 to 60

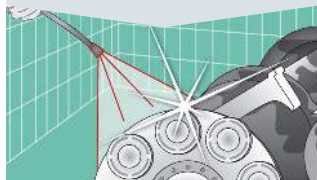
+50 to +75

- For dirt, oil and grease
- For spray cleaning machines
- Solvent-free

BONDERITE C-MC 3000

known as P3 Grato 3000

High Pressure Cleaner



20 to 200

+10 to +50

- For dirt, oil and grease
- Provide temporary rust protection
- Solvent-free
- Biodegradable

Cleaners – Parts and Hands Cleaners

What do you want to clean?



SOLUTION

Hands

LOCTITE® 7850

Hand Cleaner



Base

Comments

Natural extracts

- Biodegradable
- Use with or without water

Technology Benefits

- For various cleaning demands in the workshop
- One cleaner suitable for surface preparation prior to bonding

Parts

LOCTITE® 7063

Prior to Bonding



Solvent

- For use prior to bonding and sealing applications
- Leaves no residue

LOCTITE® 7200

Gasket Remover



Solvent

- Remove old gaskets
- Minimal scrapping

LOCTITE® 7840

General Cleaner



Water

- Biodegradable
- Can be diluted with water



Cleaners – Parts and Hands Cleaners

How to apply LOCTITE® 7850

Application

- Rub into dry hands until dirt or grease is dissolved
- Wipe hands dry or rinse with water
- Repeat procedure if necessary



How to apply LOCTITE® 7063

Application

- Treat surfaces to be cleaned by generously spraying with LOCTITE® 7063
- Wipe surface when still wet with a clean paper towel
- Repeat if necessary until contamination is removed
- Allow solvent to evaporate until surface is completely dry

Note:

LOCTITE® 7063 can cause stress cracks on sensitive substrates.



How to apply LOCTITE® 7200

Application

- Before applying protect painted surfaces as LOCTITE® 7200 may attack the paint
- Spray a heavy coat onto flange or surface. Wait 10 – 15 min for the gasket to soften (for silicone gaskets 30 min)
- Remove gasket with soft scraper and wipe flange clean
- Repeat procedure if necessary



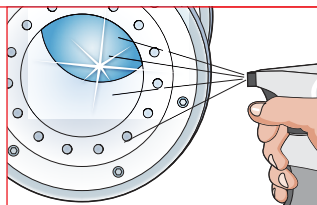
How to apply LOCTITE® 7840

Application

- Dilute LOCTITE® 7840 with water
- Soak or spray parts and wipe or rinse clean

Hint:

Effectiveness can be enhanced by diluting with warm water



Lubricants

What part movements / loads are you dealing with?



SOLUTION

Slow movements /
high loads

LOCTITE® 8150

Aluminium Anti-seize



Base

Aluminium, graphite

Viscosity

—

Service temperature range (°C)

-30 to +900

Comments

- Protect threaded connections
- Prevent seizing and corrosion

Technology Benefits

- Protect against corrosion, friction and wear withstanding extreme pressure
- Prevent overheating

Medium speed /
medium loads

Fast movements / small loads

LOCTITE® 8105

Multi-purpose Grease



Mineral oil

—

-20 to +150

- Odourless
- Neutral appearance

LOCTITE® 8191

Dry Film Lubricant



MoS₂

11 s (cup 4)

-40 to +340

- Fast-drying
- Enhance the performance of oils and greases

LOCTITE® 8201

Multi-purpose Oil



Mineral oil

17,5 cSt (+50 °C)

-20 to +120

- Free assemblies
- Lubricate metal
- Clean parts
- Displace moisture
- Prevent corrosion



Lubricants

How to apply LOCTITE® 8150, 8105, 8191, 8201

1. Preparation

Cleaning

- It is recommended to use LOCTITE® 7063 to degrease and clean surfaces
- Surfaces should be free from scale, oxides and lubricant residues



2. Application

Shake well before use.

A LOCTITE® 8150

- Apply a thin layer by brushing evenly over the whole surface
- Do not dilute



B LOCTITE® 8105

- Check compatibility with other grease residues
- Apply to clean parts by brush, spatula or grease gun

Hint:

Product may be suitable for use in automatic application systems.



