

TUNAP INDUSTRY

Lubrication of bearings

High-performance lubricants for a high degree of process reliability and efficiency



TUNAP Content



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TUNAP

Quality with responsibility



Memberships and registrations as a sign of our commitment

As a lubricant manufacturer, TUNAP is aware of its special responsibility. We document our high efficiency, environmental and health compatibility standards through various registrations and certifications.



H1 lubricants are used where there may be occasional or technically unavoidable contact with food products, e.g., during feeding, processing and packaging. Our products are registered with the NSF for use in the food, pharmaceutical and animal feed industries.

The lubricants, cleaners and maintenance products from TUNAP fulfil the requirements according to:

- ✓ Halal Labelling for halal products (permissible, permitted) according to Islamic law.
- ✓ Kosher Labelling for products classified as kosher (suitable, pure) according to Jewish dietary laws.



Certifications as a sign of quality

With ISO 21469 certification, TUNAP fulfils the most comprehensive hygiene requirements for the production of H1 lubricants. International certification is the most demanding proof of safety, reliability and product responsibility. The standard requires a holistic view of the life cycle of an NSF H1 product. Strict regulation of the recipe regarding ingredients, production, handling, packaging, storage and use ensures the highest quality.

With two further certifications, TUNAP demonstrates a reliable quality and environmental management system. The commitment to sustainability is an integral part of TUNAP's corporate strategy, as evidenced by the ISO 14001 certificate. ISO 9001 certification attests to TUNAP's reliable quality management and ensures consistently high product and service quality.



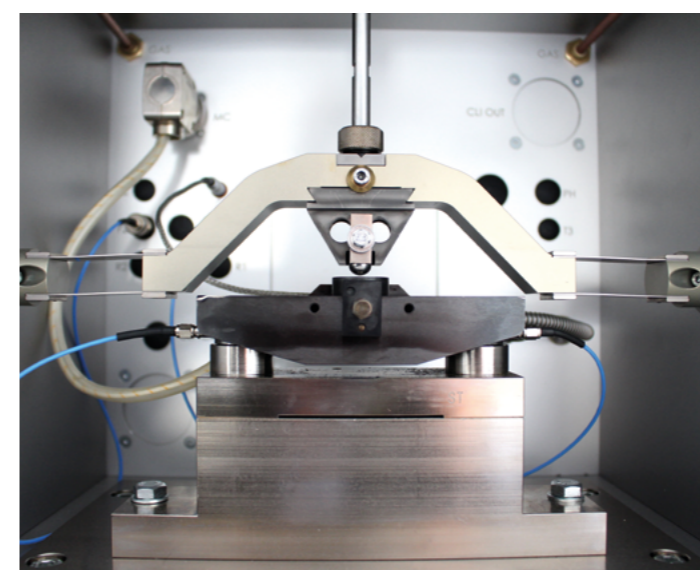
TUNAP stands for passion and expertise. We advise you on the selection of the right products and support you with the implementation on site.

As a lubricant expert with our own development and production facilities, we offer professional solutions for the challenges of lubrication, care and maintenance in a wide range of industrial sectors. In the rolling bearing industry, the use of TUNAP high-performance lubricants has a major impact on the functionality and service life of components, as well as the safety of people and systems, and therefore plays a decisive role in achieving sustainability goals.

Rolling bearings are used to enable elements to rotate as reliably and with as little friction as possible. They are used in a wide range of machines and systems, from watches to ships. Like almost all moving components, it is essential that they are adequately lubricated. In this context, the lubricant not only fulfills the task of preventing corrosion, wear and friction, but also prevents the ingress of dust or other contaminants or environmental influences. TUNAP high-performance lubricants are tailored to these requirements under a wide range of conditions. Whether particularly high loads, low temperatures, long-lasting high temperatures, the influence of shock loads and vibrations, high influence of moisture or water: TUNAP lubricants help to significantly improve the service life and operational reliability of rolling bearings.

