

Elevators and Escalators

Rivolta special products



Rivolta

CASSIDA

VITROLIS

antidot.

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Service - local and professional

Service is the top priority for Bremer & Leguil. That's why we provide you with a nationwide team of specialists.

Bremer & Leguil offers you qualified consulting services and an extensive product range. Service is a central classification feature for us. We are represented across Germany in 40 cities and regions with a team of specialists.

Let our trained application engineers and consultants support you on topics such as performance enhancement, hazardous substance substitution or occupational safety through the use of perfectly matched products. The continuous development of our portfolio warrants you a sustainable and innovative solution.

Safety and value retention - sustainable and innovative

We know that occupational safety, environmental protection, performance and value retention go hand in hand. With our lubricants, cleaners and anti-corrosion agents, you can rely on the best performance for your application - even in sensitive areas thanks to our broad portfolio of NSF-registered and biodegradable products.

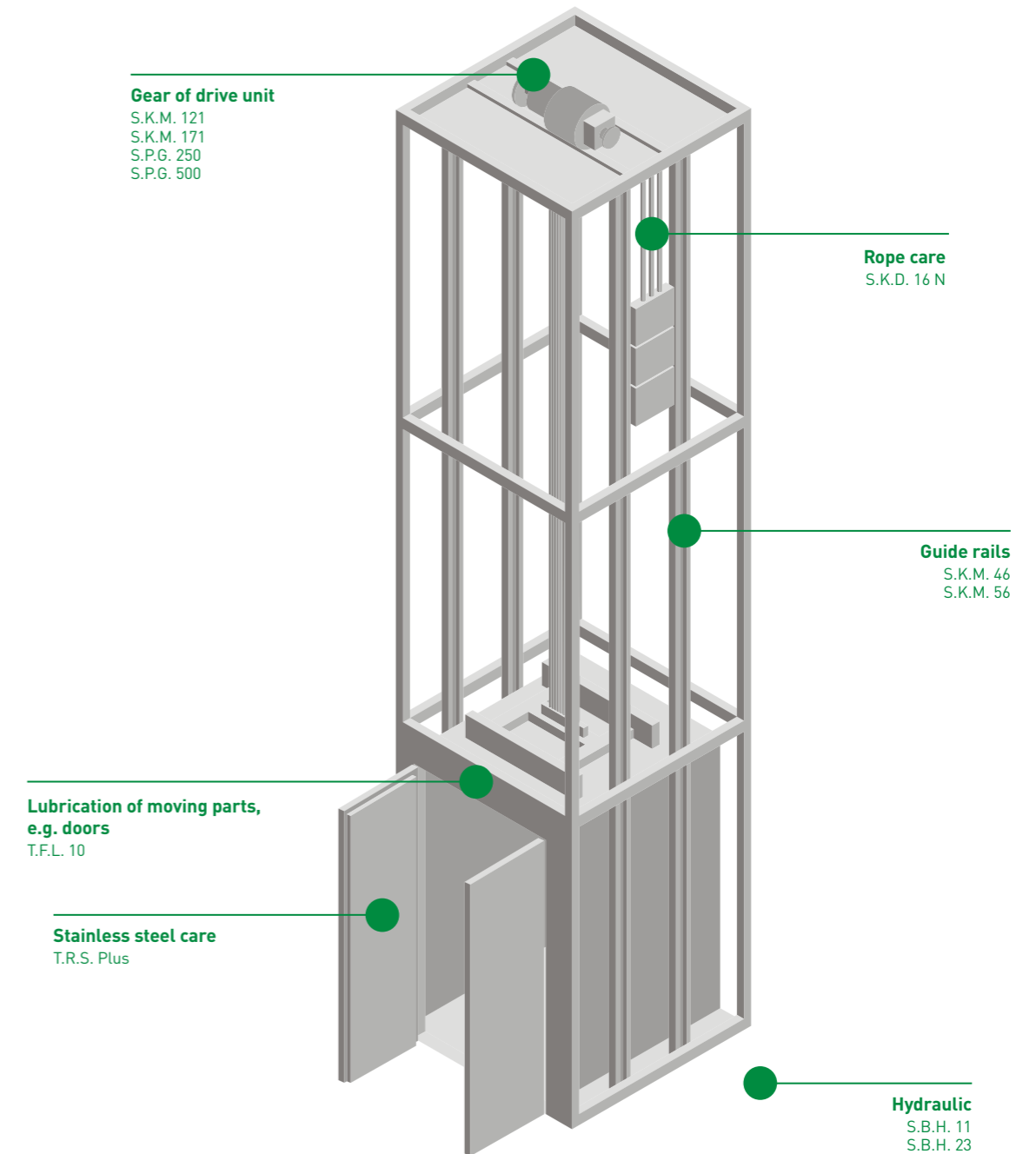
For over 55 years, Bremer & Leguil has been up to almost any challenge that arises in technical tasks in the fields of industry, energy supply and many other areas.

