



A HISTORY OF EXCELLENCE



ROCOL® has been providing engineers with high performance lubrication solutions for more than 100 years.

During that time we have worked with some of the world's leading companies in many diverse industries and applications, developing products with one common goal: to deliver optimum performance.

ROCOL operates to internationally recognised standards for quality, environment and safety. ROCOL is proud of its commitment to the continual engagement and development of staff and holds *Investors In People* accreditation.

QUALITY



ENVIRONMENT



SAFETY



PEOPLE



BENEFITS OF WIRE ROPE LUBRICATION

Although simple in appearance, the intricate construction and multitude of demands placed on wire ropes means that, like any machine, they must be lubricated and protected to achieve optimum performance and service life.



Reducing the internal friction generated during load application/removal and the bending of the rope over sheaves and drums is vital.

It is generally accepted that the bend fatigue life of a lubricated wire rope can be up to 60% longer than that of a non-lubricated rope.



Protecting the rope from the often severely corrosive conditions encountered in marine and other environments is another key consideration. Although ropes may appear in good condition, corrosion of the core may go unnoticed, creating a potentially dangerous situation.

The potential savings in both time and money in addition to improved operational safety mean that correct in-service lubrication is a key part of wire rope use.



KEY REQUIREMENTS OF WIRE ROPE LUBRICANTS

Whilst it may be clear that good lubrication is a key part of maximising rope life, delivering the correct balance of properties in a single product is a significant challenge. A good wire rope lubricant must:



- ▶ Be easy, pleasant and safe to apply
- Achieve maximum penetration to ensure lubrication and protection of the rope core
- Resist wash-off and fling-off
- Have excellent corrosion protection
- Reduce friction and wear
- Allow easy inspection of the rope

ROCOL® WIRE ROPE LUBRICANTS

ROCOL have manufactured wire rope lubricants for many years. This has allowed us to accumulate the knowledge required to provide wire rope users, in a wide range of industries, with products that significantly improve the performance and durability of wire rope.

Our premium products, available in spray, fluid and compound versions reduce wear and corrosion, significantly extend service life and reduce costs.







PSEUDOPLASTIC WIRE ROPE DRESSING

One of the most difficult problems encountered in formulating wire rope lubricants is finding the optimum balance between good penetration properties and resistance to water wash-off.

- Good penetration is achieved by low viscosity products such as oils but these have poor resistance to wash-off
- Good wash-off resistance is achieved by highly adhesive grease-like products but these have poor penetration properties

Until now there has been a trade off between these competing requirements. However, thanks to its pseudoplastic rheology, WIRESHIELD achieves maximum penetration without compromising wash-off resistance.

WHAT IS PSEUDOPLASTIC RHEOLOGY?

Initially WIRESHIELD has the appearance of a grease.

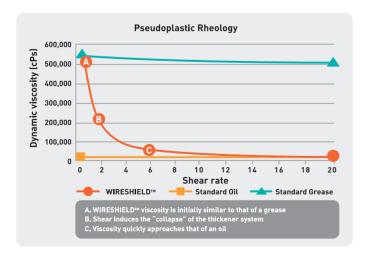
Under the slightest shear or agitation the grease structure collapses and almost instantly becomes fluid.

This allows maximum penetration into the rope

When the shear or agitation stops, the grease structure reforms almost instantly.

This maximises wash-off resistance

The graph below illustrates the relative viscosities of oils, grease and WIRESHIELD:

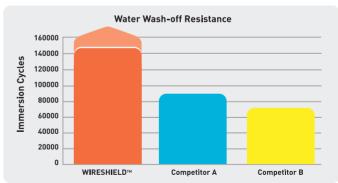


EXTENDED RE-LUBRICATION

Wire ropes often operate in extreme environments, as a result, resistance to water wash-off is a key property of a wire rope dressing.

During the extensive laboratory testing of WIRESHIELD a test was developed to measure wash-off resistance.