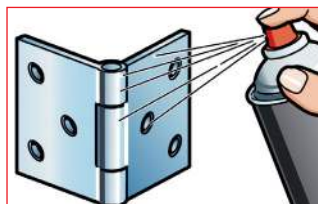
C LOCTITE® 8191

- Product should be sprayed on cleaned parts from a distance of about 20 cm to give a uniform coating
- Let parts dry for 15 to 30 minutes at ambient temperature



D LOCTITE® 8021

- Choose between jet and spray (based on application needs)
- Spray consistently onto parts to give a uniform film



For detailed information please refer to the Technical Datasheet or contact your Henkel Technical Service Team.

Surface Treatment and Rust Prevention Products

What kind of treatment do you require?



SOLUTION

Rust treatment

LOCTITE® 7505

Rust Converter



Matt black

—

Colour

Service temperature range (°C)

Comments

- Convert rust into a stable base
- Cured product acts as primer ready for painting

Technology Benefits

- Solutions for all types of surface treatments or preparations

Corrosion protection

Protection of welding equipment

Tamper proofing

LOCTITE® 7800

Zinc Spray



Grey

-50 to +550

- Excellent cathodic corrosion protection on ferrous metal
- Restore protection to galvanised parts

LOCTITE® SF 7900

Ceramic Shield



White

—

- Prevent adhesion of welding spatter
- Long-term protection of welding equipment
- Silicone-free

LOCTITE® 7414

Movement Detector



Blue

-35 to +145

- Visually detect movement of parts
- For outdoor applications



Surface Treatment and Rust Prevention Products

How to apply LOCTITE® 7505

1. Preparation

Wire brush to remove flaky rust and loose scale. It is recommended to use LOCTITE® 7063 to remove oil, grease and dirt. Shake well before use.

2. Application

Brush or sponge on liberally. Apply two coats (recoat time: 60 to 120 minutes). Uneven colour indicates need for additional coats. Allow minimum 24 hours to dry before painting.

Hint:

Do not apply in direct sunlight or on wet surfaces.



How to apply LOCTITE® 7800

1. Preparation

Remove rust, old coats of paint etc. from surface. Sandblast surface if possible. It is recommended to use LOCTITE® 7063 to finally remove oil, grease and dust. Shake well before use.

2. Application

- Spray on clean parts from 20 to 30 cm to give a uniform film
- The coating becomes dry to touch after 30 to 60 minutes. Allow 24 hours to dry completely



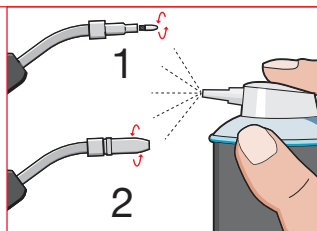
How to apply LOCTITE® SF 7900 Ceramic Shield

1. Preparation

Clean contact tip and shroud from adhering spatter. For best results, use a new contact tip and shroud. Shake well before use.

2. Application

- Place the contact tip on the welding torch and apply from a distance of 10 – 15 cm. Fit the shroud to the welding torch and coat the exterior and interior. Let the coating dry for several seconds
- After the application reverse the can and spray for several seconds to prevent clogging of the nozzle



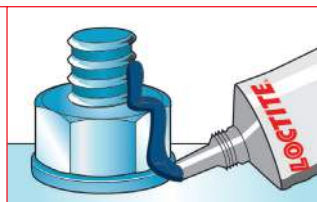
How to apply LOCTITE® 7414

1. Preparation

It is recommended to use LOCTITE® 7063 to degrease, clean and dry surfaces.

2. Application

Squeeze the tub to extrude the paste and form a narrow bead across the parts. Let product dry for 60 seconds.



For detailed information please refer to the Technical Datasheet or contact your Henkel Technical Service Team.

Emergency Repair Products

What is your application?

