LUBCON® High Performance H1 Food Grade Lubricants

Terms and Definitions

H1	Globally recognized term for food grade lubricants allowing incidental food* contact with maximum levels of lubricant presence as defined by the FDA (U.S. Food and Drug Administration).
H2	Term for lubricants NOT suitable for food* contact.
H3	Term for lubricants used as rust protective, e.g. for hooks, trolleys, knives etc. Residues on treated material must be wiped off prior to equipment use as they are NOT allowed for food* contact.
3H	Term for mould release lubricants allowing incidental food* contact with maximum levels of lubricant presence as defined by the FDA (U.S. Food and Drug Administration). Used e.g. on grills, loaf pans, cutters, boning benches, chopping boards, or other hard surfaces to prevent food from adhering during processing.
HX-1	Ingredients approved for the manufacturing of H1 lubricants.
HT1	Term for food grade heat transfer oils allowing incidental food* contact with maximum levels of lubricant presence as defined by the FDA.
A1	Term for general cleaner, NOT suitable for food* contact. Can only be used on equipment and machine parts in locations where there is absolutely no possibility of food* contact. Rinsing of cleaned surfaces with potable water is required after use of this product.
K1	Term for solvent cleaner, NOT suitable for food* contact. Usage is limited to non-processing areas where there is no possibility of solvent vapours entering a processing area. Any residues have to be removed from treated surfaces before they are applied for processing. No vapours of the cleaner are allowed to enter the processing area.
NSF and InS	Two organisations that internationally register lubricants according to categories such as H1, 3H etc. and list registered products on their websites.
FDA	U.S. Food and Drug Administration
USDA	United States Department of Agriculture
H.A.C.C.P.	Hazard Analysis of Critical Control Points is a clearly structured control tool for preventive measures. It is a methodology for defining and controlling present or potential hazards in food* production that might present a harm to consumers.
E.H.E.D.G.	European Hygienic Equipment Design Group is a consortium of OEMs, manufacturers, research institutes as well as public health authorities. The principal goal of EHEDG is the promotion of safe food by improving hygienic engineering and design in all aspects of food manufacture.

*also valid for other products e.g. beverages, animal feeds and food, pharmaceuticals, personal care products.





LUBCON® - Full Service Provider for H1 Lubricants

LUBCON Service: Professional, Innovative and Flexible

As a full-service provider with extensive experience in application engineering, we assist you with the selection of suitable lubricants and lubrication methods to increase safety, efficiency and service life of your production machines.

LUBRICANT CONSULT

- ✓ special lubricants *(greases, oils, pastes, aerosols, cleaner)*
- ✓ customised lubrication solutions
- ✓ automatic lubrication systems
- ✓ lubricant analysis
- ✓ bearing failure inspections
- ✓ calculation of lubrication quantities
- ✓ lubrication charts, labelling and colour coding
- ✓ reduction of stock items
- ✓ training for maintenance personnel and engineering

LUBCON®

Lubricants and Lubrication Systems out of One Hand

By providing an ideal combination of high-performance H1 lubricants and lubrication systems for many applications we offer full support to achieve the following goals:

- ✓ lower costs
- ✓ improved safety
- ✓ higher reliability
- ✓ better performance
- ✓ increased efficiency
- ✓ decreased machine downtime

