




 **INTEGRATED**™
TECHNOLOGY
PRODUCTS FOR TEXTILE MACHINES

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Modern textile machineries are compact and high speed machines compared to earlier designs & hence require lubricants which can perform in the extreme conditions of speed, temperature and load. Standard lubricants can no longer meet these expectations. The choice of a lubricant is largely governed by the technical and operational requirements and not just the cost. High-quality special lubricants - though they cost more, effectively turn out much more economical in the long run.

Please find a presentation of high technology lubrication solutions for the modern textile machinery. You will find details of typical applications and solutions to lubrication problems involving the following types of textile machinery:

- Spinning machines
- Synthetic fibre spinning machines
- Synthetic fibre processing machines
- Twisting and spool machines
- Special machines
- Sizing machines and looms
- Textile finishing machines





Designed to perform in the extreme conditions, our products offer :

- Maximum Operational & Performance Reliability
- Low Machinery Servicing Costs
- Long Maintenance Intervals
- Environment-friendly Solutions

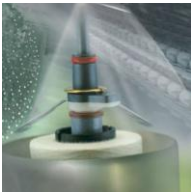

These not just meet, but exceed your expectations!!

Sold through our authorized distributors, our products are available at most of the industrial estates in the country.

LUBRICANTS FOR PREPARATORY AND SPINNING MACHINES

EXAMPLE	MACHINE/COMPONENT	LUBRICATION PROBLEM/REQUIREMENTS	RECOMMENDED LUBRICANTS	NOTES/ADVANTAGES/BENEFITS
	Top & Bottom drawing roller bearings in the draw frames	<ul style="list-style-type: none"> Insufficient bearing life if lubricated with standard greases. Overheating of bearings 	IT-4303 Synthetic high speed grease for the needle bearings MI-setral-Li PD-2 Mineral Oil based High Speed Grease	A real-term long-life grease that helps prolong the re-lubrication intervals
	Roller bearings in the drawing assembly in ring frames.	Frequent re-lubrication	IT-4303 Synthetic high speed grease MI-setral-Li PD-2 Mineral Oil based High Speed Grease	Fortified with Teflon, the grease also offers an excellent corrosion protection and long-term lubrication of bottom roller bearings (needle bearings)
	Top roller bearings (ring spinning frame)	Frequent re-lubrication	IT-4303 Synthetic high speed grease MI-setral-Li PD-2 Mineral Oil based High Speed Grease	It is possible to achieve extremely high service life
	Needle bearings in bottom drawing rollers (ring spinning frame)	Extensive maintenance in case of bearing failure, thus a long-term lubrication required	IT-4303 Synthetic high speed grease MI-setral-Li PD-2 Mineral Oil based High Speed Grease	<ul style="list-style-type: none"> Besides long-term lubricity, the grease provides very good corrosion protection Low maintenance requirements Extended lubrication interval of upto one year possible




LUBRICANTS FOR PREPARATORY AND SPINNING MACHINES

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	OE spinning turbines (direct or twin-disc drive)	<ul style="list-style-type: none"> Extremely high speeds Overheating and wear of the bearing Too frequent re-lubrication 	SYN-setral-HSP/N Synthetic High speed grease with DN Value of 1,750,000 IT-4303 Synthetic high speed grease	Increased operational reliability and extended bearing life with very long re-lubrication intervals
	Opening rollers (OE spinning frame)	Bearing wear may lead to uneven opening of the sliver.	SYN-setral-HSP/N Synthetic High speed grease with DN Value of 1,750,000 IT-4303 Synthetic high speed grease	<ul style="list-style-type: none"> Flawless opening of the sliver Long-term lubrication; extends upto one year



LUBRICANTS FOR THE SPECIAL MACHINES

EXAMPLE	MACHINE/COMPONENT	LUBRICATION PROBLEM/REQUIREMENTS	RECOMMENDED LUBRICANTS	NOTES/ADVANTAGES/BENEFITS
	<ul style="list-style-type: none"> Lid seals of dyeing vessels Yarn Steamers 	Sticking of rubber seals results in excessive seal wear.	IT-4107 High Temperature Silicone grease	<ul style="list-style-type: none"> Lids open and close easily and the seals reach an extended service life. Seal re-lubrication only required weekly. IT-4107 is fully synthetic grease and neutral towards natural and synthetic rubber. It resists water and steam and is therefore an ideal assembly aid for all rubber seals and in the finishing section.

