



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 guick, easy and right at the first time. It covers the most relevant products you need in your everyday maintenance work.

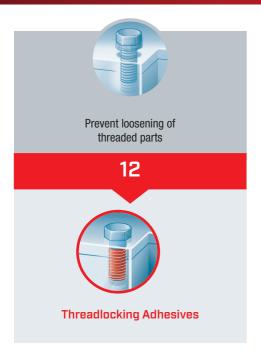
- Search by product category or by task
- Get useful application hints in the "How to apply" sections

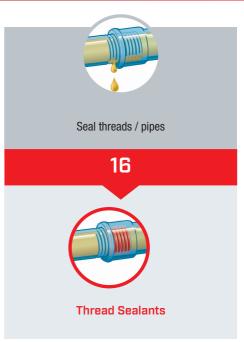
To discover our full product portfolio visit www.loctite.com or contact your Henkel Engineer.

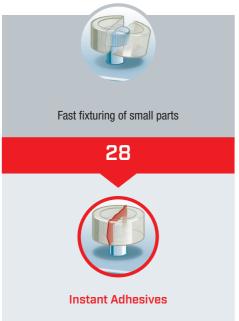
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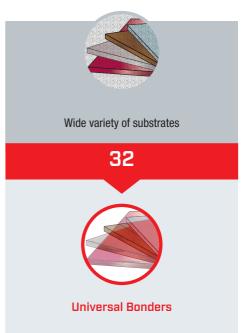
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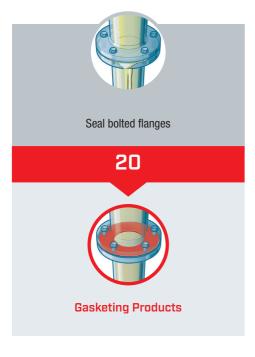
## What's Your Task?

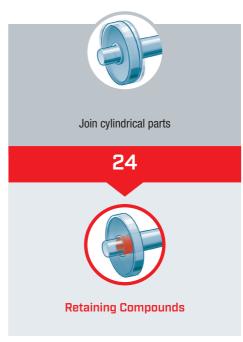


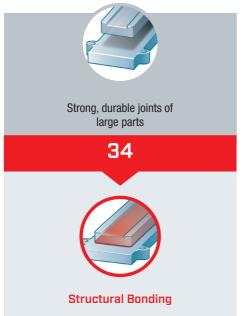


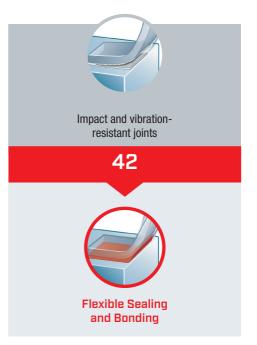






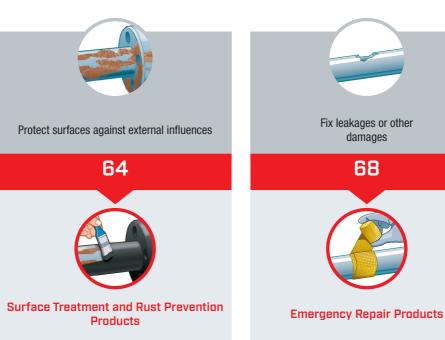






## What's Your Task?







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
- · Alllows 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



<sup>\*</sup>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



## Heavy-duty maintenance cleaners

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

Fountain cleaning	BONDERITE C-MC 1030
Floor cleaning	BONDERITE C-MC NEXO SOL
High pressure cleaning	BONDERITE C-MC N DB
Spray cleaning	BONDERITE C-MC 352
Hand cleaning	LOCTITE 7850

# Threadlocking Adhesives

## What strength do you require?



SOLUTION

Low

#### LOCTITE® 222

Easy Disassembly



Size of thread (up to)

Service temperature range (°C)

**Approvals** 

**Comments** 

M36

-55 to +150

P1 NSF

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

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

		High			
LOCTITE' 243	LOCTIT	E" 248 STICK	LOC	FITE' 270	
The Allrounder	No	Non Dripping		Permanent Locking	
ALIES OF THE PARTY		ROUTE STATE OF THE PARTY OF THE			
M36		M50		M20	
-55 to +180	-5	-55 to +150 -55 to +		i to +180	
P1 NSF		-		P1 NSF	
General purpose Good performance also on parentals Oil tolerant		Easy-to-use stick     For overhead applications		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.

