



SPECIAL LUBRICANTS & MAINTENANCE PRODUCTS

Textile industry



setral

Competence in Lubricants

Challenges From Yarn to Finished Textile Products

The textile industry is one of the oldest industries in the world and is still a significant part of many economies. Thousands of companies manufacture a wide range of textile products from a variety of fibers - synthetic to natural fibers, woven to nonwovens, household to clothing textiles.

Products from the textile industry are indispensable in the transport sector. In cars, trains, airplanes or ships textiles of all kinds have to meet the highest requirements of comfort, functionality and safety. As different as the products of the textile industry may appear, one aspect unites all textile manufacturing industries: various machines with complex geometries, high stress and challenging production conditions.

To ensure reliable and optimal operating conditions, special lubricants are essential. setral® has taken on the challenge and offers specifically developed products for the lubrication of all production steps in the textile industry for many years.

We are your technology partner for lubricants



Technical Training: What makes a good needle and sinker oil?

Make sure it is tested according to DIN 62136. This standard includes many tests that are essential for good needle and sinker oils. These include amongst others:

- Concentration of toxic substances
- Scourability
- Corrosion protection against copper and steel
- Water content
- Wear and friction (= tribological characteristics) with the translatory oscillating test rig (SRV)
- Viscosity grade

Often, further specific requirements are of interest like no color, vibration/noise damping, compatibility with fabrics and electrical components or no clogging of the needle grooves.

Variety of Complex Machine Elements - Variety of Specialized Products

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In close dialogue with customers, setral® continuously develops new - or improves existing - products to meet requirements of the latest generation of the equipment. Machine-related products are given on the following pages to give a rough overview of the main lubrication points. Next to the reduction of wear and friction, the main challenges to be faced by lubricants in the textile industry are:

- Wear reduction
- High running speeds
- Washability
- Complex geometries
- Vibration decrease
- Noise reduction
- Humid or aggressive environment





Spinning and Twisting

In these process steps, fibers are transferred into yarn by spinning. The fibers can be made of natural or artificial (raw-) materials or blends of them. Twisting multiple yarns results in one strand for further treatment.

Spinning Machines

Downstream the draw frames, where last inadequacies are removed from the fibers prior to spinning, modern ring spinning machines produce yarn in highest efficiency. Thereby, high speeds of the spindle bearings, prevention of stick-slip effects, steady performance and corrosion protection are the main requirements.

PRODUCT	MACHINE / COMPONENT	BASE OIL VISCOSITY AT 40°C [mm ² /s]	BASE OIL	NLGI	SOLID LUBRICANTS/ THICKENER	TEMPERATURE RANGE [°C]	DESCRIPTION
SYN-setral-HSP/N	Ball bearings	27	Synthetic	2	Lithium complex	-50 to +130 (short +150)	Fully synthetic high speed and spindle grease with speed factor of approx. 1750000 mm/min
MI-setral-CA/C2-180	Roller bearings	220	Mineral	1-2	Calcium sulfonate complex	-30 to +160	Media-resistant special grease with excellent wear and corrosion protection. Approved by Arioli and Pentek
MI-setral-5 B ... series	Plain bearings (rotary plate)	60 50	Mineral	2	PTFE / Lithium	-25 to +150	Light-coloured, highly effective assembly and grease paste on PTFE basis also against fretting corrosion
SYN-setral-FGP	Screwed connections of spinnerets	75	Synthetic	2	Inorganic	-30 to +1200	Special paste for high thermal and extreme mechanical loads
SYN-setral-INT/250 A ... series	Roller and Plain bearings	510	Synthetic	00 0 1 2	PTFE	-40 to +250	Fully synthetic special grease for long-term lubrication, stable at high temperature and aggressive ambience.
SYN-setral-6 B	Assembly	100	Synthetic	2-3	Inorganic	-30 to +250	White assembly and lubricating paste, especially to avoid fretting corrosion



Twisting Machines

If multiple functional layers of yarn are required for further processing, several individual strands can be twisted into a modified yarn. Similar to the spinning machines, fast movements of small parts is the mayor challenge. Sometimes spinning, twisting and winding processes are combined in one step, giving similar requirements for the lubrication. The lubricants of setral® are always perfectly adapted to your respective spinning application.

