ROCOL®

Performance you can trust

Understanding wire rope lubrication

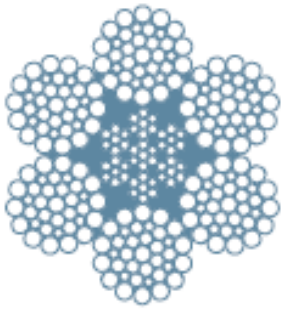
ROCOL® A division of ITW Ltd

Wire rope durability

Abrasion resistance

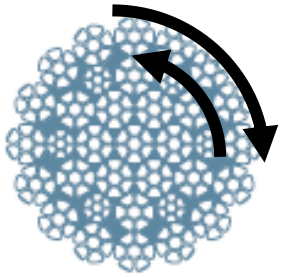
To increase abrasion resistance, a larger diameter wire is used in the outer layer of the strand

Bending fatigue resistance



To increase bending resistance, a thinner wire is used. The smaller diameter wires have less stiffness and allow for more bending without deformation.

Rotation resistance



Counter laying the layers counteract the rotational resistance of the wire rope.

Different surface finishes

What does the industry need?

1. Reduced corrosion rate > Increased asset life
2. Bend fatigue resistance > Increased asset life
3. Effective application > Best performance
4. Reduced environmental impact > meet legal standards and operator targets

What does a best-in-class grease achieve?

- **Maximum penetration:** ensuring protection at the cable core
- **High fling-off & wash-off resistance:** minimizing slip hazards and guaranteeing protection when wet
- **Stable in the presence of salt water:** will not stop lubricating when exposed to sea water
- **Excellent corrosion resistance:** Preventing premature failure
- **High level of pumpability :** Easy application with automatic lubricators
- **Friction reduction:** Reducing abrasion and wear
- **High temperature stability:** Ensuring protection at high temperatures e.g. heave compensation
- **Simple & safe application:** Non-hazardous to operators

After 4000 hours of salt spray testing

Pseudoplastic rheology

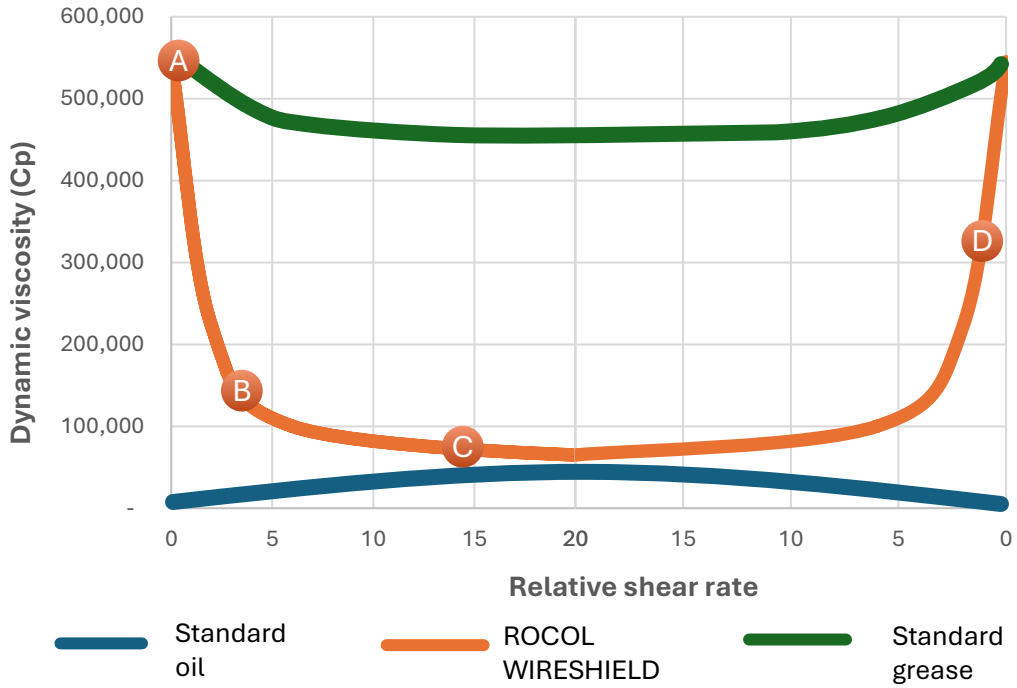
When shearing force is applied to the grease, the viscosity reduces. In other words, greases that exhibit **pseudoplastic rheology** get **thinner** when a **force** is applied to them.

The grease is subject to shear forces when it is applied to a wire rope with a paint brush or via an auto lubricator.

The thinner grease flows more easily into the wire rope, protecting the central core that would otherwise be unprotected. Once the grease is no longer subject to shear, it thickens again

ROCOL's **BIOGEN WIRESHIELD**, **BIOGEN Rope Dressing** and **WIRESHIELD** rope lubricants exhibit **pseudoplastic rheology which means:**

- Improves pumpability during application, minimising blockages
- Maximum penetration into umbilicals and wire ropes
- Optimised resistance to wash-off and fling-off



A WIRESHIELD™ viscosity is initially similar to that of grease.

B Shear induces the "collapse“ of the thickener system.

C Viscosity quickly approaches that of an oil.

D When shear is removed, WIRESHIELD quickly recovers its initial thicker viscosity

ROCOL offers class-leading wire rope protection

After 1000 hours, 5% salt fog solution

Before testing

Control

Competitor A: Very poor

Competitor B: Average

WIRE SHIELD **Class leading**

BIOGEN WIRE SHIELD **Class leading**

Corrosion protection

- When metal rusts it becomes weakened, so corrosion of cables must be prevented.
- Most cables are galvanised, giving them a primary line of defence.
- However galvanised protection is not indefinite, especially at sea.
- Supplementary corrosion protection is required to extend cable life.

Choosing the right wire rope lubricant

WIRE ROPE Dressing

- Semi fluid, non-melting formulation
- Opaque film - easy to inspect lubricant consistency
- Corrosion (salt spray ASTM B 117) resistance: ~500 hours
- Wash-Off performance (ASTM D 4049): ★ ★ ★

WIRE SHIELD

- Pseudoplastic rheology
- Outstanding corrosion protection
- Highly resistant to water wash-off
- Translucent film - easy to inspect wire rope
- Corrosion (salt spray ASTM B 117) resistance: ~4000 hours
- Wash-Off performance (ASTM D 4049): ★ ★ ★★

BIOGEN® Rope Dressing

VGP Compliant

- Biodegradable, minimal eco-toxicity and low bioaccumulation potential
- Pseudoplastic rheology
- Opaque film - easy to inspect lubricant consistency
- Corrosion (salt spray ASTM B 117) resistance: >500 hours
- Wash-Off performance (ASTM D 4049): ★ ★ ★

BIOGEN WIRE SHIELD

- Inherently biodegradable, minimal eco-toxicity and low bioaccumulation potential
- Pseudoplastic rheology
- Opaque film - easy to inspect lubricant consistency
- Approved for use on Rolls Royce Syncrolift
- Corrosion (salt spray ASTM B 117) resistance:~4000 hours
- Wash-Off performance (ASTM D 4049): ★ ★ ★ ★

ROCOL®

Performance you can trust

Maximise your critical asset integrity with best-in-class marine lubricants

Explore our wire rope lubricants >