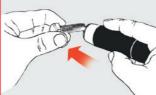
## Equipment

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

### LOCTITE® 248

Apply threadlocker on the targeted area.



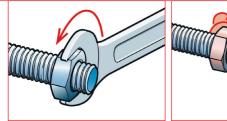


- . Twist stick to the amount required
- · Apply sufficient product around the thread of the bolt

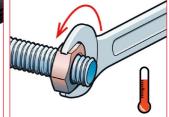
## 3. Assembly

- · 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





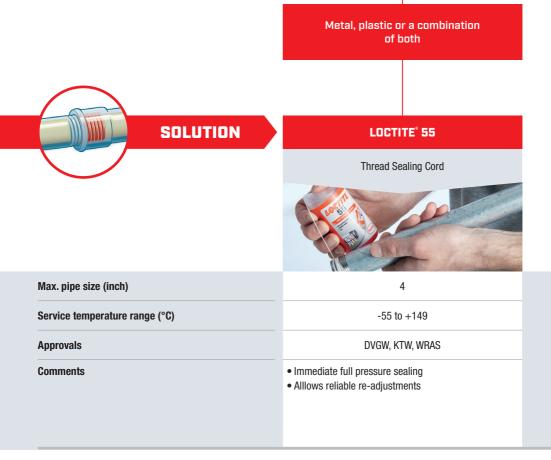


- · Disassemble with standard hand tools
- If not possible, apply localised heat to approximately 250 °C, dissasemble while hot
- For corroded or seized parts use LOCTITE® 8040 Freeze & Release

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?



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



## 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.

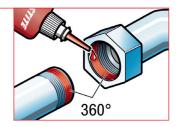


#### **Activation**

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

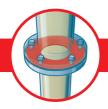
- · Assemble using accepted trade practices
- Adjustment of 45° is possible after tightening



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	

- 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 LOCTITE' SL 5980 LOCTITE" SI 5990 **High Temperature** The Allrounder **High Temperature** Metal Metal, plastic or both Metal, plastic or both 0,25 1 1 -55 to + 350 -55 to +200 -55 to +200 P1 NSF • For high temperature applications • General purpose • For high temperature applications • Oil resistant Easy dispensing • Leading in Health & Safety · Easy dispensing · Leading in Health & Safety

QUICK

## **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

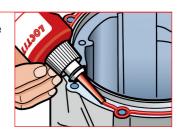


#### **Activation**

- 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® SL5980 and LOCTITE® SL5990 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.

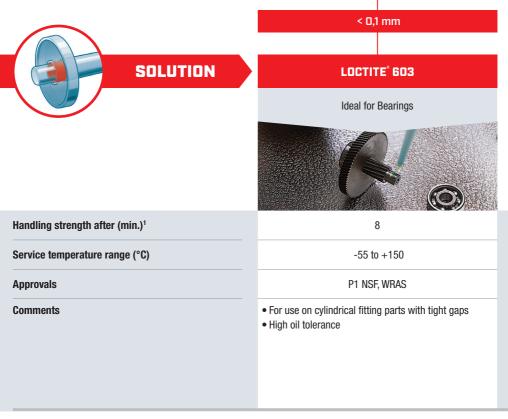
## 4. Disassembly

- · 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?



<sup>&</sup>lt;sup>1</sup> At room temperature on steel joints.

- 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		
56			
4	15		
-55 to +150	-55 to +150		
P1 NSF, WRAS	P1 NSF		
General purpose     Fast curing	<ul> <li>For repair of worn out seats, keys, splines, bearings or tapers without remachining</li> <li>To be used with activator Loctite® 7240</li> </ul>		



# **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**

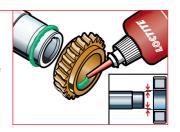
If cure speed is too slow due to passive metals or low temperature (below 5 °C), use activator Loctite® 7240 or Loctite® 7649 (see cure speed vs. activator graph in the TDS).