We only use selected raw materials. These serve to reduce hazardous substance labelling and increase safety for the user and the environment.



Typical product applications

This diagram only shows a simplified product overview.
Please contact us directly to find the right product for your specific application.



General application

Electro cleaning

O.C.X.
S.L.X. 500
S.L.X. Top

Rapid degreaser

S.U.W. Spray

Graffiti remover

S.E.G. Spray

General surface cleaning

B.W.K. / B.W.K. Wipes Set
B.W.S. / B.W.S. Wipes Set
B.W.X.

Elevators

Regular maintenance and lubrication of individual elevator components is an important aspect for the safety and reliability of the systems. Only continuous service guarantees safe and trouble-free operation.

Lubricants that are perfectly matched to the machine parts effectively reduce friction and wear, prevent overheating and therefore help prevent damage and breakdowns. There is no need to spend time and money replacing individual components or even the entire system. This can sustainably extend the service life of the entire system and save on service costs.

For the gearbox of the drive unit, we recommend:

S.K.M. 121 / 171

Rivolta S.K.M. 121 and S.K.M. 171 are fully synthetic and readily biodegradable high-performance gear oils for the elevator drive unit. The oils have a performance spectrum that is far superior to that of conventional oils.



| Product | ISO VG | Properties |
|------------|--------|---|
| S.K.M. 121 | 220 | <ul style="list-style-type: none"> • Outstanding environmental friendliness • Minimum friction and minimum wear • Good sealing compatibility • Resistant against ageing and oxidation |
| S.K.M. 171 | 460 | |

For guide rails, we recommend:

S.K.M. 46 / 56

Our Rivolta S.K.M. 46 and 56 are fully synthetic and readily biodegradable chain lubricating oils. They have a performance spectrum that is far superior to that of conventional oils. S.K.M. 46 and S.K.M. 56 are especially suitable for lubricating the guide rails for the cabin and counterweight on elevators.



| Product | ISO VG | Properties |
|-----------|--------|---|
| S.K.M. 46 | 100 | <ul style="list-style-type: none"> • Outstanding environmental friendliness • Minimum friction and minimum wear • Good sealing compatibility • Resistant against ageing and oxidation |
| S.K.M. 56 | 150 | |

Hydraulic oils:

S.B.H. 11 / 23

For hydraulic systems of all kinds, we recommend our Rivolta S.B.H. 11 and S.B.H. 23, fully synthetic and easily biodegradable hydraulic oils with a special additive system.



| Product | ISO VG | Properties |
|-----------|--------|--|
| S.B.H. 11 | 22 | <ul style="list-style-type: none"> • Easily biodegradable according to OECD 301 B • High proportion of renewable raw materials • High viscosity index • Effectively prevents adhesive slip • Good sealing compatibility |
| S.B.H. 23 | 46 | |

S.P.G. 250 / 500

Our fully synthetic high-performance gear oils Rivolta S.P.G. 250 and S.P.G. 500 are specially developed for use in highly loaded gearboxes such as worm gears and are perfect for the elevator drive unit.



| Product | ISO VG | Properties |
|------------|--------|---|
| S.P.G. 250 | 220 | <ul style="list-style-type: none"> • Very good wear protection • High grey stain resistance • Resistant against ageing and oxidation • Polyglycol-based |
| S.P.G. 500 | 460 | |

Rope maintenance:**S.K.D. 16 N**

The rope inner bearing lubricant Rivolta S.K.D. 16 N offers the advantage of a fully synthetic product structure with high ageing resistance and resistance to the formation of sticky ageing residues. Due to the initially enormous creeping ability during application, effective penetration into the rope interior is achieved. This displaces rust particles and dirt. After a short dwell time, it forms a stable and reliable lubricating film that effectively minimises friction and wear caused by frequent bending changes in ropes.