General Information on H1 Certification

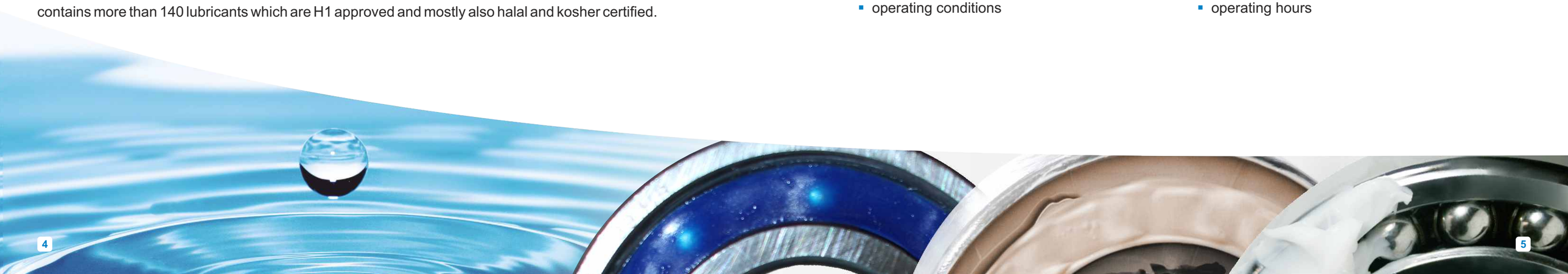
What is a H1-certified Lubricant?

H1 is the globally recognized term for food grade lubricants allowing incidental food contact (also valid for other products e.g. pet food or pharmaceuticals) with defined maximum levels of the lubricant present. The limits for such an incidental contact as well as approved ingredients for H1 lubricants are defined by the FDA (U.S. Food & Drug Administration) in Regulation 21 CFR 178.3570. Registrations for lubricants according to H1 (and other categories such as H3, 3H, etc.) are issued by the international institutions InS Services and NSF. Products which are registered in various different categories are published on the websites of these two institutions (www.insservices.eu and www.nfswhitebook.org).

Products which are additionally halal and/or kosher tested and certified are subject to the supervision of HDC (Halal Industry Development Corporation) or the Kashrut Committee. All ingredients are, therefore, identified and determined qualitatively and quantitatively. Institutes such as NSF, InS Services and HCS (Halal Certification Services) examine the products with regard to FDA requirements or religious guidelines. Moreover, they audit the production lines and issue the corresponding certificates. In addition, lubricants utilised in food processing must be odour- and tasteless, physiologically harmless and have to meet the legal regulations.

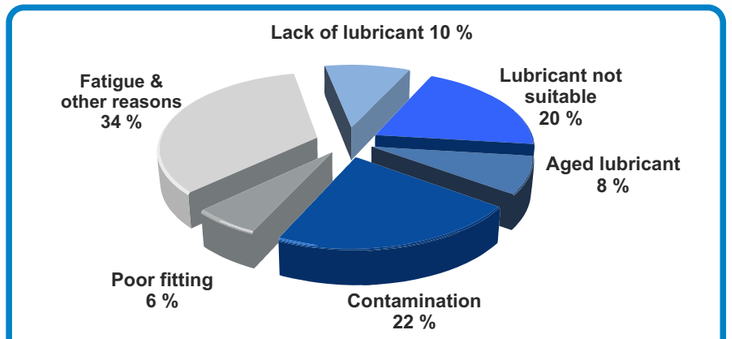
Safety and Efficiency at the Application of H1 Lubricants under Harsh Conditions

Severe operating conditions such as extreme temperatures, humidity and the use of sanitizers or cleaners present unique challenges for food grade lubricants. In order to meet these requirements LUBCON has been developing and producing special lubricants and lubrication systems for more than 35 years, responding precisely to the exacting demands in food, beverage, packaging and pharmaceutical processing. Our comprehensive portfolio contains more than 140 lubricants which are H1 approved and mostly also halal and kosher certified.



Lubricant Selection for (Roller) Bearings

Selecting a suitable lubricant is crucial for the reliable functioning of bearings in subassemblies and production facilities. The statistics of our own damage analysis show a direct or indirect relation to the lubricant used for a significant part of premature bearing failures.



Causes for premature bearing failures: 60% related to lubrication
source: Internal bearing failure inspections

The most common reasons for damages are contaminations of the lubricant and the use of unsuitable lubricants. Further failure causes related to lubrication are lack of lubricant or reduced lubricity due to aged lubricants. In total, this results in a lubrication related failure rate of 60 %. A careful and correct selection of the lubricant has therefore a big impact on the service life of bearings and thus on the efficiency of a production machine.