PRODUCT	MACHINE / COMPONENT	BASE OIL VISCOSITY AT 40°C [mm ² /s]	BASE OIL	NLGI	SOLID LUBRICANTS/ THICKENER	TEMPERATURE RANGE [°C]	DESCRIPTION
SYN-setral-HSR	Spindle can bearings and belt guide rollers, thread guides / camshafts-traverse	15	Synthetic	2	Lithium	-50 to +120	Semi-synthetic special grease for slide and roller bearings operating at high speed
SYN-setral-HSP/N	Spindle can bearings and belt guide rollers, thread guides / camshafts-traverses	27	Synthetic	2	Lithium complex	-50 to +130 (short +150)	Fully synthetic high speed and spindle grease with factor of approx. 1750000 mm/min
SYN-setral-43 B/N	Thread guides / camshafts-traverses	30	Synthetic	2	PTFE / Lithium	-50 to +140	Fully synthetic special grease with white solid lubricants for a wide temperature range
MI-setral-CA/C2-400	Hinges, gear rims, chain tensioning	460	Mineral	1-2	Calcium sulfonate complex	-25 to +150 (short +180)	Media-resistant special grease with excellent wear and corrosion protection. Approved by Arioli
SI-setral-L 50	Roller and plain bearings	150	Synthetic	2	PTFE	-50 to +200	Grease for applications in a wide temperature range and different material pairings
SYN-setral-PU 2	Ball and roller bearings	100	Synthetic	2	Urea	-40 to +180	Fully synthetic long-term lubricant with noise damping characteristic (e.g. fans)



Knitting and Weaving

Having the yarn or strand in hand, weaving and knitting processes them into two-dimensional fabrics. The complex machines used during this process need well-balanced lubricants to maximize the operating time and minimize downtime and maintenance expenses.

Knitting Machines

In order to process fabrics in flat or circular direction, respective knitting machines are used. Crucial lubrication points are the needles and sinkers and thus the lubricant may stain the fabric. Therefore, scourability, ideal wear protection, low energy intake, damping the noise level, improved quiet running and many more are the key features of suited lubricants.

PRODUCT	MACHINE / COMPONENT	BASE OIL VISCOSITY AT 40°C [mm ² /s]	BASE OIL	NLGI	SOLID LUBRICANTS/ THICKENER	TEMPERATURE RANGE [°C]	DESCRIPTION
FLUID-setral-KN ... N series	Needle sinkers, sinker rings, needle cams, cylinders, couplings and stitch dials	22 32 46	Mineral	-	-	-10 to +140	Colorless, anti-wear needle and sinker oil series, tested according to DIN 62135 and washability approved by Groz-Beckert
GLIS-setral-FD (Spray)*	Spindles	2.5	Semi-synthetic	-	-	-10 to +80	Fine oil for multiple applications to lubricate, release, preserve / protect and clean
FLUID-setral-SE 20 FD	Stich-forming elements, gears and bearings	20	Synthetic	-	-	-10 to +180 (short +190)	Fully synthetic running-in oil which quickly removes wear particles
MI-setral-CA/C2-180	Roller and plain bearings	220	Mineral	1-2	Calcium sulfonate complex	-30 to +160	Media-resistant grease with excellent wear protection at medium speeds. Approved by Arioli and Pentek
SYN-setral-43 B/N	Slide rails	30	Synthetic	2	PTFE / Lithium	-50 to +140	Fully synthetic special grease with white solid lubricants for a wide temperature range

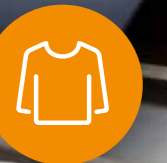
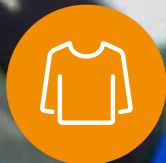
*Sprays also available as bulk good



Weaving Machines

Weaving describes a type of fabric processing that is done on looms. The requirements for the lubricants somehow differ to knitting machines due to higher loads. Therefore, special products with extreme pressure additives or the setral® EPL technology offer less friction and wear and longer material lifetime.