## 2. Application

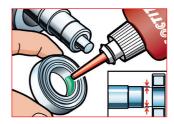
## A For slip fitted assemblies: LOCTITE® 603, 638, 660

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: I OCTITE® 603

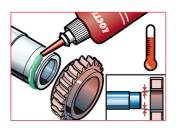
Apply adhesive thoroughly to both bond surfaces and assemble at high press on rates.



#### 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, dissasemble while hot
- For corroded or seized parts, use LOCTITE® 8040 Freeze & Release



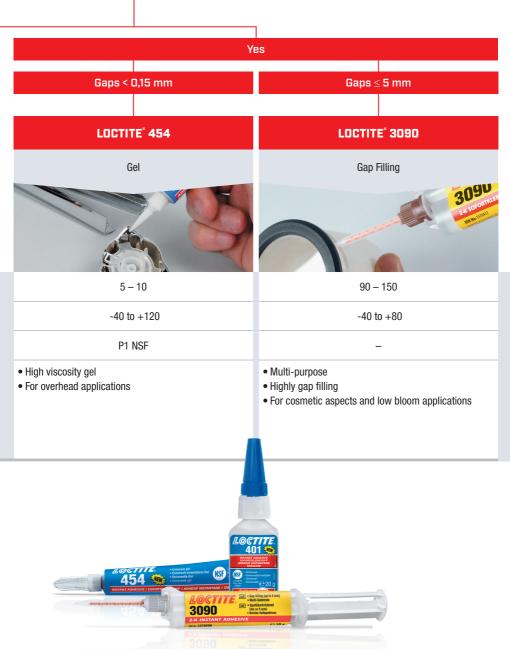
For detailed information please refer to the Technical Datasheet or contact your Henkel Technical Service Team.

## **Instant Adhesives**

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



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



## **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):

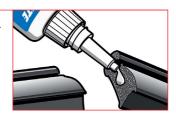
Before mounting the static mixer onto the cartridge, push out small amount of product to equalize pistons. Mount static mixer and push some mixed product out until a uniform color is reached, then the static mixer provides

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)

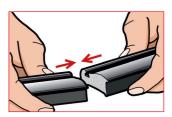
- For precise dispensing of small amounts of adhesive use dispensing needles
- Spare static mixers for Loctite<sup>®</sup> 3090: IDH 1453183

## 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.



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



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

## **Universal Bonders**

### Do you need an ultra fast cure?



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

## SOLUTION



Fixture time (sec.)

Service termperature range (°C)

#### **Approvals**

Comments



Yes

#### 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

No

#### LOCTITE® 4090

Impact and temperature resistant



3-5

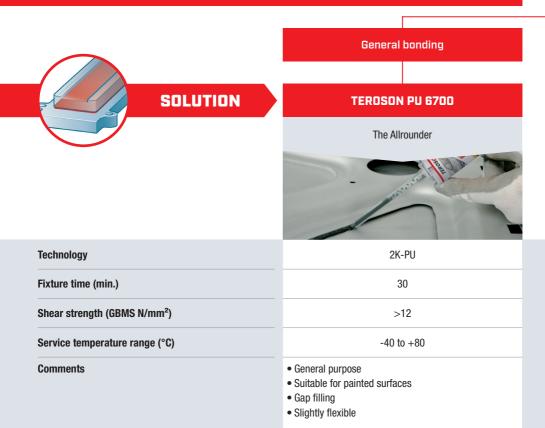
+150°C

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?



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

# Difficult to bond plastics Cosmetic appearance LOCTITE® V5004 LOCTITE' 3038 Multi-Bond 330 General Purpose Clear Bondline ADHESIVE 1K-Acrylic 2K-Acrylic 3 > 40 13 21

• Fast curing

• High strength • Clear bondline



-50 to +100

• Very good adhesion to difficult to bond plastics like

PE, PP

-50 to +80

# 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 shold be allowed to be 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	

-55 to +100

22

- Five-minute epoxy
- Water resistance

### LOCTITE" DOUBLE BUBBLE

### Easy to Use



С	lear
	5

9

-55 to +100

- For small and quick repairs
- Fast curing



## Structural Bonding - Epoxies

## How to apply LOCTITE' 9492, 3430, Doubble 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. Thorougly 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

