



LUBCON® Special Lubricants for Train, Rail and Wheel



biodegradable



High-Tech Lubricants
for Improved Safety and Reliability

LUBCON Special Lubricants



**Clutches
Buffers**

Grizzlygrease No. 3
Grizzlygrease Bio 1-1000



Wheelset bearings

Turmogrease Li 802 EP
Turmoplex 3 EP



Switches

Terrasol SWA series
Terrasol 100 WT
Sintono Terra W DB



**Connections
Traction motors**

Turmogrease L 802 EP plus

for Train, Rail and Wheel



**Ball screws
Seals
Guiding systems**

*Turmotemp N 182
Turmogrease SKL series
Turmogrease PP 300*



Panthographs

*Terrasol 40 CW
Turmogrease HDC 2*



Top of Rail

Sintono Terra HLK



**Rail edge
Wheel flange**

*Sintono Terra SK-RE series
Sintono Terra HLK*

Rail Flange Lubricants

Application	Product	Operating Temperature Range	Consistency class at 40° C	Water resistance (DIN 51807 T1)	Friction Coefficient	Drop Point (DIN 2176 °C)	Solid Additives	
Wear reduction	Sintono Terra SK 1	-40 °C up to +120 °C	1	0-90	--	160	--	
	Sintono Terra SK 2	-40 °C up to +120 °C	2	0-90	--	170	--	
	Sintono Terra SK-RE 1	-40 °C up to +120 °C	1	1-90	--	>200	--	
	Grizzlygrease Bio 1-1000	-40 °C up to +140 °C	1	0-90	--	>190	--	
Noise reduction, wear reduction on top of rail	Sintono Terra HLK (00/0/1)	-40 °C up to +120 °C	00/0/1	0-90	0.33	>200	different soft metals	

Special Lubricants and Lubrication Technology: Successful Duo against Wear!

- ✓ increased safety and reliability
- ✓ cost savings
- ✓ higher efficiency



All lubricants listed below fulfill the following criteria:

- ✓ biodegradable by OECD 301
- ✓ approved/tested by most producers of wheel flange lubricating systems
- ✓ available in different packaging sizes



Base Oil/ Thickener	Unit	Features & Benefits
Synthetic oil/ lithium- calcium soap	Tram	This grease has been developed for the application on grooved rails within cities (clean lubrication). It is adhesive, resistant to water, suitable for axle load up to 11 to and can be used in all grease application systems.
Synthetic oil/ lithium- calcium soap	Light rail, metro	This lubricant has been developed for the application on vignol rails outside cities. The distribution is approx. 1.000 m. It is adhesive, resistant to water, suitable for axle load up to 20 to and can be used in all grease application systems.
Synthetic oil/ silicate thickener	Main line, HST*	Innovative grease with very good adhesive properties for the lubrication of long distances up to 7.000 m. It can be applied at high rail temperatures up to 120 °C. The universal grease performs very good and is suitable for axle load up to 30 to. Moreover, it can be used in all grease application systems.
Ester oil/ ca-sulfonate complex soap	Main line, HST*, metro, high load	Grease for the lubrication of guide rails and rails in industrial plants, e.g. steel plants, with very high axle load and side pressure. This grease has an outstanding wear reduction performance.
Synthetic oil/ silicate thickener	all	Special grease mainly designed for noise reduction without influencing brake efficiency. Specially designed pumps, distributors and nozzles are needed for grease application. The grease is sprayed or pressed on top of rail and must be handled and applied very carefully. This way it can reduce curve squeeling by almost 100 %.

DB-material no. 991 955

* HST = high-speed trains

Two in One: Special Rail Lubricant Reduces Wear and Noise on Check Rails

Grizzlygrease Bio 1-1000 serves perfectly to reduce wear on check rails. The ageing resistant special grease shows good adhesion, high pressure absorption capability and has a wide operating temperature range. This special grease minimises wear and significantly reduces noise accumulations on check rails, the latter being a special benefit for rail lines in residential areas.

Lubricant and Lubrication Technology: Successful Duo against Wear

In railway systems manual lubrication is often limited due to the rail network complexity. Lubrication experts, therefore, recommend the use of automatic lubrication systems. Check rails, for example, can be lubricated using the intelligent single point lubricator **MicroMax® 120** filled with **Grizzlygrease Bio 1-1000**. Appropriate lubrication technology reduces maintenance (labour) costs and prevents over and/or under lubrication due to precise grease application and automatic lubrication cycle adjustment.