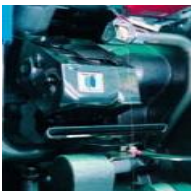
LUBRICANTS FOR SYNTHETIC FIBRE SPINNING MACHINES

EXAMPLE	MACHINE/COMPONENT	LUBRICATION PROBLEM/REQUIREMENTS	RECOMMENDED LUBRICANTS	NOTES/ADVANTAGES/BENEFITS
	Spinning pumps	<ul style="list-style-type: none"> Pre-heating temperature required is 260 °C to 280 °C Start-up problems due to deficient oil film or oil residues 	DuPont Krytox GPL 105 High Temperature, heat stable low evaporating & chemically resistant inert oil	Oil with a very low evaporation loss and excellent release properties. It ensures the start-up lubrication of preheated pumps.
	Sealings	High temperature stable circulating oil for the mechanical seals in the reactor	DuPont Krytox GPL 105 High Temperature, heat stable low evaporating & chemically resistant inert oil	<ul style="list-style-type: none"> Oil with a highest thermal stability Stable to most chemicals, fumes and has a very low evaporation loss
	Spinnerettes	<ul style="list-style-type: none"> Exposure to high temperatures leads to seizing. Difficult to dismantle the spinnerettes. 	IT-9201 Copper based High temperature stable, anti-seize compound	<ul style="list-style-type: none"> No high temperature seizures Ensures easy removal & dismantling of the spinnerettes and fasteners
	Godet bearings	<ul style="list-style-type: none"> "Bleeding" of the grease results in impeded bearing operation. Re-lubrication intervals too short 	For temperatures <180°C; SYN-setral-PU-2 For temperatures >180°C DuPont Krytox GPL 227	<ul style="list-style-type: none"> Long-term lubrication and improved bearing life under demanding conditions. High-performance rolling bearing greases with high thermal stability for long-term lubrication




LUBRICANTS FOR SIZING MACHINES AND LOOMS

EXAMPLE	MACHINE/COMPONENT	LUBRICATION PROBLEM/REQUIREMENTS	RECOMMENDED LUBRICANTS	NOTES/ADVANTAGES/BENEFITS
	Weaving machine gear-boxes	Short oil change intervals in tape drive	Chemlube PGWS 100 Chemlube PGWS 150 Fully synthetic gear oils with high pressure absorption capacity for extreme loads	Longer oil change intervals attained with Chemlube PGWS series oils: approx. 15 000 op. hrs. instead of approx. 5 000 op. hrs.
	Gripper looms (tape gripper looms)	Rolling bearings subject to vibrations, especially in the flywheel support and the crosshead axle	IT-305 White special lubricant with a high pressure absorption capacity	IT-103 allows extension of re-lubrication intervals even at high speeds, providing a reliable protection against fretting corrosion.




LUBRICANTS FOR TWISTING AND SPOOL WINDING MACHINES

EXAMPLE	MACHINE/COMPONENT	LUBRICATION PROBLEM/REQUIREMENTS	RECOMMENDED LUBRICANTS	NOTES/ADVANTAGES/BENEFITS
	Travelling knotter / splicer	<ul style="list-style-type: none"> High mechanical stress Wear Friction points difficult to access. 	IT-1096 Molybdenum disulphide lubricating oil concentrate ensuring high wear protection and emergency lubricating properties.	<ul style="list-style-type: none"> Excellent wear protection. Easy application by spraying Good lubricant for internal mechanism in the housing of travelling knotters & spooling equipment. Also for use on gears in the gear reducer unit of the travelling splicer or travelling knotter. A cleaner & lubricant that also protects against the corrosion in a convenient spray form.
	Splicer	<ul style="list-style-type: none"> Flawed operation due to fibre build-up, contaminants Impaired sliding effect 	IT-1095 A low-viscous lubricant, corrosion protective and rust removing agent.	IT-1095 is also used for guide bars on knitting machines and for the Jacquard needles of looms.