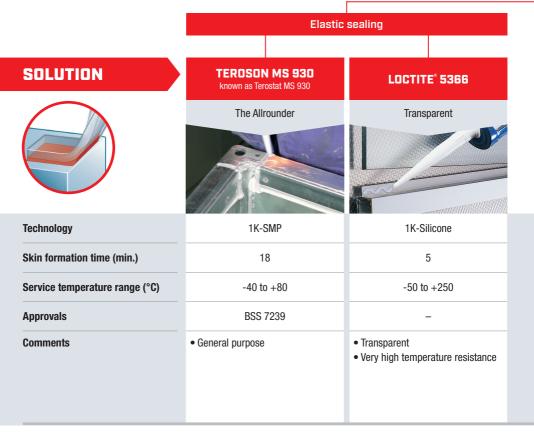
#### Hint:

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

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

# Flexible Sealing and Bonding

## What is your focus?



## **Technology Benefits**

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

Elastic I	oonding	Seam Sealing
TEROSON MS 9399 known as Terostat MS 9399	LOCTITE' SI 5616	TEROSON MS 9320 SF known as Terostat MS 9320 SF
The Allrounder	Fast Curing	Sprayable Sealant
2K-SMP	2K-Silicone	1K-SMP
35	-	12
-40 to +100	-50 to +180	-40 to +100
ASTM E 662/E 162 VDI 6022	-	-
General purpose     Fast curing	Very fast curing     High temperature resistance	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	<ul><li>IDH 142241 (for spraying)</li><li>IDH 142240 (for standard bead)</li></ul>	<ul><li>IDH 547882 (for spraying)</li><li>IDH 581582 (for standard bead)</li></ul>

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.)

Compressive strength (N/mm²)

Service temperature range (°C)

Comments

10

83

-30 to +120

- 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 LOCTITE® 3471 LOCTITE® 3475 **High Compressive Strength** Steel Rebuilding **Aluminium Rebuilding** 360 180 180 125 70 70 -30 to +120-20 to +120 -20 to +120 · Rebuild worn steel shafts and · Repair worn steel parts • Repair worn aluminium parts bearings Non-sagging putty Non-sagging putty • High compressive strength



## **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. Thorougly 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.

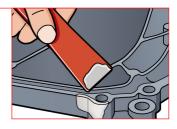
### Mixing

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



## 2. Application

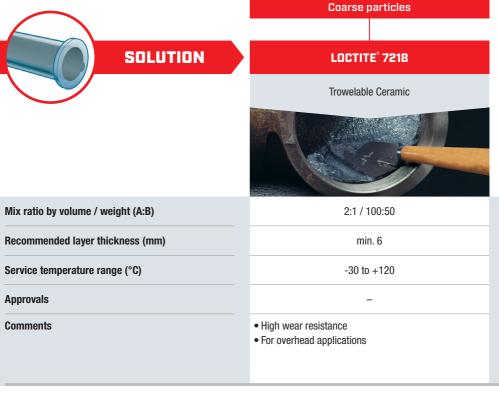
- · Apply the product to the working area with the spatula provided
- Keep the repaired parts from moving during cure
- Full cure is achieved at room temperature after 72 hours; heating the part to 40 °C will reduce the time span to 24 hours
- Due to heat generation during the curing process larger quantities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



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		

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



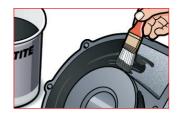
#### Mixing

- 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)
- Thorougly 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 laver thickness