MicroMax® 120 installed at check rail

Wheel Flange Lubricants

Application	Product	Operating Temperature Range	Consistency class at 40° C	Water resistance (DIN 51807 T1)	Friction Coefficient	Drop Point (DIN 2176 °C)	Solid Additives	
Wear reduction	Sintono Terra SK	-40 °C up to +120 °C	000	0-90	--	130	--	
	Sintono Terra SK-RE	-40 °C up to +120 °C	00	1-90	--	>250	--	
	Sintono Terra SK-RE LT	-50 °C up to +120 °C	00	1-90	--	>250	--	
	Sintono Terra SK-RE DB	-40 °C up to +120 °C	00	1-90	--	>250	--	
Noise reduction, wear reduction on top of rail	Sintono Terra HLK	-40 °C up to +120 °C	00	0-90	0.33	>200	different soft metals	

Top of Rail Conditioning instead of Curve Squeeling

Local residents, passengers and conductors - all of them know the unpleasant sound released by rail-bound traffic, especially in curves. This high pitched sound is also known as curve squeeling. To reduce this sound LUBCON developed **Sintono® Terra HLK** in collaboration with maintenance operators and plant technicians. The friction modifier helps to control the vibrations between wheel flange and rail edge and can therefore effectively reduce noise.

Sintono® Terra HLK can be applied on top of rail as well as on rail edges. It fulfills the criteria for braking and traction capability and is biologically degradable. It forms a lubricating film that is resistant to water and oxidation and sticks well to all surfaces. Moreover, the lubricant has a very good load carrying capacity.



Evidently effective against squeaking and screeching: measurement prior to lubrication (left) and after application of Sintono® Terra HLK (right) .

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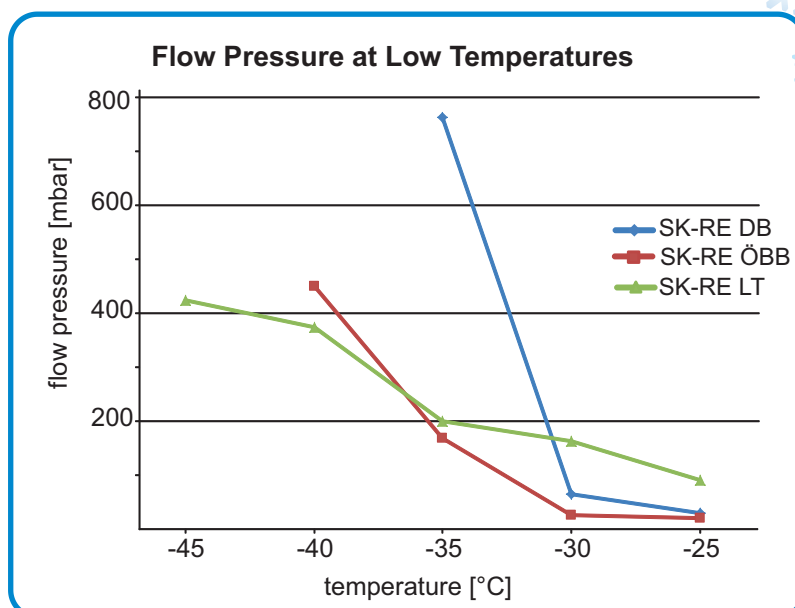
Base Oil/ Thickener	Unit	Features & Benefits
Synthetic oil/ lithium- calcium soap	Tram	This grease is adhesive, resistant to water and suitable for axle load up to 11 to. It has been developed for the application at low speed (< 50 km/h).
Synthetic oil/ silicate thickener	Light rail, Metro	Innovative grease with high temperature stability and remarkable adhesive properties. It is suitable for light rails with a maximum speed of 160 km/h and locomotives with wheel block brakes that have an axle load up to 25 to/axle.
Synthetic oil/ silicate thickener	Light rail, Main Line	Innovative grease developed for the application at very low temperatures. The grease is sprayable in the whole temperature range and is suitable for high speeds up to 220 km/h. It can also be used for rack railways.
Synthetic oil/ silicate thickener	Main Line, HST	Special grease with very good adhesive properties for the lubrication of long distances. The grease sticks well to the wheel even at speeds of up to 250 km/h. By applying the grease to the rail the following bogies are lubricated as well. The lubricant is very temperature-stable and adhesive even at rail temperatures of more than 80 °C. The compatibility with elastomers commonly used in folding bellows or industrial paint for bogies has been successfully tested. The product can be used for all types of trains/light rails, trams and locomotives. DB-material no. 517 718
Synthetic oil/ silicate thickener	all	Special grease mainly designed for noise reduction without influencing brake efficiency. Specially designed pumps, distributors and nozzles are needed for grease application. The grease is sprayed or pressed on top of rail and must be handled and applied very carefully. This way it can reduce curve squeeling by almost 100 %. DB-material no. 991 955

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Sintono Terra SK-RE LT - Safe Lubrication at Freezing Temperatures

As temperature falls the flow pressure of grease usually increases. More pressure is needed to pump grease through a nozzle. Thus, we need a special grease for optimum pumpability in a lubrication system.