Steel test panels, coated with various lubricants, were repeatedly immersed in synthetic sea water until the protective film failed and corrosion was observed. The graph below shows the results:



After 144,000 immersion cycles WIRESHIELD showed no sign of failure and was still protecting the steel from corrosion. Other wire rope lubricants were significantly less resistant.



THE DIFFERENCE IS CLEAR

The key safety check for wire rope users is a visual inspection of the condition of the rope.

Traditional wire rope lubricants contain black solid lubricants such as graphite and molybdenum disulphide.

These materials make the lubricant unpleasant to handle and impossible to see through.

WIRESHIELD™ uses an advanced load carrying system based on sub-micron white solids. The result is a finished product that is both clean to handle and translucent in use - without compromising the load carrying or anti-wear properties.

Below is an illustration of the translucency of the applied WIRESHIELD film compared to a traditional lubricant.



Traditional rope lubricant

WIRESHIELD



FEATURES AND BENEFITS

- Temperature range -30°C to +100°C
- Excellent lubrication properties reduce wear on wires and strands, maximising life
- Outstanding corrosion protection
- Highly resistant to water wash-off
- Thin, non-tacky film prevents build up of dust and dirt
- Clean and pleasant to use
- Translucent film allows easier and more effective rope inspection
- Does not drip or fling-off due to the pseudoplastic rheology

WIRESHIELD™ Fluid

WIRESHIELD Fluid is a solvent containing, liquid version of WIRESHIELD designed for application by pressure spray equipment. Once applied, the solvent evaporates leaving behind the WIRESHIELD film which is equivalent to standard WIRESHIELD.

WIRESHIELD Fluid	Part Code	Size
	20078	20L
	20079	200L

COMPREHENSIVE RANGE



ROCOL manufacture a comprehensive range of wire rope lubricants.

ROCOL products have been proven over many years of service to:

- Reduce wear on wires and strands, maximising service life
- Provide outstanding corrosion protection
- Resist water wash-off, extending re-lubrication intervals











WIRE ROPE Dressing

Multi-purpose rope lubricant

Semi-fluid grease based on highly refined mineral oil and an organically modified clay thickener. The unique blend of lubricating solids contained in the product reduces the internal friction and wear often encountered in multi-strand wire ropes. It is highly resistant to water wash-off and provides excellent corrosion protection, making it suitable for use even in salt water environments.

WIRE ROPE	Part Code	Size
Dressing	20026	4kg
	20024	18kg

WIRE ROPE Spray

Convenient aerosol pack

Convenient aerosol version of WIRE ROPE Dressing. The solvents and propellants provide enhanced de-watering and penetration properties making the product suitable for use on wet ropes. The convenience of the aerosol dispenser makes this product ideal for use on equipment such as mobile cranes and for spot application to high wear sections of rope. Once the solvent evaporates, performance is identical to WIRE ROPE Dressing.

WIRE ROPE	Part Code	Size
Spray	20015	400ml

WIRE ROPE Fluid

Ideal for spray application

Fluid version of WIRE ROPE Dressing. Specially selected petroleum solvents added to the formulation provide both enhanced de-watering and penetration properties making the product particularly suitable for use on wet ropes. The fluid nature also makes the product suitable for spray application. Once the solvent evaporates performance is identical to Wire Rope Dressing.

BIOGEN Rope Guard

For environmentally sensitive applications

Mineral oil free lubricant manufactured from biodegradable and renewable raw materials. Should accidental release to the environment occur it is designed to be broken down into harmless substances by the action of micro-organisms.

WIRE ROPE	Part Code	Size
Fluid	20046	5L
	20045	20L

BIOGEN Rope	Part Code	Size
Guard	19044	18kg

WIRE ROPE LUBRICATION

Methods of rope lubrication range from traditional, unsophisticated techniques such as brushes and swabs to dedicated, high performance equipment.