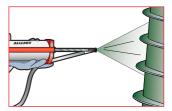


#### Hints:

- 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



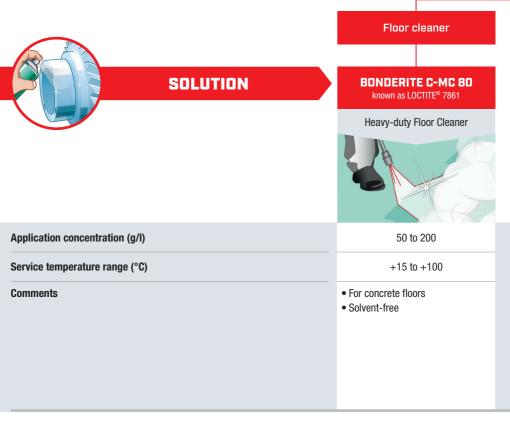
## Equipment

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

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

## **Cleaners - Heavy-duty Maintenance Cleaners**

## Which type of heavy-duty maintenance cleaner is required?



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 BONDERITE C-MC 3000 **BONDERITE** C-MC 352 known as LOCTITE® 7013 known as LOCTITE® 7014 known as P3 Grato 3000 Fountain Cleaner Spray Cleaner High Pressure Cleaner Ready-to-use 20 to 60 20 to 200 +50 to +75 +10 to +50 Room temperature For all kind of soils • For dirt, oil and grease • For dirt, oil and grease Solvent-free • For spray cleaning machines • Provide temporary rust protection Biodegradable Solvent-free 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 LOCTITE" 7200 LOCTITE® 7840 Prior to Bonding Gasket Remover General Cleaner Solvent Solvent Water • For use prior to bonding and seal-· Remove old gaskets • Biodegradable ing applications • Minimal scrapping • Can be diluted with water • Leaves no residue



## 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



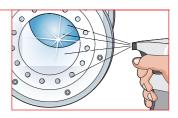
### How to apply LOCTITE® 7840

## **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



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

## 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	<ul> <li>Protect threaded connections</li> <li>Prevent seizing and corrosion</li> </ul>

## **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



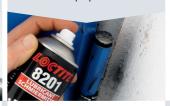
### LOCTITE® 8191

## Dry Film Lubricant



### LOCTITE® 8201

Multi-purpose Oil



Mineral	oil
---------	-----

-

-20 to +150

- Odourless
- Neutral appearance

MoS<sub>2</sub>

11 s (cup 4)

-40 to +340

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

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.

### LOCTITE® 8150

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



### LOCTITE® 8105

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

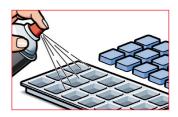
#### Hint:

Product may be suitable for use in automatic application systems.



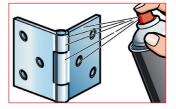
### LOCTITE® 8191

- 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



#### LOCTITE® 8021 D

- 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** 



Colour

Service temperature range (°C)

Comments

Matt black

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- . 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

## Protection of welding equip-Tamper proofing Corrosion protection ment LOCTITE\* 7800 LOCTITE' SF 7900 LOCTITE® 7414 Zinc Spray Ceramic Shield **Movement Detector** Grey White Blue -35 to +145 -50 to +550 • Excellent cathodic corrosion pro-· Prevent adhesion of welding • Visually detect movement of parts tection on ferrous metal spatter • For outdoor applications • Long-term protection of welding · Restore protection to galvanised parts equipment • Silicone-free







## Surface Treatment and Rust Prevention Products

### How to apply LOCTITE® 7505

## 1. Preparation

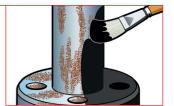
Wire brush to remove flaky rust and loose scale. It is recommended to use LOCTITE® 7063 to remove oil, grease and dirt. Shake well before use.

## 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



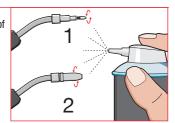
## How to apply LOCTITE® SF 7900 Ceramic Shield

## 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

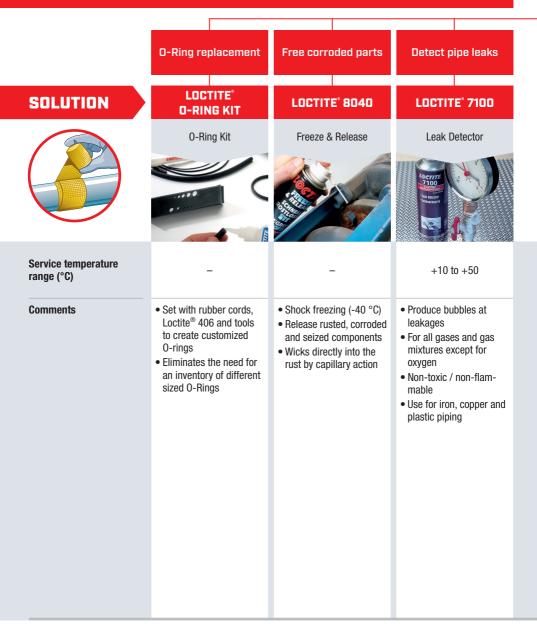
Squeeze the tub to extrude the paste and form a narrow bead across the parts. Let product dry for 60 seconds.



