



LOCTITE[®]

**MAINTAIN, REPAIR, REBUILD, PROTECT
SOLUTIONS FOR THE OIL,
GAS, AND CHEMICAL
INDUSTRIES**

Henkel

Henkel Adhesive Technologies

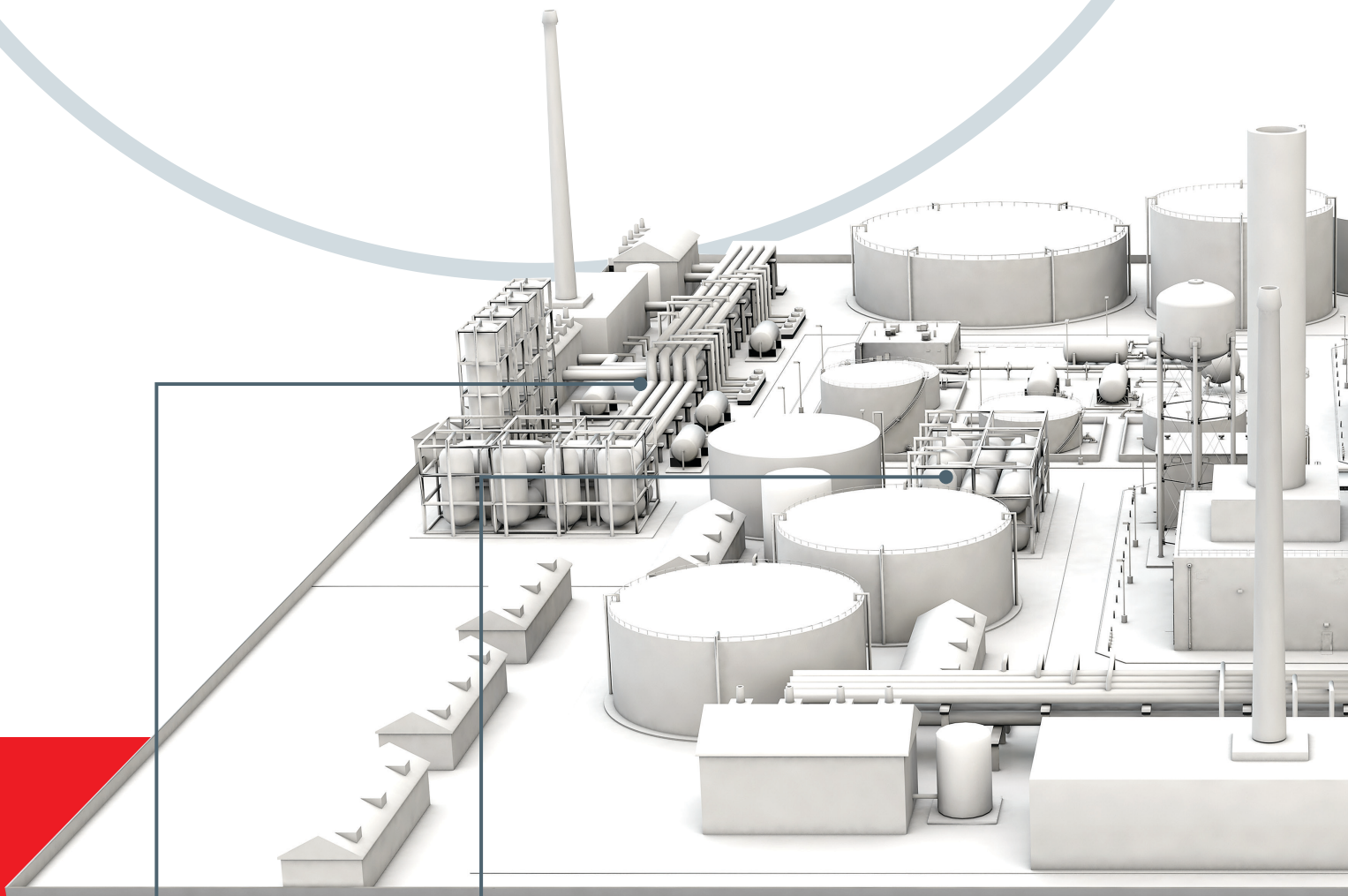
LOCTITE® – Complete Solutions for Oil, Gas, and Chemical Industry.