ROCOL wire rope lubricants are designed to be as easy to apply as possible by whichever method is most convenient. While there is no single method that is "right" and works in all situations, the modern trend is to move away from manual application, to automated systems which:

- Maximise efficiency of lubricant delivery on to the rope
- Improve health and safety by reducing operator contact with the rope and lubricant

To make the selection of the correct system as easy as possible ROCOL recommend the new CoreLube BOS-2100-R1 system. This applicator system has been specifically optimised to deliver WIRESHIELD by CoreLube Equipment, the leading manufacturer of rope lubrication equipment.





CORELUBE BOS-2100-R1 SYSTEM

Optimised WIRESHIELD delivery system

The BOS-2100-R1 system has been designed to deliver WIRESHIELD in the most effective way possible. The patent pending unit operates as follows:



- WIRESHIELD is pumped into the housing where brushes work it into the wires and strands
- ► The revolutionary spiral brush design prevents the build-up of excess lubricant on the surface of the rope



Features and benefits

- Low cost and very easy to use
- One brush size covers a large range of rope sizes, eliminating the need for a rubber seal for every size of wire rope
- Can be permanently installed for continuous operations
- Wire rope deformities and cable markers can be run through the unit
- Wire ropes can run through the unit at any angle at a wide range of speeds
- The same pump fits all sizes of containers from a drum to a pail





CLIENT: P&O FERRIES

Product: WIRESHIELD™

Location: Dover, UK

Application Details:

The Pride of Kent crosses the channel to Calais up to 10 times a day. The vessel is moored using steel wire ropes which can be immersed in sea water up to 20 times a day and are exposed to extreme coastal weather conditions.

In order to lubricate the wire ropes, fish oil was applied to them on a regular basis. Although easy to apply and offering reasonable penetration to the rope core the fish oil produced unsatisfactory results, including poor wash-off resistance, leading to increased lubrication intervals. The operators also had problems when applying the oil as it dripped and splashed onto them, causing health and safety issues, as well as the unpleasant smell associated with fish.

Required Specification:

- Lubricant with high wash-off resistance
- Easy to apply lubricant with no unpleasant odour
- High load carrying capabilities
- Provides corrosion protection to the core of the rope and its outer strands

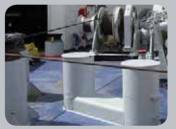
Results:

It was agreed that a trial would be carried out on one wire rope to compare the performance of WIRESHIELD to fish oil. The product proved so popular with operators - due to the ease of application and improved cleanliness - that within one week the trial had been extended to all eight steel wire ropes on the vessel. After only two months in service no further application of lubricant has been required and the ropes are still in excellent condition.









Customer Feedback:

"WIRESHIELD is easy to apply and much more pleasant to use than the fish oil we used previously. The improved wash-off resistance means that the ropes stay protected and we can extend the relubrication intervals, which saves a great deal of time and frees us up to do other things."

Paul Head - Boatswain, Pride of Kent

CLIENT: MARMAGOA PORT TRUST

Product: WIRE ROPE Dressing

Location: Goa, India

Application Details:

The wire ropes on the bulk iron ore unloaders suffered from a high degree of wear due to a combination of the large amount of abrasive iron ore dust in the atmosphere and the heavy duty nature of the unloading operation.

As a result the ropes were replaced every three to four weeks costing both time and money.

Required Specification:

- Good penetration properties to ensure that the rope core received effective lubrication
- Increase the operational life of the ropes

Results:

After adopting the use of WIRE ROPE Dressing as a standard maintenance procedure, the operational life of the wire ropes increased from an average of 25 days to 40 days. Expressed in terms of productivity this meant that each rope unloaded 190,000 tonnes of iron ore compared to the previous 120,000 tonnes.

The additional benefit of reduced down time further increased the efficiency and productivity of the unloading operation resulting in substantial overall savings.





CLIENT: BAE SYSTEMS - SHIPLIFT ROPES

Product: WIRE ROPE Dressing

Location: Barrow-in-Furness, UK

Application Details:

The 28,000 tonne capacity Syncrolift® ship lift plays a critical role in launching the multi-billion pound submarines and surface vessels manufactured by BAE. The 108 individual wire ropes of the Syncrolift® are regularly immersed in sea water during regular operational tests and vessel launches. Failure is not an option.