Together with developers and application engineers, we also develop special products tailored to your requirements. With intelligent and individual solutions that we adapt to your needs and the conditions of your machines and systems, we make an important contribution to health, resource conservation and economic efficiency.

We therefore ensure the performance of our products and round off our expertise with an extensively equipped chemical-analytical laboratory and numerous model and component test benches.



TUNAP

High-performance thickener for greater efficiency

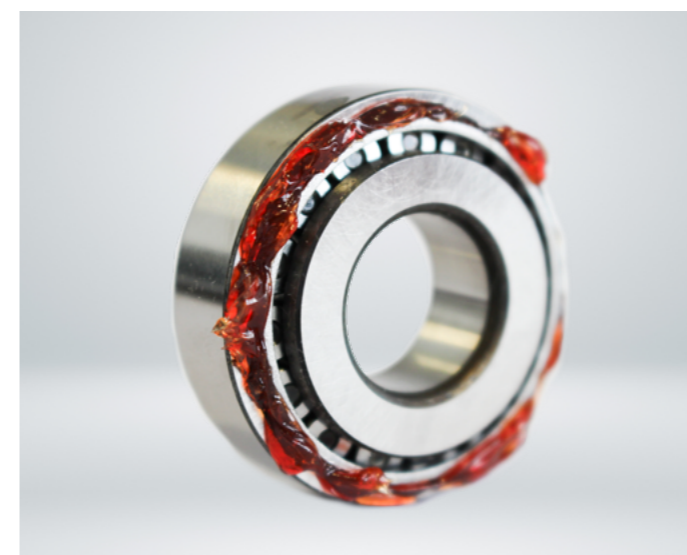


Our product range includes solutions for different operating conditions, application areas and industries. Our high-quality lubricating greases open up new potential, especially in demanding environments where extreme temperatures and high loads occur, as well as for increasing energy efficiency and extending relubrication intervals and component service life.

A diverse portfolio of high-performance greases with high-performance thickeners

Lubricating greases are semi-fluid to solid lubricants that generally consist of the following main components: base oil, thickener and additives.

The lubricating performance is significantly influenced by the type of thickener and additives. The thickener, which is often based on metal soap, binds the oil and releases it again in a controlled manner depending on temperature, time and shear. Additives also influence the application qualities of lubricating greases in terms of wear and corrosion protection, adhesion, ageing resistance and load-carrying capacity.



Lithium special soap

- ✓ Versatile areas of application
- ✓ Very good lubricating effect
- ✓ Good water resistance
- ✓ Wide application temperature range
- ✓ Very good easy-running properties

Our product range:

TUNGREASE EP
TUNGREASE LMO
TUNGREASE LP

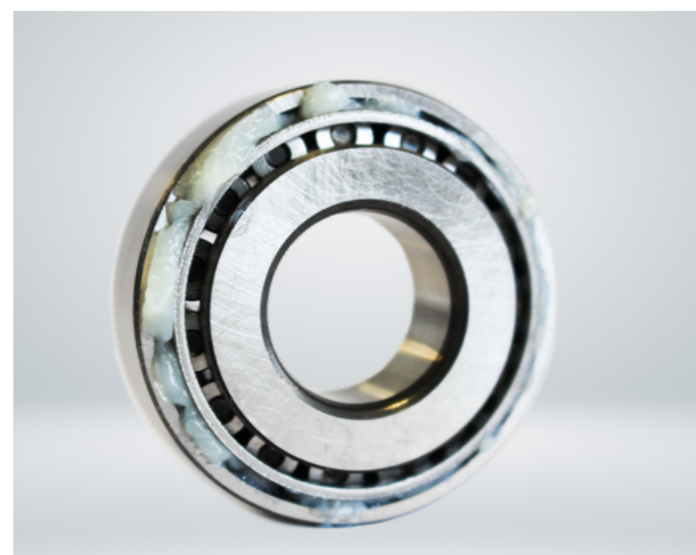


Calcium sulphonate complex soap

- ✓ Excellent lubricating effect
- ✓ Very high water resistance
- ✓ High temperature resistance
- ✓ Very high mechanical stability
- ✓ Environmentally friendly, as it is readily biodegradable
- ✓ NSF H1-capable