Repair, rebuild, maintain and protect your assets

Maximizing production and preventing unplanned downtime are critical in the oil, gas, and chemical industry. At LOCTITE® — the leading solution provider for adhesives, sealants and functional coatings worldwide — we understand the challenges you face because we know the oil, gas, and chemical industry inside and out.

With more than **50 years of experience** in oil, gas, and chemical industry, we'll help you keep your plants and equipment in top operating condition. Our **LOCTITE® brand** adhesives are known around the world for reliability and quality.

Let us show you how our LOCTITE® brand can help you **reduce costs, increase reliability, and improve efficiency.**



PUMPS:
LOCTITE® adhesives and coatings to repair and rebuild

MECHANICAL PARTS:
BONDERITE® cleaners for effective cleaning

Why LOCTITE®?

As the leading solution provider for adhesives, sealants, and functional coatings worldwide, we work as a partner with the oil, gas, and chemical industry.

COMPLETE PRODUCT PORTFOLIO

A full range of solutions for the oil & gas industry.

INNOVATION

Solutions developed with our customers to help solve their toughest challenges.

TECHNICAL EXPERTISE

Engineering support to help you improve your operations.

GLOBAL REACH

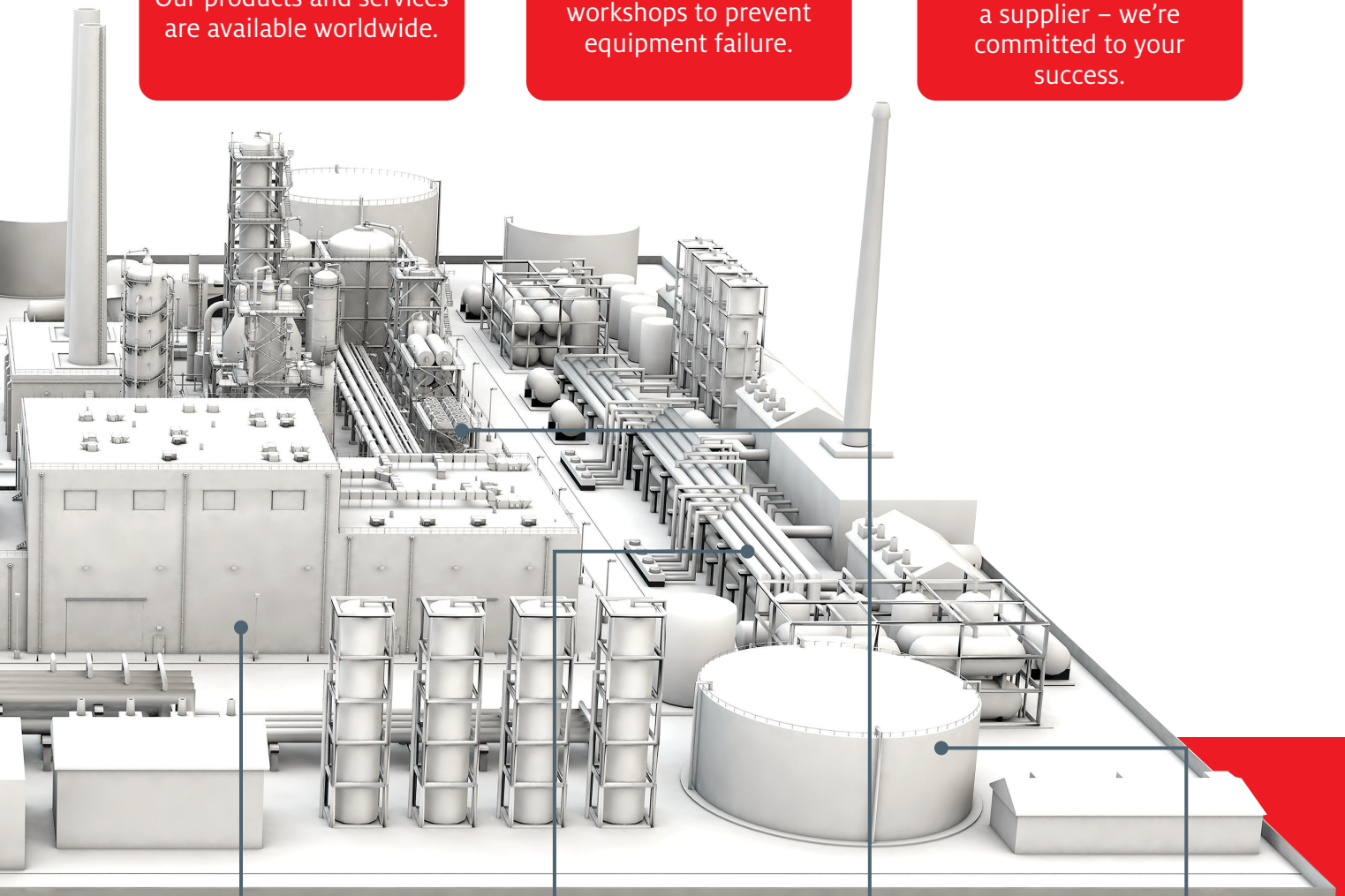
Our products and services are available worldwide.