SOLUTION



Service temperature range (°C)

Comments

O-Ring replacement

**LOCTITE®
O-RING KIT**

O-Ring Kit



- Set with rubber cords, Loctite® 406 and tools to create customized O-rings
- Eliminates the need for an inventory of different sized O-Rings

Free corroded parts

LOCTITE® 8040

Freeze & Release



- Shock freezing (-40 °C)
- Release rusted, corroded and seized components
- Wicks directly into the rust by capillary action





Detect pipe leaks

LOCTITE® 7100

Leak Detector



- Produce bubbles at leakages
- For all gases and gas mixtures except for oxygen
- Non-toxic / non-flammable
- Use for iron, copper and plastic piping

Seal pipe leaks		Taping	
LOCTITE® 3463	LOCTITE® 5070	LOCTITE® 5075	TEROSON TAPE FIX&REPAIR
Metal Magic Steel™ Stick	Pipe Repair Kit	Insulating and Sealing Wrap	High Strength Tape
			
-30 to +120	—	-54 to +260	up to +70
<ul style="list-style-type: none"> • Steel-filled kneadable stick • For emergency sealing of tanks and pipes 	<ul style="list-style-type: none"> • Easy-to-use repair kit for temporary repair of weak areas on pipes 	<ul style="list-style-type: none"> • Insulating and Sealing Wrap • Withstand extreme conditions • Stretches 3-times its size 	<ul style="list-style-type: none"> • Fabric reinforced tape • Easy to tear by hand • Repair, reinforce, fix, seal and protect

Emergency Repair Products

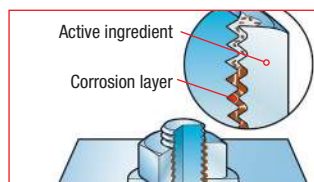
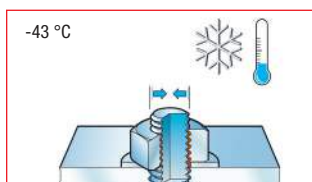
How to apply LOCTITE® 8040

1. Preparation

Remove loose dirt and rust. Shake well before use.

2. Application

- Spray onto parts from a distance of 10 – 15 cm for 5 to 10 seconds
- After 1 to 2 minutes disassemble parts. If necessary repeat procedure



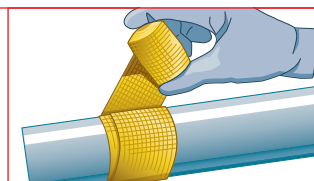
How to apply LOCTITE® 5070

1. Preparation

- Turn off pressure in pipe system
- Thoroughly clean and abrade surfaces. Finally clean with LOCTITE® 7063

2. Application

- Mix required amount of LOCTITE® 3463 (details see chapter **Metal-filled Compounds**). Firmly press product into the crack, hole or void
- Activate tape by soaking into water at room temperature for 20 seconds. Wrap tape tightly around repair, building up at least 4 layers



How to apply LOCTITE® O-Ring KIT

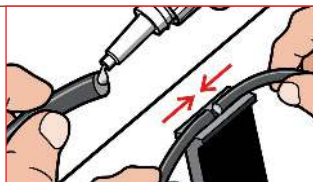
1. Preparation

- Clean cutting blade using LOCTITE® 7063
- Cut the required approximate length of cord. Use the O-Ring cutting fixture to cut at both ends to achieve clean bonding surfaces at required length



2. Application

- Apply a small drop of LOCTITE® 406 to one end of the O-Ring
- Immediately join the two ends using the V-groove on the end of the cutting fixture. Hold in place for 30 seconds, then O-Ring is ready for service



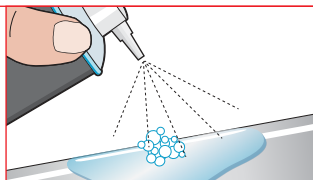
How to apply LOCTITE® 7100

1. Preparation

Shake well before use.

2. Application






- Spray product from 15 to 20 cm onto suspect area
- A leak will be clearly visible, as the product will start foaming at the leaking area





For detailed information please refer to the Technical Datasheet or contact your Henkel Technical Service Team.