Important Parameters for a Correct Lubricant Selection:

- type of application
- type of bearing
- rotational speed
- load direction and altitude
- bearing operating temperature
- operating conditions
- ambient temperature
- horizontal or vertical shaft orientation
- rotating inner or outer ring
- rotation or oscillation
- vibration or shock loads
- operating hours

Product Overview

This is only an overview of the core products from the entire LUBCON H1 portfolio.
Further products as well as other NLGI consistencies of the grease types listed below are available upon request.

Application	Products	Base Oil Viscosity at 40 °C [mm²/s]]	Temperature Range Min	Temperature Range Max	NLGI-Class	Load Carrying Capacity	Speed Factor	Corrosion Protection	Water Resistance	Solid Lubricants	Base Oil/ Thickener	Features and Benefits
H1 Lubricants for Roller Bearings, Plain Bearings and Linear Guides												
Multipurpose Grease	**Turmosynthgrease AL 4602**	460	-20 °C	+160 °C	2	N	M	++	++	-	Highly refined white oil/al-complex soap	Suitable for various applications with low to medium temperatures and speeds. Resistant to hot/cold water, outstanding adhesive properties.
	Turmosynthgrease AL 2502	250	-25 °C	+120 °C	2	N	M	++	++	-		
High Performance Synthetic Grease	**Turmosynthgrease ALN 8002**	800	-30 °C	+180 °C	2	H	M	++	++	-	PAO/ polyurea al-special soap	Grease for demanding applications (high speed, high loads, high temperature). Due to a long grease operating life it is very suitable for the lifetime lubrication of bearings.
	Turmosynthgrease ALN 4602 TF	460	-30 °C	+180 °C	2	H	M	++	++	PTFE		
	Turmosynthgrease ALN 4602	460	-30 °C	+180 °C	2	M	M	++	++	-		
	Turmosynthgrease ALN 2502 PM	250	-30 °C	+160 °C	2	M	H	++	++	-		
	Turmosynthgrease ALN 1002	100	-40 °C	+140 °C	2	M	SH	++	++	-		
High Performance Synthetic EP Grease	**Turmosynthgrease CSX 4602**	450	-30 °C	+160 °C	2	H	H	++	+++	-	PAO/ calcium sulphonate complex soap	Excellent mechanical stability and optimum performance under extreme operating conditions. Outstanding water resistance, excellent anti-corrosion and anti-wear properties.
	Turmosynthgrease CSX 2202	210	-40 °C	+150 °C	2	H	H	++	+++	-		
	Turmosynthgrease CSX 1002	90	-40 °C	+140 °C	2	H	H	++	+++	-		
Low Temperature Grease	**Turmosynthgrease LT 300**	28	-54 °C	+120 °C	0	N	M	++	++	-	PAO/polyurea al-special soap	Very good wear protection, high load carrying capacity, high metal affinity and long service life.
High Temperature Grease	**Turmotemp II/400 CL 2**	500	-30 °C	+260 °C	2	SH	M	++	++	PTFE	PFPE/PTFE	Extreme high temperature grease with excellent ageing and oxidation stability. Non-flammable and neutral to most elastomers.
	Sintono Mega 2	500	-30 °C	+260 °C	2	SH	M	++	++	-	PFPE/polyurea	Unique high temperature grease based on perfluorinated oils (PFPE) and a special polyurea thickener, without PTFE. Superior flow behaviour at high thermal and mechanical stress. Miscible with lubricants containing PFPE/PTFE.
H1 Lubricants with Antimicrobial Additives (further LUBCON products with antimicrobial additives are available upon request.)												
High Performance Synthetic Grease for Guides & Bearings	**Turmosynthgr. ALN 1002 clean**	100	-40 °C	+140 °C	2	M	SH	++	++	-	PAO/polyurea al-special soap	Special grease with antimicrobial additives for demanding applications (high speed, high load, high temperature). Especially suitable in lubricated-for-life bearings.
Filling Armatures with EPDM-Seals in Aseptic Processing Environment	**Turmsilon LMI 5000 clean**	9000 (at 25 °C)	-50 °C	+220 °C	3	k.A.	k.A.	++	++	++	Silicone oil/PTFE	Silicone grease with antimicrobial additives to prevent growth of pathogenic germs in the grease. Suitable for the lubrication of EPDM-seals, rubber joints, membranes and lip seals e.g. in filling armatures. Resistant to disinfectant solutions, water and steam, neutral towards bear foam.