LUBRICANTS FOR TWISTING AND SPOOL WINDING MACHINES

EXAMPLE	MACHINE/COMPONENT	LUBRICATION PROBLEM/REQUIREMENTS	RECOMMENDED LUBRICANTS	NOTES/ADVANTAGES/BENEFITS
	Pot bearing in TFO 2 for 1 twister	<ul style="list-style-type: none"> High energy consumption Short re-lubrication intervals Excessive frictional resistance of the grease 	SYN-setral-HSP/N Dynamically light synthetic grease for long-term or even lifetime lubrication	A new generation high speed grease that helps reduce the power requirement & extends the re-lubrication interval. Re-lubrication interval of upto 10,000 operating hours depending on operating conditions.
	Belt guide rollers	Improper operation of guide rollers	MI-setral-PU 100	High temperature poly-urea based grease for long-term use. The grease is also suitable for central lubricating systems
	Rolling bearings in washing and mercerizing machines, dyeing machines and festoon Steamers	Bearing failures due to corrosion Washing-out of the grease from the bearings by detergents, processing fluids and splash water	MI-setral-CA/C2 180 Water and steam resistant special grease, which is also resistant to aqueous alkaline and aqueous acid solutions	<p>High operational reliability and resistance to water, hot water, aggressive vapors and many other media encountered in textile finishing Good corrosion protection and long re-lubrication intervals</p> <p>MI-setral-CA/C2 180 is a special high-pressure and long-term greases for all lubrication points exposed to media. The lubricating grease has good sealing properties and protects bearings against corrosion.</p>




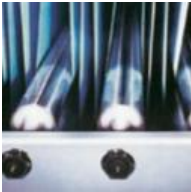
LUBRICANTS FOR TEXTILE FINISHING MACHINES

EXAMPLE	MACHINE/COMPONENT	LUBRICATION PROBLEM/REQUIREMENTS	RECOMMENDED LUBRICANTS	NOTES/ADVANTAGES/BENEFITS
	Bearings in the washing & mercerizing machines	<ul style="list-style-type: none"> ▪ Bearing failures due to grease wash-outs ▪ Corrosion of the bearings 	MI-setral-CA/C2 400 A hot-water, steam, alkali and acid resistant special grease esp where chemical contamination exists	<ul style="list-style-type: none"> ▪ Grease is resistant to aggressive media like water/alkaline solutions & other media used in processing. ▪ Offers good corrosion protection and long-life
	Fabric Conveyor Chains	<ul style="list-style-type: none"> ▪ Deposits of Condensates. ▪ Residue Formation. ▪ Chain Noise & Rattle ▪ Excessive power consumption 	IT-7486 High-temperature chain oil	<ul style="list-style-type: none"> ▪ Provides an efficient lubrication at high temperatures ▪ Oil give a releasing action, preventing sticking of condensates etc. ▪ Protects chain against wear ▪ Excessive power consumption
	Corrosion protection for the inner lining of steamers	Corrosion of steel lining resulting from severe media attack	MI-setral-CA/C2 400 A hot-water, steam, alkali and acid resistant special grease esp also for the internal protection of steamers	MI-setral-CA/C2 400 is a reliable and economical long-term protection as it provides an internal coating which lasts for one year or more in most cases. Premature expensive replacement of the steamer lining is consequently not necessary
	Chains in steamers	Reduced production and increased costs for repair	IT-7486 High-temperature Chain Oil with very low evaporation loss	Thermally stable, IT-7486 is designed to work in most extreme conditions of temperature. It provides an effective lubrication at high temperatures while also protecting the lubricated systems against wear.