**Stainless steel maintenance:****T.R.S. Plus**

Rivolta T.R.S. Plus is an odourless, fully synthetic multifunctional oil. It is suitable for various applications such as cleaning and care of solvent-resistant plastic parts and stainless steel surfaces. T.R.S. Plus is compatible with metals and solvent-resistant paints, plastics and elastomers. No sticking and gumming on the surface.

**Lubrication of moving parts:****T.F.L. 10**

The fully synthetic multifunctional oil Rivolta T.F.L. 10 with solid lubricant component can be used for various applications due to its versatility. The contained solid lubricant is absorbed by the component surfaces and remains at the lubrication point even at higher temperatures. Perfect for moving parts on car doors, etc.

**Rust remover:****R.I.S. Spray**

A fully synthetic, highly effective rust remover with cold shock effect. Spraying suddenly cools the material surfaces down to sub-zero temperatures. Rivolta R.I.S. Spray quickly penetrates the microcracks and other cracks and capillaries caused by the shrinkage effects. Rusted and stuck components can be loosened in this way.

**Lubrication of guide rails on elevators****Frequent problems during lubrication**

Traditionally, mineral oils of different viscosities are applied to guide rails using wick lubricators. The lack of dosing options leads to uncontrolled lubricant discharge and inevitably to soiling of the cabin, enclosures and lift pit.

Resinous, sticky residues of the mineral oils attract dust on the rail surface, thus reducing the lubricating effect and leading to jerky sliding.

Insufficient lubrication also quickly becomes a safety risk - problems with correct positioning can occur when the basket is retracted.

**Optimum lubrication with lubricator**

This is remedied by a tried-and-tested system that has been developed and tested together with our technicians and customers. An elevator brush is used in combination with a lubricator filled with Rivolta S.K.M. 46

The advantages of Rivolta S.K.M. 46

- Significantly better ageing stability compared to the commonly used mineral oils
- Reduction of lubricant consumption
- Counteracts new soiling of the guide rail and its surroundings
- Filling into a wick lubricator or manual lubrication of the guide rails possible
- Reduction of oil consumption
- Extension of the manual post-lubrication interval