SINTONO TERRA SK-RE LT is suitable for temperatures from -50 °C up to +120 °C. Due to its very good pumpability within the whole operating temperature range it can be used in wheel flange lubrication systems all year long, even under extreme conditions as they exist in Russian winter, for example. The very good resistance to water and very high load carrying capacity are persuasive.



Other Railway Products

Application	Product	Operating Temperature Range	Consistency class at 40 °C	Water resistance (DIN 51807 T1)	Drop Point (DIN 2176 °C)	Flashpoint (DIN EN ISO 2592 °C)	Solid-Additives	
Switches	Terrasol SWA series 	-20 °C up to +140 °C	--	--	--	--	graphite/ MoS ₂	
	Terrasol 100 WT 	-25 °C up to +120 °C	--	--	--	>240	--	
	Sintono Terra W DB 	-40 °C up to +120 °C	000	0-90	>200	--	--	
Contact wire	Terrasol 40 CW 	-30 °C up to +120 °C	--	--	--	>250	PTFE	
Panthograph (bearings)	Turmogrease HDC 2	-30 °C up to +150 °C	2	1-80	>250	--	--	
Door closing systems	Turmogrease SKL 18 VTF	-50 °C up to +130 °C	2	0-90	>190	--	PTFE	
	Turmogrease PP 300	-40 °C up to +150 °C	1-2	0-90	--	--	--	
	Turmotemp N 182	-50 °C up to +120 °C	2	0-90	>250	--	--	
Connecting bolts, clutches, joint, fittings	Grizzlygrease No. 3	-20 °C up to +150 °C	2	0-90	>280	--	--	
	Grizzlygrease Bio 1-1000 	-40 °C up to +140 °C	1	0-90	--	>190	--	
Wheelset bearing	Turmogrease Li 802 EP	-40 °C up to +140 °C	2	1-90	>190	--	--	
	Turmoplex 3 EP	-30 °C up to +140 °C	3	1-90	>190	--	--	
Engine bearing	Turmogrease L 802 EP plus	-35 °C up to +140 °C	2-3	0-90	>250	--	--	



Your application is not mentioned?



Base Oil/ Thickener	Unit	Features & Benefits
Esteroil	Metro, tram	Special lubricants for the treatment of switch blades and switch controls. Solid lubricants do not leave any residues but provide optimum surface coating. The oils can be applied without prior cleaning, they damp mechanical pressures on the switches and offer outstanding protection against wear.
Esteroil	Main line, light rail	Due to special additives the lubricant is resistant to oxidation, reduces wear while it has very good lubricating properties and adhesive capacities.
Ester/silicate	Main line, light rail	Semifluid grease with very good flowability at low temperatures and high lubricating film consistency at high temperatures. It is very adhesive with a high UV-resistance.
Esteroil	Tram/ train	This oil protects reliably against wear and prevents initial ice formations. It supports the use of automatic spray systems or can be applied manually at the contact wire.
Mineral oil/ ca-complex	Tram/ train	Special grease with resistance to water and other media. This grease is neither washed out nor softening even under constant exposure to water. It is designed for low rotational speed and provides good corrosion protection.
SHC/ lithium soap	all	Synthetic long-life grease for the lubrication of ball screws in door closing mechanisms. It provides a low frictional resistance, high wear protection and enables the safe functioning of door systems in all kind of trains.
Polyglycol/ inert inorganic thickener	all	Resistant to aqueous acids, basic solvents, elastomers and to natural or synthetic rubber. It is suitable for the lubrication and care of door seals. This grease can be removed easily from surfaces, leaving no sticky residues.
PFPE/ polyurea	Main line, HST	Special lubricant for the lubrication of door seals. The grease is extremely resistant to pressure and vacuum, it is compatible with EPDM and silicone seals and offers a very good UV-protection for long-life functionality in door mechanisms.
Mineral oil/ li-ca-complex	all	Special grease with high pressure stability. It offers extremely high load carrying capacity due to its special high-load additives (EP) and reduces significantly friction at the contact points. It is very resistant to corrosion and ageing.
Synthetic oil/ ca-complex	all	The grease very effectively reduces wear, especially in combination with the lubricator MicroMax 120. It can be applied at all kind of trains and locomotives.
SHC, mineral oil/li-soap	all	Long-life grease for the lubrication of wheelset bearings to cover all speed and load ranges with only one product. It reduces frictional loads, protects against corrosion and provides continuous lubricity. This bearing grease offers high load carrying capacity and good ageing protection.
Mineral oil/lithium soap	Tram	Oxidation and temperature resistant grease for long-term lubrication of wheel bearings. It is very resistant to water, suitable for low and high speeds, provides good lubricity as well as corrosion protection even in humid environment. This lubricant is easy to apply and particularly suitable for the use in automatic lubricators.
SHC, min. oil/ li-special soap	all	This grease is extremely corrosion and ageing resistant, it shows good thermal resistance and extends lubrication intervals due to its lubricant-film stability.