TRAINING

On-site maintenance workshops to prevent equipment failure.

CUSTOMER PARTNERSHIP

LOCTITE® is more than a supplier – we're committed to your success.



FLOORS:

LOCTITE® concrete repair and coatings to protect against chemical attacks

PIPES AND VALVES:

LOCTITE® adhesives and coatings to prevent leaks and corrosion and resist wear

HEAT EXCHANGERS:

LOCTITE® coatings to prevent corrosion

TANKS:

LOCTITE® coatings and flexible sealants for long-term surface protection and reliability

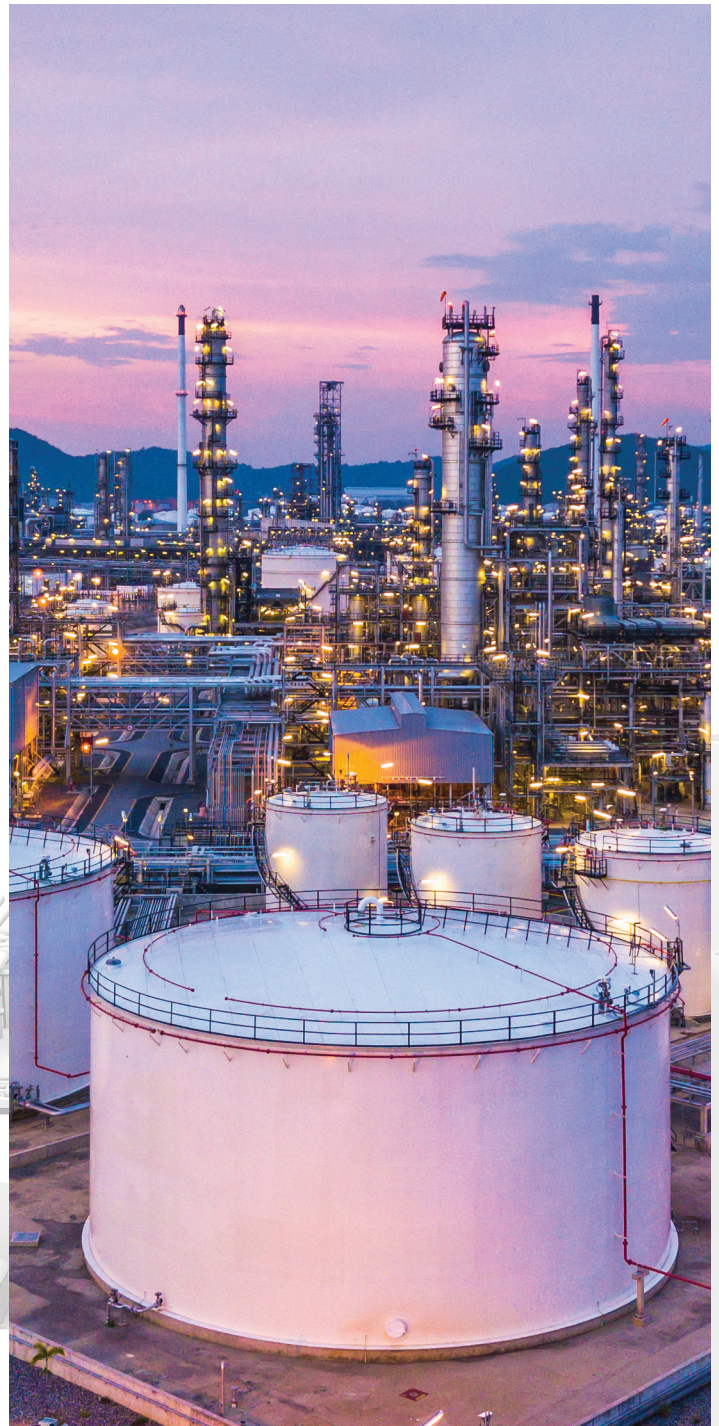
TANKS

CORROSION PROTECTION FOR TANK ROOF

SITUATION:	SOLUTION	BENEFITS
Roofs on tanks become corroded in saline environment, resulting in severe corrosion and through-holes. This can slow down operation and cause an accident.	<ul style="list-style-type: none"> • TEROSON® MS 930 - Flexibility allows for sealing of welded joints • LOCTITE® EA 3478 to repair through-holes • LOCTITE® PC 7332 for protection 	<ul style="list-style-type: none"> • Better reliability due to flexibility of sealing solution • Long-term tank roof patch repair

TANK ROOF PATCH REPAIR

SITUATION:	SOLUTION	BENEFITS
Through-holes can develop on the roofs of tanks, due to water accumulation and corrosive environments, which reduce plate thickness.	