Required Specification:

Maximum reliability and durability of the ropes

Results:

WIRE ROPE Dressing has been exclusively used on the wire ropes since the construction and commissioning of the Syncrolift® with *faultless* performance. The lubricant film is highly water resistant and long lasting, resulting in re-lubrication frequencies of 6 months despite the aggressive operating conditions.





CLIENT: LAING O'ROURKE



Product: WIRE ROPE Dressing

Location: Dubai, UAE

Application Details:

Wire ropes are in use on TADANO, DEMAG and crawler cranes. Due to the atmospheric conditions the cranes operate in and the viscous nature of the previous lubricant, the ropes accumulated dust and suffered from poor lubrication of the rope core.

Required Specification:

- High penetration lubricant
- Lubricant that does not dry out
- Extends the life of the wire rope whilst also keeping it flexible
- Reduced affinity to dust

Result:

Laing O'Rourke found that by using ROCOL® WIRE ROPE Dressing, the life of the wire rope increased, which reduced initial consumption significantly. Due to this they also found that labour and maintenance costs were reduced, along with downtime and loss of production time.

Customer Feedback:

"The WIRE ROPE Dressing from ROCOL has been used on all of our mobile and crawler cranes with fantastic results."

Mr Heinz Zoechling, Technical Manager

ADDITIONAL PRODUCTS

GEARS



PRODUCT NAME FEATURES & BENEFITS

A range of high performance, thermally stable, semi-synthetic EP gear oils, incorporating SUPs to provide maximum protection in all types of gearboxes.

- SUP's A unique protection for gear teeth on start up and in use (start up protection)
- Incorporates blue dye for high visibility
- Long life reduces the need for frequent draining
- Superior EP load carrying performance
- Excellent corrosion protection
- Very low foaming in operation
- ISO VG 100, 220, 320, 460 & 680 grades available
- ► Temperature range –20°C to +120°C
- Available in 20L and 200L

Description Hi-Torque 100	Part Code 21005 21009	Size 20L 200L
Hi-Torque 220	21015 21019	20L 200L
Hi-Torque 320	21025 21029	20L 200L
Hi-Torque 460	21035 21039	20L 200L
Hi-Torque 680	21045	20L

TUFGEAR Universal

SAPPHIRE

Hi-Torque

Range



Heavy duty open gear lubricants based on a clay thickened grease. Suitable for all types and sizes of open gears. TUFGEAR Universal can even be used in strong under water currents.

- Capacity to withstand extremely high loads
- Excellent water and corrosion resistance
- Excellent adhesion to gear teeth no fling
- Suitable for all sizes of open gears
- Temperature range -40°C to +120°C
- Available in 400g, 5kg and 18kg

Part Code	Size
18302	400g
18305	5kg
18304	18kg

TUFLUBE Allweather

Water resistant adhesive lubricant for a wide range of applications.

Versatile, extremely adhesive, self-repairing lubricant. For slides, plain bearings, & open gears particularly in high load and/or wet conditions.

- Temperature range -30°C to +70°C
- Outstanding EP performance (800kg weld load)
- Excellent water displacing properties can be applied to wet surfaces
- ▶ Good corrosion protection
- Highly resistant to water wash-off
- Tenacious, self-repairing film
- Free from bitumen and solvents
- Available in 400g, 5kg and 18kg

Part Code	Size
18271	400g
18276	5kg
18244	18kg

CHAINS



CHAIN & DRIVE Spray

Highly versatile and high performance chain lubricant suitable for all types of drive and conveyor chains in a convenient aerosol can.