Equipment – Dispensers

Manual applicators

IDH number	For product	For pack size
 IDH 142240	<ul style="list-style-type: none">• LOCTITE® 5188, 510, 5366, SI 5980, SI 5990• TEROSON MS 930, MS 9320	<ul style="list-style-type: none">• 300 ml• 310 ml
 IDH 218312	<ul style="list-style-type: none">• LOCTITE® 9492	<ul style="list-style-type: none">• 400 ml (1:1, 2:1)
 IDH 267452	<ul style="list-style-type: none">• LOCTITE® 9492, V5004• TEROSON PU 6700	<ul style="list-style-type: none">• 50 ml (1:1, 2:1, 10:1)
 IDH 363544	<ul style="list-style-type: none">• LOCTITE® 5188, 510, SI 5980, SI 5990	<ul style="list-style-type: none">• 50 ml
 IDH 1034026	<ul style="list-style-type: none">• LOCTITE® 3038	<ul style="list-style-type: none">• 50 ml (10:1)

Peristaltic dispensers










IDH number	For product	For pack size
<div>  </div> <div> IDH 608966 </div>	<div> <ul style="list-style-type: none"> • LOCTITE® 222, 243, 270, 542, 603, 638 </div>	<div> <ul style="list-style-type: none"> • 50 ml </div>
<div>  </div> <div> IDH 88631 </div>	<div> <ul style="list-style-type: none"> • LOCTITE® 222, 243, 270, 542, 603, 638 </div>	<div> <ul style="list-style-type: none"> • 250 ml </div>

Pneumatic applicators

IDH number	For product	For pack size
<div>  </div> <div> IDH 142241 </div>	<div> <ul style="list-style-type: none"> • TEROSON MS 9320 SF (for spraying) </div>	<div> <ul style="list-style-type: none"> • 310 ml </div>
<div>  </div> <div> IDH 2251591 </div>	<div> <ul style="list-style-type: none"> • LOCTITE® 7255 </div>	<div> <ul style="list-style-type: none"> • 900 ml </div>



Equipment – Accessories

Mixers



IDH number	For product	For pack size
 IDH 2447734	<ul style="list-style-type: none">• LOCTITE® 7255	<ul style="list-style-type: none">• 1125 ml (2:1)
 IDH 780805	<ul style="list-style-type: none">• TEROSON PU 6700	<ul style="list-style-type: none">• 250 ml (1:1)
 IDH 1034575	<ul style="list-style-type: none">• LOCTITE® 3038	<ul style="list-style-type: none">• 50 ml (10:1)
 IDH 1453183	<ul style="list-style-type: none">• LOCTITE® 3090• LOCTITE® 4070	<ul style="list-style-type: none">• 10 ml (10:1)
 IDH 1467955	<ul style="list-style-type: none">• LOCTITE® V5004	<ul style="list-style-type: none">• 50 ml (1:1)
 IDH 1487439	<ul style="list-style-type: none">• LOCTITE® 9492	<ul style="list-style-type: none">• 400 ml (2:1)
 IDH 1487440	<ul style="list-style-type: none">• LOCTITE® 9492• TEROSON PU 6700, MS 9399	<ul style="list-style-type: none">• 50 ml (1:1; 2:1)
 IDH 1826921	<ul style="list-style-type: none">• LOCTITE® 4090	<ul style="list-style-type: none">• 50 ml
 IDH 1573135	<ul style="list-style-type: none">• LOCTITE® 4090	<ul style="list-style-type: none">• 400 ml

Please provide necessary text for this box.

Nozzles

IDH number	For product	For pack size
 <p>IDH 547882</p>	<ul style="list-style-type: none"> • TEROSON MS 9320 SF (for spraying) 	<ul style="list-style-type: none"> • 310 ml
 <p>IDH 581582</p>	<ul style="list-style-type: none"> • TEROSON MS 930, MS 9320 SF 	<ul style="list-style-type: none"> • 310 ml • Aluminium cartridge

Needles

IDH number	For product	For pack size
 <p>IDH 88661</p>	<ul style="list-style-type: none"> • LOCTITE® 401 	<ul style="list-style-type: none"> • 18 (= Green) ID 0.84 mm
 <p>IDH 88662</p>	<ul style="list-style-type: none"> • LOCTITE® 401 	<ul style="list-style-type: none"> • 20 (= Pink) ID 0.61 mm

Maintenance Expert Training



High-quality products can be only as good as the people who use them. That is why we offer hands-on training on the use of our products in maintenance and repair environments.

Our trainers are thoroughly familiar with the day-to-day problems you may encounter and will give you the tools and practical know-how for successful application of our products.