PRODUCT	MACHINE / COMPONENT	BASE OIL VISCOSITY AT 40°C [mm ² /s]	BASE OIL	NLGI	SOLID LUBRICANTS/ THICKENER	TEMPERATURE RANGE [°C]	DESCRIPTION
MI-setral-LI/PD ...series	Flywheels / crosshead axles	120	Mineral	00 0 1 2 3	Lithium	-35 to +140	High-pressure grease series without solids, with EPL additive technology. Approved by Pentek. NLGI 2 suitable for Van de Wiele weaving machines
MI-setral-CA/C2-180	Friction points with oscillating movement	220	Mineral	1-2	Calcium sulfonate complex	-25 to +160	Media-resistant special grease with excellent wear and corrosion protection. Approved by Arioli and Pentek
FLUID-setral-SHT 2000 MT	Chains	2000	Synthetic	-	-	-5 to +220	Fully synthetic high-temperature oil for chains
MI-setral-LI/PD 2-220	Weaving looms	220	Mineral	2	Lithium	-20 to +150 (short +180)	High-pressure grease without solids, with EPL additive technology. Meets Picanol specification
SYN-setral-GEAR/PG 80 WM	Gears and sliding pairs	80	PAG	-	-	-35 to +140	High performance gear oil especially developed for lumes



Finishing

The finishing of textiles describes diverse processes that possibly follow the fabric production. This includes multi-purpose lines such as stenter frames to keep the fabric in place, Foulards as machines for treatments of wide running fabrics (e.g. draining) or steaming and washing machines. All these machines can be part of posttreatments such as dyeing, washing, bleaching, printing or coating with functional substances. Some of them are also used in several steps during textile production.

PRODUCT	MACHINE / COMPONENT	BASE OIL VISCOSITY AT 40°C [mm ² /s]	BASE OIL	NLGI	SOLID LUBRICANTS/ THICKENER	TEMPERATURE RANGE [°C]	DESCRIPTION
SYN-setral-INT/250 A ...series	Slide bearings / transport chains	510	PFPE	00 0 1 2	PTFE	-40 to +250 (short +280)	Fully synthetic special grease for long-term lubrication, stable at high temperatures and aggressive ambience. Approved by Brückner (NLGI 1)
SYN-setral-INT/250 L ...series	Slide bearings / transport chains	420	PFPE	1 2	PTFE	-40 to +250 (short +280)	For long-term or life-time lubrication susceptible to wear under extreme conditions
FLUID-setral-SHT 260 MT	Gliding rail of transport chains	260	Synthetic	-	-	-30 to +250	Fully synthetic high-temperature oil for chains and ropes.
FLUID-setral-SHT 320 IS	Gliding rail of transport chains	320	Synthetic	-	-	-30 to +250	Fully synthetic chain oil with EP additives for high temperatures. Approved by MS Printing Solutions (Dover Industries Italy)
SYN-setral-PU 2	Roller bearing in electric engines	100	Synthetic	2	Urea	-40 to +180	Fully synthetic low and high-temperature grease for long-term lubrication
DIO-setral-57 N (Spray)*	Width adjust screws / spindles	-	-	-	MoS ₂ / Inorganic	-200 to +450 (short +500)	Air-drying MoS ₂ based dry lubricant
SYN-setral-INT/330 Special	Slide bearings / transport chains	1000	PFPE	2	Inorganic	-10 to +330	Fully synthetic, special grease for lubrication at high temperature and aggressive ambience
FLUID-setral-INT/500	Gliding rail of transport chains	500	PFPE	-	-	-20 to +310	High-temperature inert oil for chains

*Sprays also available as bulk good

Foulards, Washing and Steaming Machines

setral® offers many lubricants that keep up with the requirements in foulards, washing and steaming machines. They are especially designed, among others, with corrosion preventives and anti-oxidants to work under moist conditions or other aggressive environmental conditions.

PRODUCT	MACHINE / COMPONENT	BASE OIL VISCOSITY AT 40°C [mm ² /s]	BASE OIL	NLGI	SOLID LUBRICANTS/ THICKENER	TEMPERATURE RANGE [°C]	DESCRIPTION
FLUID-setral-SHT 100 K	Chains	100	Synthetic	-	-	-40 to +250	Fully synthetic oil with modern EP-additives and antioxidants for high temperatures. Approved by Arioli and Pentek
MI-setral-CA/C2-180	Roller bearings	220	Mineral	1-2	Calcium sulfonate complex	-30 to +160	Media-resistant special grease with excellent wear and corrosion protection. Approved by Arioli and Pentek
SYN-setral-CA/C2-400 FD	Roller bearings	400	Synthetic	2	Calcium sulfonate complex	-30 to +170	Synthetic special grease with excellent wear and corrosion protection. Approved by Arioli, Pentek and MS Printing Solutions (Dover Industries Italy)
SYN-setral-53 B/3	Corrosion protection for inner steaming machine walls	7500	Synthetic	3	Inorganic	-5 to +150	Fully synthetic high performance adhesive grease, resistant to water and steam
MI-setral-B 2	Corrosion protection for inner steaming machine walls	510	Mineral	1-2	Inorganic	-5 to +180	Special grease with excellent adhesion on surfaces. Approved by MS Printing Solutions (Dover Industries Italy)

GENERAL APPLICATION AND MAINTENANCE

Next to the lubrication of the core machine elements, setral® also offers solutions for all other parts of your textile machine. This can be specially designed gear oils, compressor oils, cleaners and other maintenance products. Please ask your contact person for more information.