+++ outstanding ++ very good + good o average

Bearing Operating Parameters		Speed Factor (n x dm) Ball Bearings	Spherical- & Taper Roller Bearings	Cylindrical Roller Bearings	Load C/P
L	Low	< 100 000	< 75 000	< 75 000	> 15
M	Medium	< 300 000	< 210 000	< 270 000	= 5 up to 15
H	High	< 500 000	≥ 210 000	≥ 270 000	= 2 up to 4
VH	Very high	< 700 000	-	-	< 2
EH	Extremely high	≥ 700 000	-	-	-

n = Operating Speed [min-1]
C = Dynamic Bearing Load Carrying Capacity [N]
dm = 0,5 (d + D) = Bearing Mean Diameter [mm]
P = Equivalent Dynamic Bearing Load [N]

LUBCON Clean Series - H1 Lubricants with Antimicrobial Additives

Obvious evidence in a petri dish:
The growth of pathogenes (pictured: legionella bacteria) can be evidently reduced due to antimicrobial additives.

Cleanliness and hygiene are essential in the food, beverage and pharmaceutical industry. Especially bacterial formations present a high risk, which is often underestimated. In machine components such as lubricated bearings it is mostly impossible or impractical to apply special measures for germ reduction such as heating, radiation, sterilisation and addition of preservatives. LUBCON lubricants containing antimicrobial additives can be efficiently utilized in these applications in order to prevent microbial growth within the lubricant.

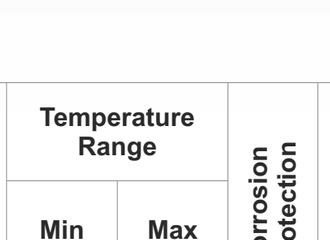
Product Overview

This is only an overview of the core products from the entire LUBCON H1 portfolio.
Further products as well as other NLGI consistencies of the grease types listed below are available upon request.

Application	Products	Base Oil Viscosity at 40 °C	Temperature Range		Corrosion Protection	Base Oil/ Thickener	Features and Benefits
			Min	Max			
H1 Gearbox and Open Gear Lubricants							
Multipurpose Gear Oils	**Turmosynth VG series***	46 - 1500	-10 °C	+100 °C	+	White oil blended with synthetic oils	Multipurpose gear and lubricating oil with a highly effective additive package for superior performance.
High Performance Synthetic Gear Oil	**Turmosynthoil GV series***	15 - 1000	-40 °C	+140 °C	++	PAO	Fully synthetic gear oil with wide temperature range and long service life.
Worm, Bevel Gear and Geared Motor Oil	**Turmosynthoil PG series***	68 - 680	-30 °C	+160 °C	+++	Polyglycol	Very good wear protection against sliding friction in worm and bevel gears. Suitable for high temperatures, extended service intervals.
Universal Semifluid Gear Grease (NLGI 00 and NLGI 000)	**Turmosynthgrease AL 2502**	250	-25 °C	+120 °C	+	Highly refined white oil/al-complex soap	Good alternative to gear oils in applications where leakage is a risk. Available in various consistencies such as NLGI 00 and NLGI 000.
Synthetic Semifluid Gear Grease (NLGI 0, 00 and 000)	**Turmosynthgrease ALN series***	100 - 460	-30 °C	+140 °C	++	PAO/polyurea al-special soap	High performance gear grease as a good alternative to gear oils in applications where leakage is a risk. Available in various consistencies: NLGI 0, NLGI 00 or NLGI 000.
Aerosol for Open Gear Lubrication	**Turmosynth VG 4800**	4800	0 °C	+140 °C	++	White oil blended with synthetic oils	Highly adhesive oil with high load carrying capacity. Excellent suitability for the lubrication of open gears.
Grease for Open Gear Lubrication	**Turmosynthgrease ALN 8001**	800	-30 °C	+180 °C	++	PAO/polyurea al-special soap	Synthetic high performance polyurea grease with outstanding adhesive properties and a high base oil viscosity providing high load carrying capacity.
Flushing Oil	**Turmoflush FG 15**	16	-10 °C	+80 °C	n.a.	White oil	Low viscosity white oil suitable for cleaning and flushing of old oil in gearboxes and mechanical systems, e.g. when converting to H1 lubricants. Not miscible with polyglycol oils.