- Multi-purpose drive and conveyor chain lubricant
- Market leading corrosion protection
- ldeal for wet and humid conditions
- Good water displacing properties
- ▶ Highly water repellent
- Excellent anti-wear performance
- ► Temperature range –30°C to +150°C
- Available in 300ml

Part Code Size 22001 300ml

CHAINGUARD Hi-Load Spray

High performance, aerosol chain lubricant containing molybdenum disulphide for use in the most arduous conditions. Ideally suited for use on all types of chains under heavy loads.

- ▶ Heavy duty, multi-purpose drive and conveyor lubricant
- ldeal for fork lift truck chains
- Fortified with MoS2 for exceptional load and wear resistance
- Excellent corrosion protection
- ldeal for wet and humid conditions
- Good water displacing properties
- Highly water repellent
- ► Temperature range –30°C to +180°C
- Available in 300ml

Part Code Size 22141 300ml



PRODUCT NAME FEATURES & BENEFITS Z30 Waxy film for long term outdoor corrosion protection. Ideal for long term protection of machinery, **CORROSION** elevators, forklift trucks, underground installations and offshore platforms. **PROTECTION** Temperature range -20°C to +110°C Heavy duty, waxy film for long term corrosion protection Excellent corrosion protection outdoors for up to 2 years Good de-watering properties Good penetration Can provide a light lubricating film in some applications Ideal for outdoor corrosion protection of exposed Description Part Code 730 Fluid 37022 Does not contain silicones or chlorinated solvents 37028 Available in 300ml, 5L and 20L Z30 Spray 37020 **BEARING SAPPHIRE®** SAPPHIRE AQUA 2 is a revolutionary grease designed to give superior resistance to water wash-out. Aqua 2 For use in all types of ball, roller and plain bearings **GREASES** Outstanding long term water resistance, even when submerged Excellent corrosion protection Extended lubrication intervals Part Code Description Good load and wear performance NLGI 2 12751 Temperature range of -20°C to +150°C 12755 b NI GI No. 2 12754 b Available in 380g, 4kg, 18kg, 50kg and 185kg 12758 **SAPPHIRE** Revolutionary long life soap based bearing grease containing molybdenum disulphide. Particularly Hi-Load 2 suited for slow moving bearings subjected to heavy loads, shock and vibration. Triple life bearing grease Extreme load and wear performance D D Extended lubrication intervals Revolutionary multi-complex grease Good corrosion resistance Description Part Code Temperature range -30°C to +150°C NLGI 2 12761 D NLGI No. 2 12765 Available in 400g, 5kg and 18kg D 12764 **SAPPHIRE®** High performance, long life bearing grease containing molybdenum disulphide for use in plain and roller bearings which are operating in arduous conditions. Extreme 2 Excellent resistance to vibration and shock loads Very stable at high temperatures Extreme load and wear performance Extended lubrication intervals Description Part Code Good corrosion resistance NI GI 2 D Temperature range -25°C to +250°C 12216 NLGI No. 2 12214 D 12218 Available in 400g, 5kg, 18kg and 50kg D Copper based anti-seize compound to prevent seizure and **ANTI-SEIZE & ANTI-SEIZE** galling of all threaded and static fasteners. Compound **ASSEMBLY** Copper based - lead free formulation



- Excellent resistance to water
- Prevents seizure, galling and corrosion
- Operates effectively up to +1100°C D
- Available in 85kg, 500g, 6kg and 18kg

Part Code Size 14030 85a 14033 500g 14035 6kg 14038 18kg

Size

51

20L

300ml

Size

380g

4kg

18kg

50kg

Size

400a

5kg

18kg

Size

400a

5kg

18kg

50kg





An aerosol applied version of the Anti Seize Paste. Copper based to prevent seizing, galling and corrosion in threaded and static fasteners.

- Copper based anti seize lead free formulation
- Excellent water resistance
- Use on all threaded and static fasteners.
- Temperature range up to +1100°C

Available in 400ml

Part Code	Size
14015	400ml





ROCOL® House, Swillington, Leeds LS26 8BS, England

T +44 (0) 113 232 2600 **F** +44 (0) 113 232 2740

E customer-service@rocol.com

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