<ul style="list-style-type: none"> • TEROSON® MS 930 - Flexibility allows for sealing of welded joints • LOCTITE® EA 3478 to repair through-holes • LOCTITE® PC 7332 for protection 	<ul style="list-style-type: none"> • Better reliability due to flexibility of sealing solution • Long-term tank roof patch repair



TANK BOTTOM SEALING

SITUATION:	SOLUTION	BENEFITS
Moisture and water enters gaps between the tank annular plate and concrete base which corrodes and damages the bottom of the tank.	<ul style="list-style-type: none"> • TEROSON® MS 930 – Flexible sealant for gap filling between metal plate and concrete base • LOCTITE® SF 754 - Before sealing, converts existing rust into protective primer on metal plate 	<ul style="list-style-type: none"> • High elongation capability • Excellent adhesion with metal plate and concrete • UV resistant makes it ideal for exterior application



LEAKAGE REPAIR WIND GIRDER

SITUATION:	SOLUTION	BENEFITS
Tanks get corroded under insulation and lead to leakage around the wind girder. This leads to continuous leakage of fuel and a safety hazard.	<ul style="list-style-type: none"> • Fast curing, easy to mix and apply Metal Rebuild Solutions such as LOCTITE® EA 3478 or LOCTITE® EA 3463 • Topcoat with a Protective Coating LOCTITE® PC 7227 	<ul style="list-style-type: none"> • Leakage is sealed and strengthened, no replacement necessary • Reduced downtime, increased life of wind girder and extended corrosion protection