Our product range:

TUNGREASE CK
TUNGREASE CM
TUNGREASE CP

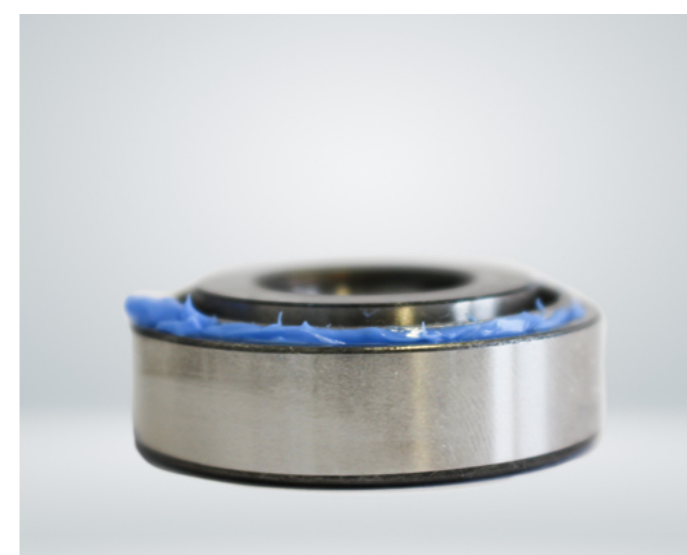


Aluminum complex soap

- ✓ Very good lubricating effect
- ✓ High water resistance
- ✓ Excellent temperature resistance
- ✓ Unique rheological behavior
- ✓ High affinity for adhesion to metal surfaces
- ✓ NSF H1-capable

Our product range:

TUNGREASE H1/EP-1 150
TUNGREASE H1/EP



Polytetrafluoroethylene (PTFE)

- ✓ Very good high temperature behavior up to 250 °C
- ✓ Very good friction reduction
- ✓ Long lasting lubrication effect
- ✓ Good emergency running properties at low lubricant film thicknesses
- ✓ NSF H1 capable

Our product range:

TUNGREASE 250
TUNGREASE 300



Inorganic thickener

- ✓ Long-term lubricating effect
- ✓ Good friction reduction
- ✓ Particularly good high-temperature behavior even above 250 °C
- ✓ Versatile applicability
- ✓ Partially NSF H1-capable

Our product range:

TUNGREASE BA
TUNGREASE FBN
TUNGREASE DAB

TUNAP

High-performance lubricants for bearings



Calcium sulphonate complex greases

TUNGREASE CK-2 – HIGH LOAD GREASE			
PRODUCT DESCRIPTION	ADVANTAGES	APPLICATION AREA	TECHNICAL DATA
High-pressure grease with high wear and corrosion protection	<ul style="list-style-type: none"> High-pressure grease with a wide range of applications High sealing and adhesion effect Resistant to ageing and shear Optimum wear protection and extension of component service life due to high pressure absorption capacity Reliable lubrication even when exposed to water or in outdoor applications thanks to exceptional water resistance and high corrosion protection Support for variety reduction Resistant to cold and hot water Dirt and water repellent 	<ul style="list-style-type: none"> Highly loaded rolling and plain bearings at medium speeds and unfavourable environmental influences as well as long-term lubrication in all areas of mechanical engineering In open weather, wet conditions, dust, vibrations, shock loads and high-pressure loads In the general wet area, in the textile finishing industry, in filling stations, in the paper industry and leather processing In hydraulic engineering and shipbuilding, harbour and shipyard facilities, barrages and hoists For long-term lubrication of motor vehicles, construction machinery, agricultural vehicles, cranes, forklifts and lifting equipment In the high temperature range: On autoclaves, fan bearings, furnace bearings, deflection wheels, guides and joints 	<ul style="list-style-type: none"> Colour space: brownish Density (20°C) [g/cm³]: 1 Base oil: mineral oil Thickener: calcium sulphonate complex soap Drop point [°C]: > 290 Base oil viscosity (40°C) [mm²/s]: 180 NLGI class (DIN 51818): 2 Four-Ball test (DIN 51350-2) [N]: 4800 Operating temperature [°C]: -20 to 140
Suitable cleaners: TUNCLEAN 895 915			