+++ outstanding ++ very good + good o average
*For product series temperature limits are valid according to the technical data sheet of the lubricant in its specific viscosity.

Lubricant Selection for Gears



The following details are important for a correct gear lubricant selection:

- gear type (tooth geometry)
- power
- speed (ratio)
- operating temperature
- operating conditions

Usually the selection of a suitable lubricant is done by the manufacturer during the constructive planning of the gear. During this phase it is very important that the lubricant is not considered as a necessary operating material only, but is given the status of an essential construction element. A thorough and correct lubricant selection has a significant effect on service life and maintenance. A supposedly equivalent, cheaper lubricant might result in higher follow-up costs during the production process and for maintenance. Those follow-up costs are normally much higher than the savings achieved in the purchase of the lubricant itself.

The minimum requirements for circulating and gear oils are standardized in DIN 51517-1 to -3 in ISO 12925-1 and in AGMA 9005. However, characteristics of these oils as wear protection, oxidation resistance, corrosion protection and compatibilities can be very different.

Please contact the experts at LUBCON in case of any questions.

Converting Machines and Applications to H1 Food Grade Lubricants

Minimise the risk of mixing up:
LUBCON H1 lubricants are mostly sold in white packagings in order to easily differentiate compared to non-H1 lubricant.

Flushing the system is very often the only way to achieve adequate cleanliness and full performance of a new lubricant. Therefore, it is highly recommended to flush gearboxes and hydraulic systems when converting from conventional oil to H1 registered lubricants, e.g. with LUBCON® Turmoflush FG 15 (not miscible with Polyglycol oils).

A thoroughly carried out oil change procedure leads to improved safety in production processes and a longer service life for lubricant and lubricated machine components. It is to be avoided that the inside of the gear is contaminated by foreign particles, water or other liquids during the oil change process.

Detailed instructions for oil and grease change procedures can be obtained from your LUBCON® distributor or your regional LUBCON® representative.