PIPES

THREAD SEALING FOR OIL PIPE

SITUATION:	SOLUTION	BENEFITS
Piping often encounters poor performance due to harsh chemical environments. Other solutions do not reliably prevent galling and leakage.	<ul style="list-style-type: none"> • LOCTITE® Thread Sealants such as LOCTITE® 5113 - General-purpose solution, typically used for lubricating and sealing threaded pipes and pipe fittings 	<ul style="list-style-type: none"> • Reliable sealing solution • High lubricity prevents thread galling and never slows down operation • Allows for easy disassembly



PIPE EXTERNAL CORROSION PROTECTION

SITUATION:	SOLUTION	BENEFITS
Small cracks and corrosion on piping results in thinned external pipe walls.	<ul style="list-style-type: none"> • LOCTITE® EA 3478 - After proper preparation, apply over the thin cracks • Topcoat with a Protective Coating such as LOCTITE® PC 7255 	<ul style="list-style-type: none"> • Decreased downtime • Less production losses • Strong repair against corrosion

UNDER PIPE SUPPORT

SITUATION:	SOLUTION	BENEFITS
There is a metallic wear pad, mismatched underneath the pipe, which is reducing wall thickness, due to galvanic corrosion. This is a large safety concern around the plant.	<ul style="list-style-type: none"> • LOCTITE® EA 3478 – Superior metal filled epoxy resin system is ideal for metal rebuilding. Does not rust • LOCTITE® PC 7227 GY - Ceramic fillers provide maximum protection against wear 	<ul style="list-style-type: none"> • Increased life of pipes, making them more reliable • Resistant to corrosion, chemical attacks and abrasion • Solutions can be used on the pipe support, as well as the facility's piping

INFRASTRUCTURE

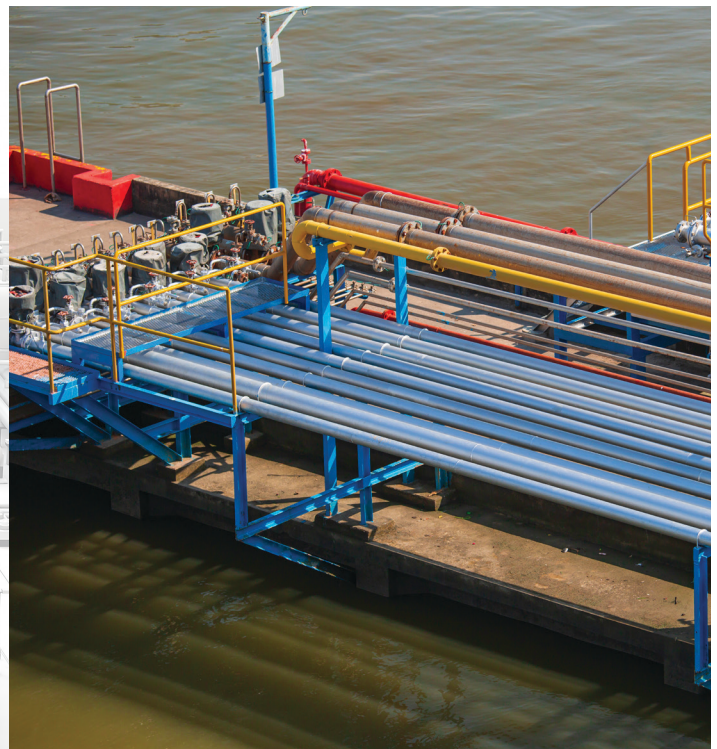
PLANT EQUIPMENT CORROSION PROTECTION

SITUATION:	SOLUTION	BENEFITS
Many areas inside a plant corrode, including trenches, foundations, pump bases, floors, walls of storage tanks and battery room floors.	<ul style="list-style-type: none"> • LOCTITE® PC 7319 - after surface preparation, apply to concrete and/or metal 	<ul style="list-style-type: none"> • Advanced two-part epoxy is designed to protect against chemical attacks and corrosion • Creates a safer work environment