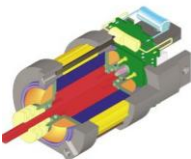
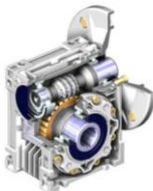
LUBRICANTS FOR TEXTILE FINISHING MACHINES

EXAMPLE	MACHINE/COMPONENT	LUBRICATION PROBLEM/REQUIREMENTS	RECOMMENDED LUBRICANTS	NOTES/ADVANTAGES/BENEFITS
	Chains in Dryers for fabric printing	<ul style="list-style-type: none"> Deposits of Condensates Residue Formation Chain Noise & Rattle Excessive power consumption 	IT-7486 High-temperature Chain Oil with very low evaporation loss	<ul style="list-style-type: none"> Provides an efficient lubrication at high temperatures Oil give a releasing action, preventing sticking of condensates etc. Protects chain against wear Excessive power consumption
				
	<ul style="list-style-type: none"> Bearings of the electrical motors in dryers Bearings of the fan & exhaust fans in dryers 	<ul style="list-style-type: none"> Exposure to high temperature leads to carbon residues Bearing wear and pre-mature failures High Maintenance costs 	SYN-setral-PU-2 Poly-urea based synthetic High-temperature Grease	<ul style="list-style-type: none"> Long re-lubrication intervals Also used for High temperature fan bearings Lubrication of Chain return wheels Life-time lubrication of the electrical motor bearings

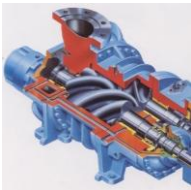

LUBRICANTS FOR TEXTILE FINISHING MACHINES

EXAMPLE	MACHINE/COMPONENT	LUBRICATION PROBLEM/REQUIREMENTS	RECOMMENDED LUBRICANTS	NOTES/ADVANTAGES/BENEFITS
	Width adjustment Spindles	Heavy build-up of contaminants with lubricating oils or greases, as well as carbon and cracking residues that may impede smooth & uniform motion	IT-1085 Molybdenum disulphide bonded coating, providing a dry lubricating film up to 450 °C	Dry & bonded solid lubricant coating prevents the build-up of lint and contamination. Consequently, easy and accurate width adjustment is possible requiring comparatively little maintenance.
	Heavy build-up of contaminants with lubricating oils or greases, as well as carbon and cracking residues that may impede motion.	In heated calenders the oil's operating viscosity is too low. Mineral oils may cause the formation of residues, thus short oil change intervals required.	Chemlube PGWS series Oils Fully synthetic high-temperature oils with good viscosity-temperature characteristics	Chemlube PGWS series oils have a higher operational viscosity than mineral oils of a similar ISO viscosity grade and fulfil the demands for the required full fluid-film lubrication. These oils are available in all common ISO viscosity grades. ISO viscosity grades 220, 460 and 1000 are recommended.
	Rotary couplings e.g. in steam-heated finishing machines	Excessive seal wear due to inadequate lubrication of the rolling bearings at temperatures up to 180 °C and above	SYN-setral-PU-2 For temp. Upto 180 °C DuPont Krytox GPL 227 For temp. Above 180 °C	Particularly good resistance to aggressive media. The lubricants offer a high wear protection & good sealing effect
	Compensator and guide roller bearings in Hot flue finishing machines	Re-lubrication intervals too short Drying-out of the lubricating grease due to extreme thermal influences	DuPont Krytox GPL 227 Synthetic high-temperature Lubricating grease with very low evaporation loss. Grease for long-term use with very low consumption	Very good resistance to aggressive media and temperatures Excellent lubricating properties. The grease is also suitable for wear protection of electrical contacts and suitable for the lubrication of sliding material