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Application	Products	Base Oil Viscosity at 40 °C [mm²/s]	Temperature Range		Solid Lubricants	Base Oil/ Thickener	Features & Benefits
			Min	Max			
H1 Chain Oils							
Multipurpose Chain Spray	**Turmofluid® LMI 300**	15	-10 °C	+220 °C	-	Synthetic ester	Universal chain spray with excellent penetration properties. Leaves a dry lubricant film that reduces dust attraction.
Adhesive PTFE Chain Spray	**Turmosynthoil 75 TF**	40	-15 °C	+180 °C	PTFE	Synthetic ester/ PTFE	Very adhesive with solid lubricants to protect against wear and corrosion even under extreme conditions such as frequent wash downs.
High Viscosity Chain Spray	**Turmosynth VG 4800**	4800	0 °C	+140 °C	-	White oil blended with synthetic oils	Transparent, highly adhesive chain oil with high load carrying capacity. Also suitable for lubrication of open gears.
Low Temperature Chain Oil	**Turmosynthoil GV 32**	32	-50 °C	+120 °C	-	PAO	Developed for the use on chains in spiral freezers. Penetrates into the structure of the chain and protects it at lowest temperatures.
High Temperature Chain Oil	**Turmosynthoil HTC series**	70 - 320	-	+250 °C	-	Highly developed synthetic ester	High temperature, solid-free oven chain oil with newly developed combination of anti-oxidation additives. Very low evaporation loss.
Extreme High Temperature Chain Oil	**Turmosynthoil PG 120 WG**	120	-	+900 °C	White graphite	Polyglycol combined with solid lubricants	At temperatures above +220 °C the oil evaporates and a smooth dry film with lubricating properties up to +900 °C is formed.
Chain Oil for Aseptic Processing Environment	**Turmosynthoil GV clean series**	15 - 1000	-25 °C	+120 °C	-	PAO	Lubricants with antimicrobial additives to prevent growth of pathogenic germs and mould fungus in the oil.
H1 Lubricant for Conveyors							
Lubrication of Conveyors and Sliding Surfaces (e.g. chain conveyors systems in beverage processing)	**Turmosynth VG 46 TF**	46	-10 °C	+120 °C	PTFE	White oil	Dry lubricant with excellent adhesive properties, specially developed for the lubrication of flat top chain conveyors in the beverage processing industry. Very good alternative to soap solution. Improves operator safety by reducing slip hazards and provides enhanced line efficiency.

*For product series temperature limits are valid according to the technical data sheet of the lubricant in its specific viscosity.

Precise Lubrication:
The central lubricating unit TLB 2000 (left) and the control unit VRDS (right) make precise chain lubrication possible.

TLB 2000 - Benefits at a Glance:

- ✓ reduce maintenance effort and cost
- ✓ wear reduction
- ✓ enhance plant availabilty and service life
- ✓ automatic lubrication in protected areas
- ✓ defined point of impact per lubricating point
- ✓ minimum lubrication

Efficient Chain Lubrication with Central Lubricating Unit TLB 2000

For the application in the food, beverage, packaging and pharmaceutical industry it is extremely important to lubricate effectively and with minimum quantities. Overlubrication or an unprecise dosage, e. g. at the chains of baking and drying ovens, freezing plants, conveyor belts or packaging lines may lead to a contamination of the final products with lubricants. Many lubrication systems available on the market use nozzles to apply the oil onto the chain. However, through a broad spray cone the lubricant may either miss the chain completely or wet the external surfaces only. Moreover, the use of harmless H1 lubricants should not be considered a license to act according to the principle “the more the better”. Even H1 lubricants are only allowed for product contact in very small quantities, if this is technically not avoidable.

TLB 2000 offers the technology to precisely dose minimum quantities of lubricant at those points where the lubricant is needed. In combination with special H1 chain oils (e. g. Turmosynthoil HTC 270) LUBCON offers an optimum solution to extend the service life of chains considerably, to increase safety during production and to reduce the grease consumption.

Product Overview

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Further products as well as other NLGI consistencies of the below listed grease types are available upon request.