JETTY STRUCTURE REPAIR OF CONCRETE ROAD AND EXPANSION JOINTS

SITUATION:	SOLUTION	BENEFITS
Edges and surfaces on a jetty structure break due to impact in coastal environments. The solution needs to bond to existing surfaces including old concrete and rusted reinforcement, as well as withstand other chemicals.	<ul style="list-style-type: none"> • LOCTITE® PC 9416 - Ideal for long-term repairs on exposed or damaged reinforced concrete 	<ul style="list-style-type: none"> • Increased reliability • Increased worker safety • Long-term repair of jetty • Solution can be used in other applications within the facility



INFRASTRUCTURE

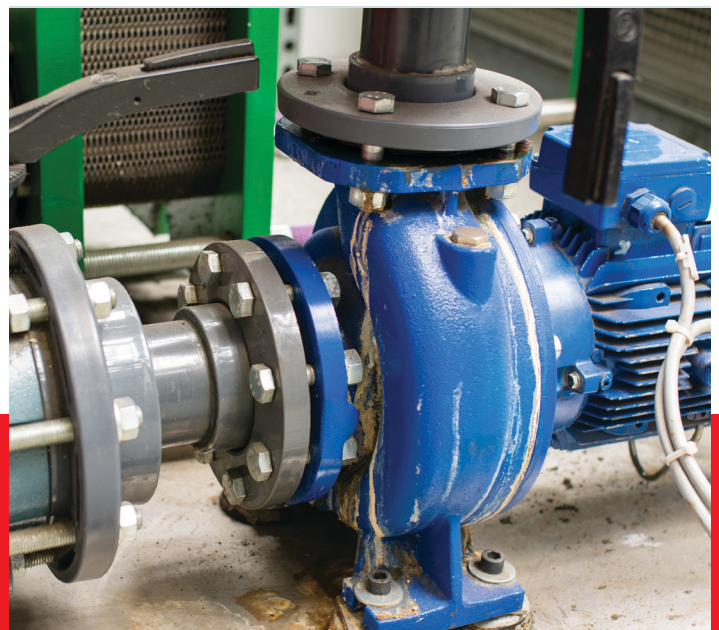
SULFUR PIT REPAIR/ PROTECTIVE COATING

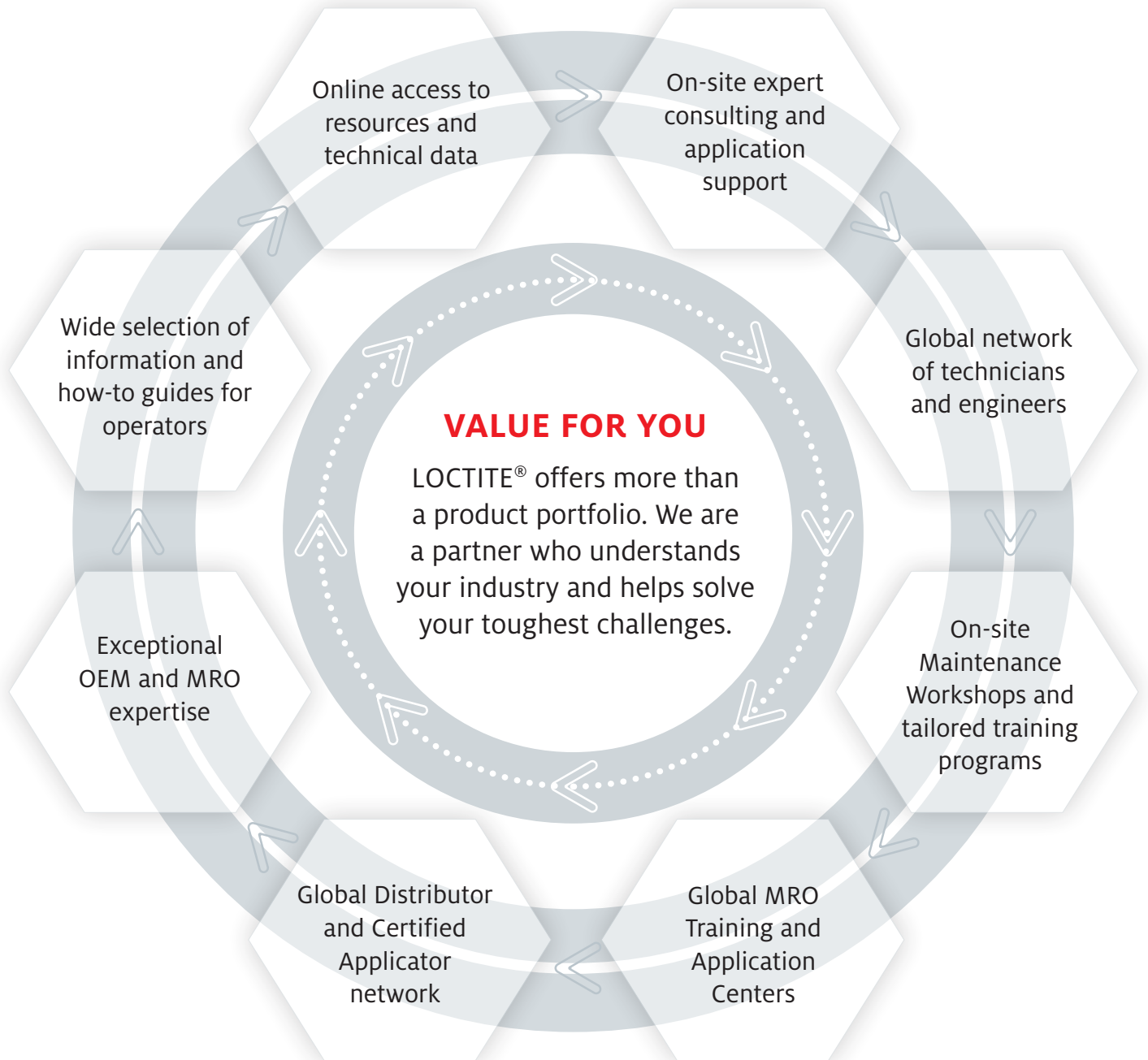
SITUATION:	SOLUTION	BENEFITS
Regular concrete patch work was not withstanding the harsh working environments inside the sulfur pit. There was a loss of integral strength and extended corrosion.	<ul style="list-style-type: none"> • LOCTITE® SF 754 - After surface preparation, apply to convert rust and serve as a base • LOCTITE® PC 9416 - Apply to repair corrosion 	<ul style="list-style-type: none"> • Fast repair and protection resulting in reduced downtime • Restore damaged sulfur pit and defend from further future damage



BASE FRAME AND CONCRETE CORROSION PROTECTION

SITUATION:	SOLUTION	BENEFITS
Motor body and base frames are severely corroded due to chemicals in its environment.	<ul style="list-style-type: none"> • LOCTITE® PC 7319 - After surface preparation, apply on the motor and base frame 	<ul style="list-style-type: none"> • Provides excellent resistance to chemical environment, protecting the motor and base frame. • Creates a safer work environment