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

## **Emergency Repair Products**

## What is your application?



## Seal pipe leaks **Taping** TEROSON TAPE LOCTITE" 5070 LOCTITE' 5075 LOCTITE® 3463 **FIX&REPAIR** Insulating and Metal Magic Steel™ Stick Pipe Repair Kit High Strength Tape Sealing Wrap -30 to +120 -54 to +260up to +70• Steel-filled kneadable • Easy-to-use · Insulating and Fabric reinforced tape stick repair kit for temporary Sealing Wrap Easy to tear by hand repair of weak areas on • For emergency sealing Withstand extreme · Repair, reinforce, fix, pipes of tanks and pipes conditions seal and protect • Stretches 3-times its size

## **Emergency Repair Products**

### How to apply LOCTITE® 8040

## 1. Preparation

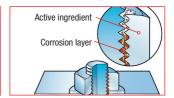
Remove loose dirt and rust. Shake well before use.

## 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







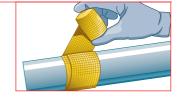
### How to apply LOCTITE® 5070

## 1. Preparation

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

## 2. Application

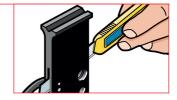
- Mix required amount of LOCTITE® 3463 (details see chapter Metalfilled Compounds). Firmly press product into the crack, hole or void
- Activate tape by soaking into water at room temperature for 20 seconds. Wrap tape tightly around repair, building up at least 4 layers



## 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

## 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	• LOCTITE® 5188, 510, 5366, SI 5980, SI 5990 • TEROSON MS 930, MS 9320	• 300 ml • 310 ml
IDH 218312	• LOCTITE® 9492	• 400 ml (1:1, 2:1)
IDH 267452	• LOCTITE® 9492, V5004 • TEROSON PU 6700	• 50 ml (1:1, 2:1, 10:1)
IDH 363544	• LOCTITE® 5188, 510, SI 5980, SI 5990	• 50 ml
IDH 1034026	• LOCTITE® 3038	• 50 ml (10:1)

# Peristaltic dispensers

IDH number	For product	For pack size
IDH 608966	• LOCTITE® 222, 243, 270, 542, 603, 638	● 50 ml
IDH 88631	• LOCTITE® 222, 243, 270, 542, 603, 638	• 250 ml

# Pneumatic applicators

IDH number	For product	For pack size
IDH 142241	TEROSON MS 9320 SF (for spraying)	• 310 ml
IDH 2251591	• LOCTITE® 7255	• 900 ml

# Equipment - Accessories

## **Mixers**

IDH number	For product	For pack size
	• LOCTITE® 7255	• 1125 ml (2:1)
IDH 2447734		
	• TEROSON PU 6700	• 250 ml (1:1)
IDH 780805		
NOVONONONONONONONONONONONONONONONONONON	• LOCTITE® 3038	• 50 ml (10:1)
IDH 1034575		
24747474744	LOCTITE® 3090     LOCTITE® 4070	• 10 ml (10:1)
IDH 1453183		
hidandandandandar	• LOCTITE® V5004	• 50 ml (1:1)
IDH 1467955		
***************************************	• LOCTITE® 9492	• 400 ml (2:1)
IDH 1487439		
2000	• LOCTITE® 9492 • TEROSON PU 6700, MS 9399	• 50 ml (1:1; 2:1)
IDH 1487440		
	• LOCTITE® 4090	• 50 ml
IDH 1826921		Please provide necessary text
- MANANANANANANANANANA	• LOCTITE® 4090	• 400 ml for this box.
IDH 1573135		

## **Nozzles**

IDH number	For product	For pack size
	TEROSON MS 9320 SF (for spraying)	• 310 ml
IDH 547882		
	• TEROSON MS 930, MS 9320 SF	• 310 ml • Aluminium cartridge
IDH 581582		

## **Needles**

IDH number	For product	For pack size
	• LOCTITE® 401	• 18 (= Green) ID 0.84 mm
IDH 88661		
	• LOCTITE® 401	• 20 (= Pink) ID 0.61 mm
IDH 88662		

## **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.







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.



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

**Gear Box** 

LOCTITE® HIGH STRENGTH THREADLOCKERS

**LOCTITE® STRUCTURAL** 

**ADHESIVES** 



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m.loctite-guide-maintenance.com

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