Product	Base Oil Viscosity at 40 °C [mm²/s]	Temperature Range Min	Temperature Range Max	Base Oil/Thickener	Features & Benefits
H1 Cutting, Cleaning, Lubricating and Preservation Oils for Corrugators					
Turmocut SR 15	17	-15 °C	+150 °C	High purity hydrocarbons	Special cutting oils with superior glue and starch dissolving capabilities. A unique additive package dissolves starch build-up in felts, on trim stones and blades, which improves the slitter performance significantly. These high quality oils provide very good surface wetting properties and excellent corrosion protection, keeping cutting blades clean and sharp while extending blade service life to > 30 Mio. linear meters.
Turmocut SR 68	68	-10 °C	+160 °C		
Turmocut LMI 22	15	-5 °C	+220 °C	Ester	Fully synthetic, low viscosity premium oil with low evaporation and outstanding surface wetting capabilities for faster and easier cleaning of corrugating rolls. Its excellent lubrication properties and high corrosion protection make it also perfectly suitable for lubrication of slitter blades.
Turmosynth VG 220	220	-10 °C	+120 °C	White oil blended with synthetic oils	Cutting oil with very good surface wetting properties and excellent corrosion protection for outstanding cutting performance in the corrugator rotary shear section. It reduces friction and wear and enables maximum cutting accuracy even at running speeds up to 400 m/min. Its high surface affinity and superior lubricity prevent centrifugation and contamination of the corrugated paper as well as starch build up on knives which keeps them clean and sharp.

H1 Cutting, Cleaning, Lubricating and Preservation Oils for Corrugators

In the production of corrugated boards the paper is often extremely abrasive. Combined with starch a chemically aggressive layer is formed on the cutting disc and blades. If not removed, the starch and fiber deposit will corrode the steel material and increase abrasive wear of the cutting discs and blades. This leads to higher maintenance-related downtime of machines.

Wet, lubricated blades efficiently prevent any starch and paper fiber deposits. Moreover, they make it possible to cut even through highly adhesive material. The sharpness of knives can be maintained significantly longer. Thus, they make clean cuts, reduce friction, prevent material from being burned, substandard or otherwisely damaged.

LUBCON H1 Cutting Oils Provide the Following Benefits:

- ✓ good lubricating capabilities
- ✓ reduction of friction
- ✓ excellent corrosion protection
- ✓ cooling properties
- ✓ glue and starch dissolving

Contact the experts of LUBCON to select the right cutting oil for your application.

High-Tech Cutting Oil for the Slitter and Scorer

LUBCON has developed the next generation of cutting fluids for the corrugating industry in close cooperation with OEM (Original Equipment Manufacturers). The aim was to increase the service life of knives and sharpening stones while decreasing maintenance effort and cost.

During R&D for **Turmocut SR 15**, evaluations of service tests at machines helped to respond to the needs and criteria described by production and maintenance.

Tests under harsh operating conditions have proven that **Turmocut SR 15** has an excellent dissolving effect on starch residues and provides optimum felt penetration. Thus, the unique preservation and cleaning oil reduces the cleaning interval of stones and increases the service life of knives.