LUBRICANTS FOR GEAR UNITS & ELECTRIC MOTORS IN TEXTILE MACHINES

EXAMPLE	MACHINE/COMPONENT	LUBRICATION PROBLEM/REQUIREMENTS	RECOMMENDED LUBRICANTS	NOTES/ADVANTAGES/BENEFITS
	Spur and bevel gears	<ul style="list-style-type: none"> High temperatures lead to rapid oil ageing and short oil change intervals. Extremely high specific flank pressure under mixed friction conditions (e.g. with high torques at low speeds) 	<p>Chemlube Omnigear 600 series PAO based gear oils</p> <p>Chemlube PGWS oils</p> <p>Synthetic gear oils for high loads on a PG base</p>	<ul style="list-style-type: none"> Oil change intervals are at least three times as long as those of mineral oils Omnigear series oils are available in all common ISO viscosity grades.
	Rolling bearings in electric motors	Premature bearing failure resulting in machine downtime	<p>SYN-setral-PU 2</p> <p>For long-term lubrication mostly of rolling bearings running at > 100 °C and high speeds</p>	
	Worm gears	Excessive oil sump temperature Rapid oil ageing and short oil change intervals Excessive wear of wheel resulting in low efficiency	<p>Chemlube PGWS oils</p> <p>Synthetic gear oils for high loads on a PG basis</p>	<ul style="list-style-type: none"> Chemlube PGWS series oils have an excellent anti-friction behavior. They reduce gear temperatures considerably and increase gear efficiency by more than 25 %. Owing to their special additives they reduce wear substantially, esp. on materials that are typically used for worm gears. Oil change intervals are at least five times longer than those of mineral oils Chemlube PGWS oils are available in all common ISO viscosity grades. They are not miscible with mineral oils or oils on a PAO basis. We recommend testing compatibility with sealing materials, paints and inspection glass






LUBRICANTS FOR THE COMPRESSORS

EXAMPLE	MACHINE/COMPONENT	LUBRICATION PROBLEM/REQUIREMENTS	RECOMMENDED LUBRICANTS	NOTES/ADVANTAGES/BENEFITS
	Rotary screw compressor	High operating temperatures leading to rapid oil ageing through oxidation, and short oil change intervals	Chemlube S-68 Chemlube 501 Chemlube 751	<ul style="list-style-type: none"> ▪ Clean compressors; thanks to its good oxidation stability ▪ Oil change intervals at least three times longer than those of mineral oils. When changing over from mineral oils, energy cost cuttings by 3 to 5% are possible. ▪ Ultrachem Chemlube oils are available in all common viscosity grades. We recommend to check the compatibility of the oils with seals and paints
	Cleaning of rotary screw and rotary vane compressors	<ul style="list-style-type: none"> ▪ Deposits due to pronounced oxidation especially of mineral-oil-based products. ▪ This will inevitably lead to contamination of the new oil fill unless the compressor is cleaned during changeover 	Ultra-Solv	<p>Ultra-Solv is a premium quality solvent-type fluid designed to dissolve varnish and solubilize sludge as an additive at 5% to 10% concentration in oil for cleaning of Hydraulic Systems, Gearboxes, Air Compressors, Vacuum Pumps, Chains, Bearings, Reservoirs, Airline Valves, Heat Transfer Systems, and Bowser Sumps in Paper Mills during operation.</p> <p>It can also be used to help flush a system when changing-over from mineral to synthetic oils in order to reduce contamination due to oil carry-over. Regular use of Ultra-Solv will help you get the most out of your synthetic oil and your equipment by removing varnish and reducing operating temperature.</p>