The training content is based on the product categories of this Maintenance Expert Guide and can be tailored to your needs.

Features

- Pre-plant survey
- Hands-on training
- Conducted on site
- Training materials supplied
- Review of common failure causes and prevention
- In-plant follow up



Your benefits

The training will provide you with knowledge and tools to do the following:



Increase Reliability

and avoid downtime of your industrial equipment and machinery by regular maintenance



Improve Safety

at work by increasing reliability of your machinery and by using non-hazardous products



Save Time

by using innovative technologies that reduce downtimes and increase service intervals



Reduce Costs

by repairing worn or damaged parts instead of replacing them

Contact your Henkel Engineer for more details and to arrange training for your maintenance and repair team.

Specific Maintenance Solutions

Industry expertise and equipment know-how

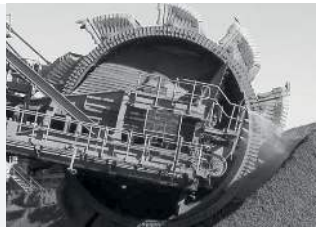
Years of experience in manufacturing and maintenance have enabled us to build up profound knowledge of the typical maintenance and repair tasks in all major industries and common industrial equipment.

Industry programs

Our industry programs cover the typical maintenance and repair challenges in your industry. They include numerous application examples, references and case studies. Learn how your specific repair task was solved in a comparable situation.



Power Plants



Mining



Petrochemical



Marine



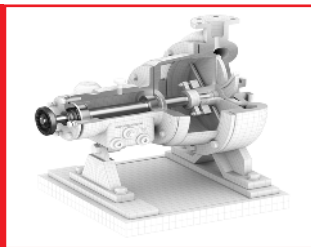
Railway



Water Utilities

Device programs

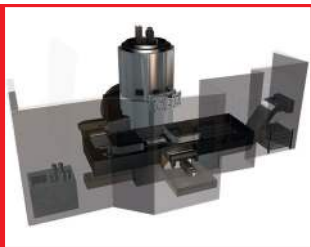
Our device programs go even deeper into the specific maintenance and repair tasks of the industrial component. They include specific application solutions for any repair tasks and suitable product suggestions. We will bring the solution so you could concentrate on your expertise.



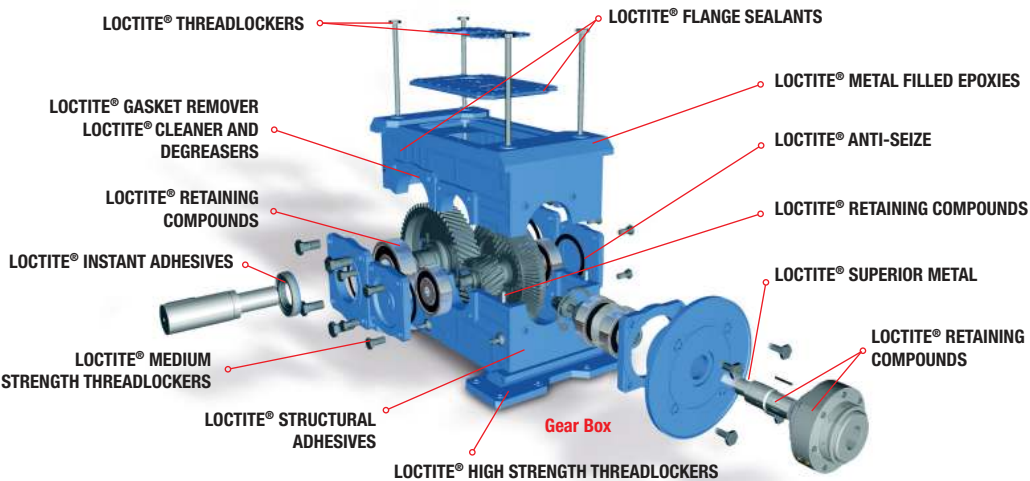
Pump



Shaft



Centrifuge



Find more information on the programs on www.loctite.co.uk/maintenance and contact your Henkel Engineer for a workshop tailored to your needs.



Find the right product and discover additional features.

Check out our mobile Maintenance Expert Guide:



m.loctite-guide-maintenance.com

**Check out our YouTube Channel
for the latest videos:**



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