Fig. 1: Felt pads from slitter & scorer before treatment with **Turmocut SR 15**

Fig. 2: Felt pads from slitter & scorer after treatment with **Turmocut SR 15**

Product Overview

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Application	Product	Base Oil Viscosity at 40 °C [mm²/s]	Temperature Range Min	Temperature Range Max	Base Oil/ Thickener	Features & Benefits
H1 Lubricants for Seals, Armatures and Valves						
Seals, Armatures	**Turmosynth 2000**	6000	-20 °C	+120 °C	White oil/ inorganic thickener	Silicone-free, multi-purpose seal lubricant with excellent adhesiveness. Also suitable for slow rotating bearings. Available in consistencies NLGI 2 and NLGI 3.
Armatures with EPDM Seals	**Turmsilon® LMI 5000** (also available with antimicrobial additive - „clean“)	9000 (at 25 °C)	-50 °C	+220 °C	Silicone oil/ PTFE	Special silicone grease, suitable for the lubrication of EPDM-seals, rubber joints, membranes and lip seals, e.g. in filling armatures. Resistant to disinfectant solutions, water and steam, neutral towards bear foam.
Fittings, Valves, Tabs	**Turmosynthgrease LMI 2**	100	-20 °C	+120 °C	White oil/ inorganic thickener	Ointment-like white vaseline of extremely high purity and excellent oxidation stability (no gumming or conglutination) for lubrication of fittings, valves and tabs. Stable towards water and steam, milk and fruit acids, neutral towards bear foam.
H1 Hydraulic Oils						
Universal Hydraulic Oils	**Turmosynth VG series**	10 - 150	-10 °C	+100 °C	White oil blended with synthetic oils	Contains highly effective additive package ensuring safe operation in hydraulic systems.
Synthetic High Performance Hydraulic Oils	**Turmosynthoil GV series**	15 - 150	-40 °C	+140 °C	PAO	Fully synthetic hydraulic oil with wide temperature range and long service life.
H1 Compressor and Vacuum Pump Oils						
Compressors						
Rotary Screw Compressors	**Compguard® FG 32 – 68**	32 - 68	--	+160 °C	SHC	Fully synthetic compressor oils for extended oil change intervals of more than 4000 hours. Due to reduced friction and high oxidation resistance they contribute to a reduction of operating temperature.
Reciprocating Piston Compressors	**Compguard® FG 100**	96	--	+160 °C	SHC	
Vacuum Pumps						
Rotary Vane Pumps	**Compguard® VPO 100**	96	-35 °C	+140 °C	PAO	Fully synthetic high performance vacuum oil for extended oil change intervals. High ageing resistance and neutral towards plastics and elastomers.
H1 Lubricants for Maintenance						
Release and Sliding Agent						
Silicone Oil (aerosol)	**Turmsilon® M 100 ***	27	-50 °C	+220 °C	Silicone oil	Release and sliding agent, neutral in colour, odour and taste. Especially suitable for the lubrication of material combinations such as plastic/metal or plastic/plastic.
Silicone Oil	**Turmsilon® K series**	290 - 4900	-	+220 °C		
Penetrating Oil						
Multipurpose Penetrating Oil	**Rapid FG 15 ***	15	-55 °C	+100 °C	PAO	Excellent creeping properties and very good corrosion protection. Cleans and loosens rusted parts and leaves a durable lubricating film.
Assembly & Anti-Seize Paste						
Threads, Bolts, Guides, Protection against Fretting Corrosion	**Turmosynth TAS white ***	80	-20 °C	+900 °C	White oil/inorganic thickener with solids	Metal-free anti-seize & assembly paste with excellent separating properties and corrosion protection at high contact pressure and temperatures. Provides also good fretting corrosion protection.
	Turmopast TAS LMI	220	-40 °C	+1200 °C	Polyglycol/inorganic thickener with solids	
Cleaner and Degreaser						
Cleaner & Degreaser	**Turmosynth VG 1 ***	-	Room Temperature		Isoparaffinic HC	Quickly evaporating special cleaner and degreaser particularly suitable to remove oil, grease or wax from tools and components.
Cleaner with Lubricating Properties	**Turmosynth VG 2 ***	-	up to +60 °C		Isoparaffinic HC	Multi-purpose cleaner with lubricating properties. Leaves a durable lubricating film which serves as preservative or improves dismantling of machine parts.
Sugar Dissolvent						
Biodegradable Sugar Dissolvent	**Elephants milk** (Elefantenmilch)	22	+10 °C	+65 °C	White oil	Biodegradable sugar-dissolving lubricant with excellent corrosion protection. Easily cleans sticky deposits.

* also available as aerosol

LUBCON Services for the Food, Beverage & Pharmaceutical Industry:

- ✓ individual support
- ✓ worldwide availability
- ✓ customer-specific solutions
- ✓ automatic lubricating systems
- ✓ more than 140 H1 certified lubricants

LUBCON H1 Lube Consultant

The practical H1 advisor to go.

- ✓ fast lubricant selection
- ✓ comprehensive information about H1 lubricants

GET IT ON Google Play

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If you would like to know more about our Products and Services, do not hesitate to contact us.

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