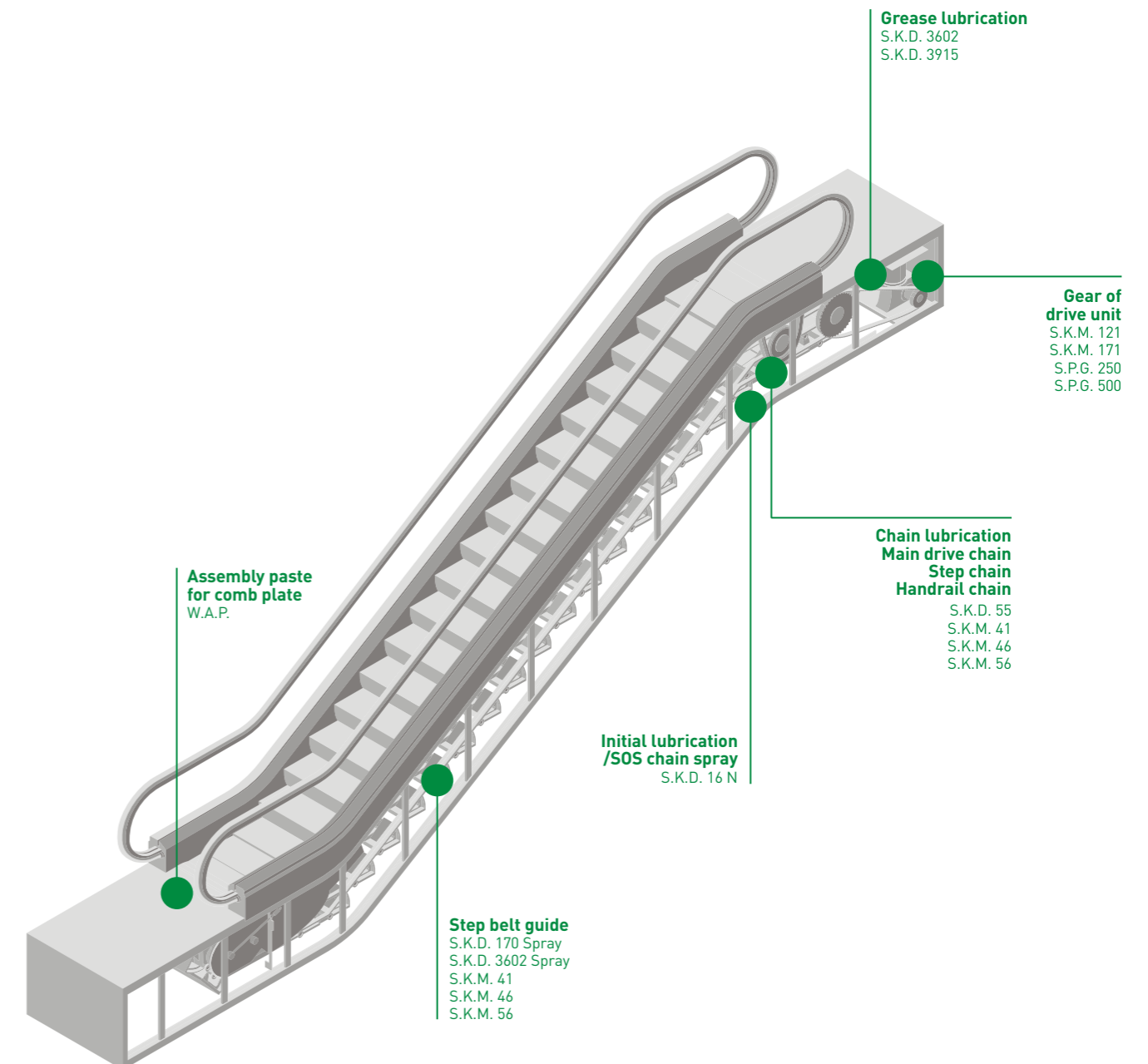
The advantages of the lubricator

- Permanent, evenly thin oil film
- Flexible dosing, lubricant quantity can be changed during operation
- Better adhesion through the use of a polar ester oil
- No run-off, less soiling of the environment
- No ageing-related residues
- Excellent lubrication properties
- Extended maintenance intervals
- Easily biodegradable, fully synthetic ester oil
- Based on a high proportion of renewable raw materials



Typical product applications

This diagram only shows a simplified product overview.
Please contact us directly to find the right product for your specific application.



Escalators

Escalator downtime is annoying and in many cases involves high costs for subsequent maintenance and replacement of components. The use of lubricants tailored to the components can reduce friction and wear and protect systems from corrosion and wear. Damage and failures can be effectively prevented with continuous maintenance. Maintenance and lubrication is therefore an important component for the safety and reliability of the systems.

General application

Electro cleaning
O.C.X.
S.L.X. 500
S.L.X. Top

Rapid degreaser
S.U.W. Spray

Graffiti remover
S.E.G. Spray

General surface cleaning
B.W.K. / B.W.K. Wipes Set
B.W.S. / B.W.S. Wipes Set
B.W.X.

For the gearbox of the drive unit, we recommend:

S.K.M. 121 / 171

Rivolta S.K.M. 121 and S.K.M. 171 are fully synthetic and readily biodegradable high-performance gear oils for the drive unit. The oils have a performance spectrum that is far superior to that of conventional oils.



| Product | ISO VG | Properties |
|------------|--------|---|
| S.K.M. 121 | 220 | <ul style="list-style-type: none"> • Outstanding environmental friendliness • Minimum friction and minimum wear • Good sealing compatibility • Resistant against ageing and oxidation |
| S.K.M. 171 | 460 | |

S.P.G. 250 / 500

Our fully synthetic high-performance gear oils Rivolta S.P.G. 250 and S.P.G. 500 are specially developed for use in highly loaded gearboxes such as worm gears and are perfect for the drive unit.



| Product | ISO VG | Properties |
|------------|--------|---|
| S.P.G. 250 | 220 | <ul style="list-style-type: none"> • Very good wear protection • High grey stain resistance • Resistant against ageing and oxidation • Polyglycol-based |
| S.P.G. 500 | 460 | |

Chain lubrication and lubrication of the step belt guide:

S.K.M. 41 / 46 / 56

Rivolta S.K.M. 41, S.K.M. 46 and S.K.M. 56 are fully synthetic, easily biodegradable chain lubricating oils. They have a performance spectrum that is far superior to that of conventional oils. Also very suitable for use in centralised lubrication systems.