PRODUCT	BASE OIL VISCOSITY AT 40°C [mm²/s]	BASE OIL	TEMPERATURE RANGE [°C]	DESCRIPTION
GEAR AND COMPRESSOR OILS				
SYN-setral-GEAR/PG 80 WM	80	PAG	-35 to +140	Specially developed high performance gear oil for the textile industry
SYN-setral-GEAR/PGM ... series	150 220 320 460 680	PAG (not water soluble)	-30 to +180	Fully synthetic, high performance gear oil series based on polyalkylene glycol
SYN-setral-GEAR/PGW ... series	68 100 150 220 320 460 680	PAG (water soluble)	-35 to +150	High performance gear oil series developed for an optimized energy balance with a very low coefficient of friction and thus low friction losses
SYN-setral-GEAR N ... series	100 150 220 320 460 680	PAO	-40 to +150 (short +180)	Fully synthetic high performance gear oil series with selected EP additives. Approved by Pentek, ISO VG 150 and 220 meet the Picanol specification. ISO VG 150 suitable for Van de Wiele weaving machines
MI-setral-GEAR/EPL ... series	150 220 320 460 680	Mineral	-10 to +120	Mineral oil based high-performance gear oil series with selected EPL additive system. Also suitable for the lubrication of oil lubricated bearings. ISO VG 220 approved by MS Printing Solutions (Dover Industries Italy). ISO VG 150 suitable for Van de Wiele weaving machines.
COVA-setral-SE ... series	100 150	Ester	-30 to +200	Compressor and vacuum pump oil series in all areas where extreme performance standards have to be fulfilled
COVA-setral-SMG ... series	32 46 68	PAO	-35 to +120	Fully synthetic high performance oil series for air compressors

PRODUCT	BASE OIL VISCOSITY AT 40°C [mm²/s]	BASE OIL	TEMPERATURE RANGE [°C]	DESCRIPTION
CLEANERS				
CLEAN-setral-AN/U	-	-	-40 to +40	Fast evaporating, residue-free, high-performance cleaner and degreaser
CLEAN-setral-CST	-	-	-20 to +40	General cleaner and degreaser, slowly evaporating
CLEAN-setral-COVA	-	-	-30 to +160	Cleaning fluid for compressors, gear boxes and hydraulic systems
OTHER MAINTENANCE PRODUCTS*				
PRO-setral-KS ECO (Spray)	-	Ester	-10 to +120 (short +150)	Eco-friendly, biodegradable anticorrosive agent and fine oil for spindles and chains
GLIS-setral-SQ (Spray)	-	Synthetic	-20 to +80	Fast acting synthetic penetrating oil for the dismantling of extremely corroded and seized parts
SI-setral-5 X (Spray)	-	Silicone	-40 to +200	Synthetic, transparent HI-lubricating and separating agent for diverse sliding pairs
FLUID-setral-SHT 260 MT (Spray)	260	Synthetic	-30 to +250	Fully synthetic high-temperature oil for chains and ropes
DIO-setral-57 N (Spray)	-	-	-200 to +450 (short +500)	Air-drying MoS ₂ based dry lubricant for heavily loaded surfaces
SYN-setral-6 B	100	Synthetic	-30 to +250	White assembly and lubricating paste, especially to avoid fretting corrosion
MI-setral-LI/PD ... series	120	Mineral	-35 to +140	High-pressure grease series without solids, with EPL additive technology. Approved by Pentek
SYN-setral-CA/C2-400 FD (Spray)	400	Synthetic	-30 to +170	Media-resistant special grease with excellent wear and corrosion protection. Approved by Arioli, Pentek and MS Printing Solutions (Dover Industries Italy). Suitable for Van de Wiele weaving machines

*Sprays also available as bulk good

Successful in more than 90 countries with satisfied customers



setral® is certified according to DIN EN ISO 9001, DIN EN ISO 21469 and DIN EN ISO 14001.

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