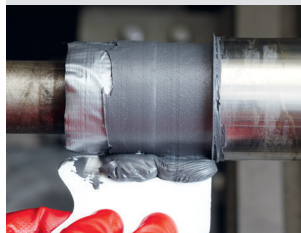
**LOCTITE®
MACHINERY
ADHESIVES**

- Threadlocking
- Thread Sealants
- Gasketing
- Retaining



**REBUILDING,
PROTECTING
AND COATING**

- Metal-Filled Compounds
- Concrete Repair
- Wear-Resistant Coatings



**BONDING AND
SEALING WITH
LOCTITE®**

- Epoxies
- Polyurethanes
- Instant Adhesives
- Industrial Sealants



**SUPPLEMENTARY
MAINTENANCE
PRODUCTS**

- Cleaners
- Metal Pretreatment
- Anti-Seize and Lubricants



PRODUCT	ITEM NUMBER	PACK SIZE	COLOR	FEATURES	EXTRUSION RATE (G/MIN)	TECHNOLOGY	SKIN OVER RANGE (MINUTES)	TEMPERATURE RANGE	SHORE HARDNESS	TENSILE STRENGTH (PSI)	ELONGATION AT BREAK (%)	LAP SHEAR STRENGTH ON STEEL (PSI)
TEROSON® MS 930NA	2138430	290 ML	WHITE	*PRIMERLESS, GOOD UV/ WEATHER RESISTANCE, PAINTABLE, SOLVENT/ ISOCYANATE-FREE*	300	SILICONE	25	-60°F TO 175°F (-50°C TO 80°C)	A 30	200	380	145
	2138431		BLACK									

LOCTITE® EA 3463™
10 MINUTE REPAIR EPOXY

LOCTITE® EA 3478™
SUPERIOR METAL



COLOR	Metallic Black	Dark Grey
MAXIMUM TEMPERATURE	350°F (175°C)	302°F (150°C)
WORKING TIME	3 min.	20 min.
CURE TIME	10 min.	6 hrs.
COMPRESSIVE STRENGTH	7,200 psi	9,900 psi

IDH PACKAGE SIZE
209681 4 oz. stick

IDH PACKAGE SIZE
209822 1 lb. kit
831721 4 kg kit

LOCTITE® PC 7332™
NORDBAK® WEAR™ RESISTANT COATING

LOCTITE® PC 9416™
FLOOR FILL

COLOR	Grey
MAXIMUM TEMPERATURE	248°F (120°C)
WORKING TIME	30 min.
CURE TIME	6 hrs.
IDH PACKAGE SIZE	2751067 10 kg kit

COLOR	Grey
MAXIMUM TEMPERATURE	225°F (107°C)
COMPRESSIVE STRENGTH	13,100 psi
WORKING TIME	35 min.
FUNCTIONAL CURE	16 hrs.
CHEMICAL RESISTANCE	Good

IDH PACKAGE SIZE
235632 10 lb. kit
235633 40 lb. kit

LOCTITE® SF 754

DESCRIPTION	Rust converter
COLOR	Milky
TEMPERATURE RANGE	N/A
DRY TIME	N/A

IDH	PACKAGE SIZE
234981	1 qt. bottle
234984	5 gal. pail

**LOCTITE® 5113™
SEALANT WITH PTFE**

TYPE	Non-hardening
IDH	1527514
PACKAGE SIZE	1 pt. can

**LOCTITE® PC 7319™
NORDBAK® CHEMICAL
RESISTANT COATING****LOCTITE® PC 7255™
NORDBAK® SPRAYABLE
CERAMIC****LOCTITE® PC 7227™
NORDBAK® BRUSHABLE
CERAMIC**

COLOR	Grey	Green	Grey
MAXIMUM TEMPERATURE	150°F (66°C)	200°F (93°C)	200°F (93°C)
WORKING TIME	20 min.	40 min.	30 min.
CURE TIME	24 hrs.	6 hrs.	24 hrs.

IDH	PACKAGE SIZE
209816	12 lb. kit

IDH	PACKAGE SIZE
2462905	1125 ml. cartridge - Green
2464244	1125 ml. cartridge - Grey

IDH	PACKAGE SIZE
209626	2 lb. kit - Grey
209625	6 lb. kit - Grey



Henkel Corporation
Engineering Adhesives
na.henkel-adhesives.com/mro
na.henkel-adhesives.com/oilandgas

U.S.A.
Henkel Corporation
Engineering Adhesives
One Henkel Way
Rocky Hill, Connecticut 06067
Tel: 1.800.LOCTITE (562.8483)
Tel: 860.571.5100
Fax: 860.571.5465

Canada
Henkel Canada Corporation
Engineering Adhesives
2515 Meadowpine Blvd.
Mississauga, Ontario L5N 6C3
Tel: 1.800.263.5043 (within Canada)
Tel: 905.814.6511
Fax: 905.814.5391