PRODUCTS FOR MAINTENANCE

PRODUCT	APPLICATIONS	ADVANTAGES
 <p>IT-84 A PCB Protection Coating Spray</p>	For protection of printed circuit boards or other electronic substrates against environmental and mechanical damages	<p>Protects and extends the life of the components and circuitry against environmental and mechanical damages.</p> <p>The coating also protects PCB's from moisture preventing short circuits and corrosion of conductors and solders joints</p>
 <p>IT-87 A Carbon Cleaner Spray</p>	For removal of flash-over carbon, baked-on grease, oil residues and other hard foreign contaminants from the electro mechanical assemblies, metal surfaces or similar other components	<p>A fast penetrating & heavy duty cleaning action loosens the hard deposits without any need to scrape out these using sharp tools.</p> <p>It is safe for use on the sensitive metal substrates</p>
 <p>IT-88 A Insulating Varnish Spray</p>	<p>For touch-ups & repair of the damaged insulating coatings on electrical motor coils or for impregnation of transformer coils.</p> <p>The product is used for repair of electrical insulation, switch parts, field coils, windings, commutator parts etc.</p>	<p>A deep penetrating protective coating forms a tough, flexible film which has high arc resistance and non-tracking properties.</p> <p>The coating protects against oil, water, acids and alkalis & has thermal ratings up to 240°C</p>
 <p>IT-1089 Cleaner & Degreaser Spray</p>	<p>For cleaning & degreasing metal surfaces before surface treatment</p> <p>For cleaning of bearings before lubrication or for removal of oil, grease and dirt residues from assemblies. As a cleaner during repair jobs etc.</p>	<p>The spray gives 100% cleaning & degreasing efficiency without leaving any residues.</p> <p>It is best for the precision cleaning e.g. mirror finish moulds. The product leaves pleasing smell.</p>
 <p>IT-1094 Multifunctional Fluid Spray</p>	<p>A multipurpose fluid spray for :</p> <ul style="list-style-type: none"> - Loosening of rust - Dismantling of corroded/seized parts - Displacing of moisture - Corrosion protection - Restoration of wet electrical contacts 	<ul style="list-style-type: none"> - High penetrating property - Heavy duty & hence less consumption - More active material in the can - Most suitable for the loosening stubborn assemblies

PRODUCTS FOR MAINTENANCE

PRODUCT	APPLICATIONS	ADVANTAGES
 <p>IT-1094/1 Multifunctional Fluid Spray</p>	<p>A multipurpose fluid spray for :</p> <ul style="list-style-type: none"> - Loosening of rust - Dismantling of corroded/seized parts - Displacing of moisture - Corrosion protection - Restoration of wet electrical contacts 	<p>Same as above but with slightly more lubrication & corrosion protection property</p>
 <p>IT-97 Adhesive Chain Lubricant Spray</p>	<p>For lubrication of the industrial chains & wire-ropes. Excellent for applications having exposure to steam or dry high temperatures.</p> <p>For long-term lubrication of small gear drives, bearings, locking mechanisms, hinges, etc.</p>	<p>Provides lubrication up to + 250 °C. The product has a very high penetration property and provides excellent wear protection</p>
 <p>IT-1099 Offline Contact Cleaner</p>	<p>For cleaning all types of electrical circuits, contacts, instruments & PCBs etc.</p> <p>Designed to clean control panels, electrically driven equipments, motors and other electronic devices</p>	<p>It is a fast evaporating cleaning solvent which does not leave any residue.</p> <p>It cuts grease, dirt, oil and other surface contaminates from sensitive electrical / electronic devices & is harmless to most plastics and insulators</p>
 <p>IT-1100 Online Contact Cleaner</p>	<p>IT-1100 is a high performance precision contact cleaner spray designed for use on the live electrical circuits of upto 440 V</p> <p>It is an ideal choice for cleaning of the PCB circuits and other delicate electrical/electronic components</p>	<p>The product is harmless to plastic, rubbers & insulating materials.</p> <p>It evaporates quickly without over freezing and does not leave any residue.</p> <p>IT-1100 is non-flammable & odorless</p>
 <p>IT-1102 Cold Galvanising Spray</p>	<ul style="list-style-type: none"> - As a primer over rusted metal surface or to repair hot dip galvanized surfaces. - For protection of the welded joints or repair of the AC dusting etc. - For repair of the structural steel bridges, buildings, off-shore rigs, steel windows, sheet metal or electrical transmission towers 	<p>Zinc rich coating that performs like a hot dip galvanized coating to prevent rust and corrosion on all types of metals for up to two years.</p> <p>It works electro-chemically on all ferrous metals, providing rust and corrosion protection indoors and outdoors</p>



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