| Product | ISO VG | Properties | Fields of application |
|-----------|--------|--|--|
| S.K.M. 41 | 68 | <ul style="list-style-type: none"> • Easily biodegradable according to OECD 301 B • Minimum friction • Minimum wear • Outstanding compatibility with stepped and chain rollers • Resistant against ageing and oxidation | <ul style="list-style-type: none"> • Chain lubrication in indoor/outdoor areas • Also at low ambient temperatures • Step belt guide |
| S.K.M. 46 | 100 | | <ul style="list-style-type: none"> • Chain lubrication in indoor/outdoor areas • Step belt guide |
| S.K.M. 56 | 150 | | <ul style="list-style-type: none"> • Chain lubrication in indoor/outdoor areas • Also at high ambient temperatures • Step belt guide |

S.K.D. 16 N / 55 / 170 Spray

Selected Rivolta products from the S.K.D. range provide you with high-performance lubricants for a variety of applications. Rivolta S.K.D. 16 N, S.K.D. 55 and S.K.D. 170 Spray are based on fully synthetic, biodegradable base oils with additives against wear, ageing and corrosion. Reliable lubricating film. No gumming and sticking.



| Product | Properties | Fields of application |
|------------------|---|---|
| S.K.D. 16 N | <ul style="list-style-type: none"> • Good penetration into the inside of the chain • Excellent creeping ability and cleaning effect • Good corrosion protection effect • Reduction of wear, friction and energy consumption | <ul style="list-style-type: none"> • Chain initial lubrication • SOS chain lubrication • Inner bearing lubrication of all highly loaded chains |
| S.K.D. 55 | <ul style="list-style-type: none"> • Good adhesion • Good water resistance • Very good corrosion protection effect • Long lubricant shelf life • Reduction of friction, wear and energy consumption | <ul style="list-style-type: none"> • Chain lubrication • Step belt guide |
| S.K.D. 170 Spray | <ul style="list-style-type: none"> • Good adhesion • Good water resistance • Very good corrosion protection effect • Long lubricant shelf life | <ul style="list-style-type: none"> • Step belt guide |

S.K.D. 3602 Spray

Rivolta S.K.D. 3602 Spray is an extremely pressure-resistant and water-resistant semi-synthetic grease of medium consistency for the lubrication of highly loaded guides.



| Product | Properties | Fields of application |
|-------------------|---|---|
| S.K.D. 3602 Spray | <ul style="list-style-type: none"> • Extreme pressure resistance with elastohydrodynamic lubricating film • High water resistance • Good corrosion protection • Damping of shock loads and vibrations | <ul style="list-style-type: none"> • Step belt guide |

Bearing lubrication:

S.K.D. 3602

Extremely pressure-resistant and water-resistant semi-synthetic grease of medium consistency for the lubrication of highly loaded guides. Rivolta S.K.D. 3602 has optimum compressive strength due to the formation of an elastohydrodynamic lubricating film. It is characterised by good corrosion protection and high water resistance. Shock loads and vibrations are damped.



S.K.D. 3915

Mechanically and thermally highly resilient lubricating grease with excellent anti-corrosion properties. The good friction and wear protection properties ensure a long service life of the lubricated components even when exposed to water, salt water and outdoor weathering. The good ageing resistance enables long lubricant service lives. Rivolta S.K.D. 3915 has excellent corrosion protection, resistance to water and weathering as well as a high pressure absorption capacity and is shock and vibration damping.



Assembly and screw paste:

W.A.P.

Light-coloured high-performance grease paste based on metal soap in combination with highly effective white solid lubricants. Excellent corrosion protection properties effectively prevent seizure of the friction partners and fretting corrosion even in corrosive atmospheres. Versatile lubricating and assembly paste. Outstanding water resistance. Can be used for comb modules and motor gearbox feather keys.



Oscillating friction wear (SRV)

The friction coefficient, wear and tribo-corrosion of oils and greases are analysed using the oscillating friction wear test (SRV test). Friction partners are rubbed against each other by an oscillating movement with a specified frequency and amplitude. This allows the effect, load capacity and service life of lubricants to be determined quickly.

The following results of the SRV tests were carried out with the vibration friction wear tester SRV 5 (Optimol Instruments GmbH) in accordance with DIN 51834-2 to determine the lubricity.