* HST = high-speed trains

Contact us!

Your LUBCON application engineer will help you to choose the right lubricant and provide on-side support!

www.lubcon.com



LUBCON[®] SL 60 Switch Lubricator

Accurate lubrication of switches - easily and quickly

The switch lubricator **LUBCON SL 60** is designed for fast, accurate and smooth application of high-viscosity lubricating oils on switch blades.

The innovative nozzle design allows the concentrated oil application in wide and narrow areas. A short interruption of the material flow in the nozzle provides an optimum spray effect and a clean and smooth distribution of the lubricant, without clogging the nozzles. Special device configurations, which have been obtained by extensive field tests under different conditions, ensure an optimal application of LUBCON lubricants.

With a working pressure of 138 bar, it is not only possible to achieve a high cleaning effect, but also a high surface wetting ability in a short time. The handy and compact design offers a quick and easy operation as well as clean refilling of the lubricant within seconds. An integrated battery level indicator provides constant information about the battery's state of charge.



Quick, easy and safe application due to an efficient nozzle extension.

Advantages

- ▶ Easy operation within seconds
- ▶ Optimum dosage of the lubricant
- ▶ Accurate lubrication even in areas which are difficult to access
- ▶ Clean and exact handling
- ▶ Individually adjustable
- ▶ Ergonomically designed
- ▶ Portable, lightweight and flexible



Air bleed valve

Pressure control

Material bucket: volume 1 litre

18 V lithium-ion power-pack battery including charger

Double protection against friction and wear

Due to diverting energies switches will be affected by high loads and vibrations, which could lead to significant wear.

LUBCON switch oils of the series **Terrasol SWA** are solid-containing lubricants for the treatment of switch blades, tailored to meet their critical requirements.

Even after longer usage, the specially chosen solid lubricants do not leave any residues but provide optimum surface wetting. In case of a long lubricating interval, emergency running behaviour provides sufficient lubrication. The lubricating oils of the series **Terrasol SWA** can be applied without prior cleaning, they damp mechanical pressures of the switches and therefore offer outstanding protection against wear.

The 75 cm long nozzle extension allows an ergonomic adjustment of the device to any body size. Thus, the lubricator **LUBCON SL 60** is an ideal tool for the maintenance of rail route networks.

The nozzle extension allows a selective application of the lubricant without problems and within short time. Sand, dirt and also tinder are blown away by the powerful cleaning ability of the nozzle, and it leaves a clean and stable lubricating film.

The pressure control of **LUBCON SL 60** allows an individual adjustment of spraying pressure.

The dial is easy to read and divided into 10 levels of pressure. According to the lubricant, the optimum spraying pressure can be adjusted.



Technical Data

Applicable lubricants	Processes oil and low-viscosity grease to NLGI 0
Adjustable pressure range	up to 138 bar (2000 psi)
Battery	18 V DC, Lithium-Ion Capacity: 2,0 Ah, 40 Wh
Weight	2,4 kg (5.3 lb)



Quick Overview of Lubricant Range for Train, Rail and Wheel

Rail and Wheel:
Sintono Terra SK-RE Series
Sintono Terra HLK

Top of Rail/Running Surfaces on Wheels
Sintono Terra HLK Series

Switches
Sintono Terra W DB
Terrasol SWA
Terrasol 100 WT

Wheelset Bearings
Turmogrease Li 802 EP
Turmoplex 3 EP

Engine Bearings
Turmogrease L 802 EP plus

Door Closing Systems
Turmogrease SKL Series
Turmogrease N 182
Turmogrease PP 300

Pins/Clutches/Hinges
Grizzlygrease Bio 1-000
Grizzlygrease No. 3

Discover LUBCON Railway Lubricants
in a short movie:



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Lubricants ▪ Lubrication Systems

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