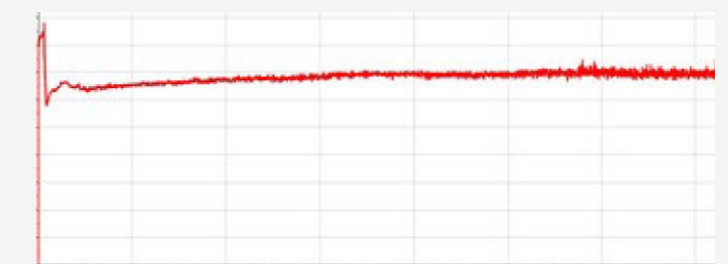
The two test specimens installed in the test chamber (ball on disc) are pressed together with a defined force. The upper test specimen (ball) oscillates on the lower test specimen (disc). The frictional forces are continuously measured by a sensor. The coefficient of friction is calculated automatically and recorded during the entire test duration. Finally, the wear is measured and recorded.

The lubrication capacity is the main criterion for a lubricant. The coefficient of friction determined by the SRV test is a relatively reliable indicator of lubricity. The lower the coefficient of friction, the lower the wear to be recorded on the friction partners. The graphs show that our fully synthetic Rivolta high-performance oils have a significantly lower coefficient of friction than conventional oils after a short running-in phase.

The choice of an appropriate lubricant for the application is crucial for wear prevention. Chain elongation and the breakage of chain pins can therefore be optimally counteracted, the service life of a chain can be extended and replacement can be delayed.



Rivolta S.K.M.



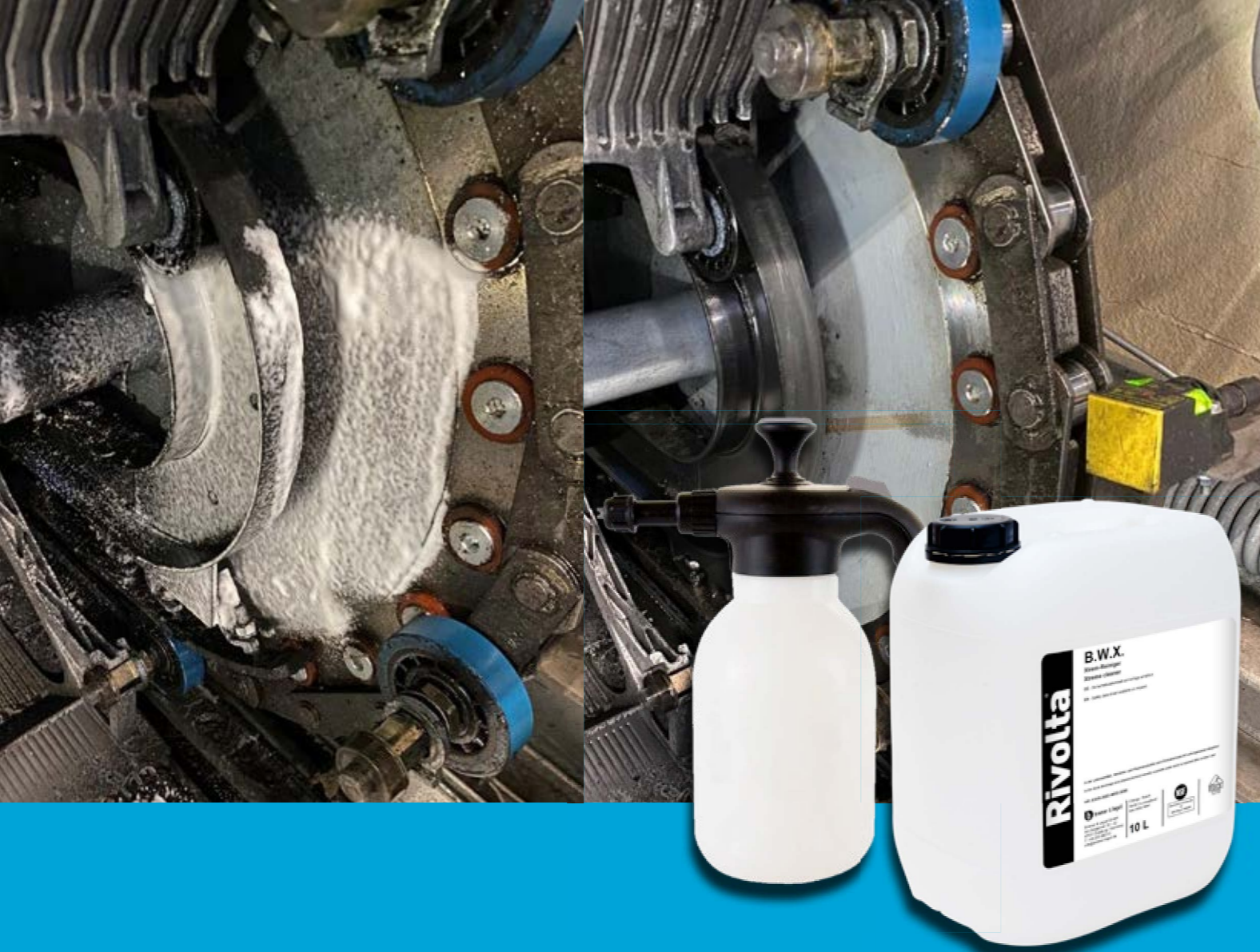
Conventional oil

Coefficient of friction = red line

Biodegradable oils

In sensitive areas, the biodegradability of additives is an important criterion for their use. Sustainable ingredients are also becoming increasingly important in the area of lifts and escalators. At Bremer & Leguil, it has always been important to us to make the formulations of our products as user and environmentally friendly and as modern as possible. The biodegradability is confirmed according to OECD 301 B.





General application Clean

Cleaning lifts and escalators is not just about hygiene and appearance. It is also an important component in ensuring the function of the systems and therefore safety in the long term. Cleaning removes dust, grease, dirt and other contaminants from surfaces that can be harmful to health, pose a fire risk or lead to wear and corrosion of components. Cleaning therefore also contributes to the service life of the systems.

Electric cleaner:

| Product | Properties | Fields of application |
|------------|--|---|
| O.C.X. | <ul style="list-style-type: none"> • Dissolves even very hard oxide and sulphide layers • Non-conductive • Does not cause leakage currents • Easy to use | <ul style="list-style-type: none"> • Pre-cleaner for dissolving oxide and sulphide layers etc. on contacts |
| S.L.X. 500 | <ul style="list-style-type: none"> • Very fast residue-free evaporation • Prevention of new dirt adhesions • Non-flammable | <ul style="list-style-type: none"> • Highly sensitive electronic systems, components and devices under voltage |
| S.L.X. Top | <ul style="list-style-type: none"> • Dielectric strength > 150,000 Volt/cm • High cleaning effect • Residue-free evaporation • Compatible with metals and solvent-resistant materials | <ul style="list-style-type: none"> • De-energised electrical and electronic systems, components and devices |

Degreaser:

| Product | Properties | Fields of application |
|--------------|---|---|
| S.U.W. Spray | <ul style="list-style-type: none"> • Removes stubborn dirt • Huge cleaning effect • Residue-free and prompt evaporation • Gentle on materials and surfaces • User friendly, reduces possible hazards | <ul style="list-style-type: none"> • Component degreasing • Preparation of bonding points |

Graffiti remover:

| Product | Properties | Fields of application |
|--------------|--|--|
| S.E.G. Spray | <ul style="list-style-type: none"> • Infiltrates disruptive layers of paint • Gentle on materials and surfaces | <ul style="list-style-type: none"> • Lacquer, paint and felt-tip pen graffiti • Adhesive residues • On smooth, non-absorbent surfaces |

Surface cleaner:

| Product | Properties | Fields of application |
|----------------------------|---|---|
| B.W.K. B.W.K. Wipes Set | <ul style="list-style-type: none"> • Does not require mandatory labelling according to CLP • Solvent-free • Versatile in use | <ul style="list-style-type: none"> • Stubborn dirt on water-resistant surfaces • Greases / pastes / oils / wax residues and much more |
| B.W.S. B.W.S. Wipes Set | <ul style="list-style-type: none"> • Fast drying • Versatile in use | <ul style="list-style-type: none"> • Dirt on water-resistant surfaces • Oily and greasy dirt • Commissioning / assembly of systems / units • Lift cars, handrails, balustrades • Stainless steel and plastic surfaces, machine elements, tools and much more |
| B.W.X. | <ul style="list-style-type: none"> • Fast drying • Also for use at low temperatures | <ul style="list-style-type: none"> • Most stubborn dirt on water-resistant surfaces • Fire protection cleaning and general cleaning of lift pits, escalator frames, escalator steps |

Packaging overview

Lubricate

| Product | Fields of application |
|--|--|
| R.I.S. Spray Rostlöser | Effective and fast loosening of stuck parts, with cold shock effect, very capillary-active, creeps into the narrowest cracks |
| S.B.H. 11 Synthetic biodegradable hydraulic oil | All kinds of hydraulics |
| S.B.H. 23 Synthetic biodegradable hydraulic oil | All kinds of hydraulics |
| S.K.D. 16 N Synthetic inside bearing lubricant | Chain initial lubrication, SOS chain lubrication, rope maintenance |
| S.K.D. 55 Synthetic adhesive chain lubricant | Chain lubrication, lubrication of the step belt guide |
| S.K.D. 170 Spray Synthetic adhesive chain lubricant | Lubrication of the step belt guide |
| S.K.D. 3602 / S.K.D. 3602 Spray High-pressure, high-performance grease | Lubrication of the step belt guide (Spray), bearing lubrication |
| S.K.D. 3915 High-temperature, heavy-load grease | Bearing lubrication |
| S.K.M. 41 Synthetic high-performance oil | Indoor and outdoor chain lubrication at low ambient temperatures, lubrication of the step belt guide |
| S.K.M. 46 Synthetic high-performance oil | Lubrication of guide rails for cabin and counterweight on lifts, chain lubrication indoors and outdoors, lubrication of the step belt guide |
| S.K.M. 56 Synthetic high-performance oil | Lubrication of guide rails for cabin and counterweight on lifts, indoor and outdoor chain lubrication at high ambient temperatures, lubrication of the step belt guide |
| S.K.M. 121 Synthetic high-performance oil | Gear oil for the drive unit |
| S.K.M. 171 Synthetic high-performance oil | Gear oil for the drive unit |
| S.P.G. 250 Synthetic high-performance gear oil | Gear oil based on polyglycol for the drive unit |

The shown packaging sizes are our standard.
*Special types of packagings and sizes are available upon request.

| Product | Fields of application |
|--|---|
| S.P.G. 500 Synthetic high-performance gear oil | Gear oil based on polyglycol for the drive unit |
| T.F.L. 10 Multi-functional oil with PTFE | Lubrication of moving parts on cabin doors, etc. |
| T.R.S. Plus Synthetic creep and fine oil | Cleaning and care of plastic parts, stainless steel surfaces and as a multifunctional oil |
| W.A.P. High-performance grease paste | Assembly and screw paste, comb modules & feather key for motor gearboxes |

Clean

| Product | Fields of application |
|--|---|
| B.W.K. Water-based power cleaner | Removal of stubborn soiling from water-resistant surfaces, grease, pastes, oils, wax residues |
| B.W.K. Wipes Set Wipes | |
| B.W.S. Finish-cleaner | During commissioning and assembly of systems and equipment, cleaning of lift cabins, balustrades, stainless steel and plastic surfaces, machine elements, tools |
| B.W.S. Wipes Set Wipes | |
| B.W.X. Xtreme cleaner | User-friendly, for removing the most stubborn dirt from water-resistant surfaces |
| O.C.X. Oxide remover | Pre-cleaner for dissolving oxide and sulphide layers on contacts, etc. |
| S.E.G. Spray Graffiti remover | Removes paint, colour and felt-tip pen graffiti, gentle on materials and surfaces, for smooth, non-absorbent surfaces |
| S.L.X. 500 Special safety cleaner | For cleaning highly sensitive electronic systems, components and devices under voltage |
| S.L.X. Top High-performance electro cleaner | Use on de-energised electrical and electronic systems, components and devices |
| S.U.W. Spray Special cleaner for wind power stations and industrial plants | Classic spray cleaner for degreasing components and preparing bonding points |

NSF-A1 describes cleaning products for the general, universal use in all areas as well as in production areas of the food industry.
NSF-K2 describes solvent based cleaning products for electrical and electronic installations and instruments.

We bring quality closer - Clearly arranged and on site

Benefit from our experience and let one of our 40 sales representatives throughout Germany introduce you to our products and find suitable products to increase your operating efficiency.

We will be happy to advise you!

If this field is empty, you will find your contact person at www.bremer-leguil.de or call us at our head office: +49 203 99 23-0

You will find further information about us and our sectors on our webpage.
www.bremer-leguil.de

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Product illustrations partly consist of picture compositions and therefore, do not necessarily reflect the reality. Our products are continually being up-dated. We reserve the right, therefore, to alter the information of this brochure at any time and without prior announcement.



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