TUNGREASE CM-2/460 – HIGH PRESSURE GREASE			
PRODUCT DESCRIPTION	ADVANTAGES	APPLICATION AREA	TECHNICAL DATA
Versatile high-pressure grease with high wear and corrosion protection	<ul style="list-style-type: none"> Optimum wear protection and extension of component service life due to high pressure absorption capacity Reliable lubrication even when exposed to water or in outdoor applications thanks to exceptional water resistance and high corrosion protection Versatile high-performance lubricating grease to support grade reduction High wear and corrosion protection High sealing and adhesion effect 	<ul style="list-style-type: none"> Highly loaded rolling and plain bearings at medium speeds and unfavourable environmental influences as well as long-term lubrication in all areas of mechanical engineering In open weather, wet conditions, dust, vibrations, shock loads and high-pressure loads In the general wet area, in work rolls for steel production, in the textile finishing industry, in filling stations, the paper industry and leather processing In hydraulic engineering and shipbuilding, harbour and shipyard facilities, barrages and hoists For maintenance-free long-term lubrication of motor vehicles, construction machinery, agricultural vehicles, cranes, forklifts and lifting equipment In the high temperature range: On autoclaves, fan bearings, furnace bearings, deflection wheels, guides and joints 	<ul style="list-style-type: none"> Colour space: brown Density (20°C) [g/cm³]: 1,01 Base oil: mineral oil Thickener: calcium sulphonate complex soap Drop point [°C]: > 270 Base oil viscosity (40°C) [mm²/s]: 460 NLGI class (DIN 51818): 2 Four-Ball test (DIN 51350-2) [N]: > 5000 Operating temperature [°C]: -20 to 160
Suitable cleaners: TUNCLEAN 895 915			

TUNGREASE CP-2/25 – FULLY SYNTHETIC HIGH-PERFORMANCE GREASE			
PRODUCT DESCRIPTION	ADVANTAGES	APPLICATION AREA	TECHNICAL DATA
H1 high-performance grease, especially for low-temperature and high-speed applications	<ul style="list-style-type: none"> High pressure absorption capacity enables optimum wear protection and thus extends component service life Exceptional water resistance and high corrosion protection allow reliable lubrication even when exposed to water or in outdoor applications Versatile high-performance lubricating grease to support grease variety reduction in the food, beverage and pharmaceutical industries Oxidation and shear stable for a long grease life 	<ul style="list-style-type: none"> Speciality H1 lubricating grease for many diverse operating conditions in the food processing industry: <ul style="list-style-type: none"> For loaded rolling and fast-moving rolling and plain bearings, joints and other sliding pairs on machines and systems, e.g. on filling stations, autoclaves, deflection wheels, fans, ovens, as well as linear guides and drives Also suitable for applications outside the food industry 	<ul style="list-style-type: none"> Colour space: beige Density (20°C) [g/cm³]: 0,94 Base oil: synthetic Thickener: calcium sulphonate complex soap Drop point [°C]: > 270 Base oil viscosity (40°C) [mm²/s]: 25 NLGI class (DIN 51818): 2 Four-Ball test (DIN 51350-2) [N]: 3800 Operating temperature [°C]: -50 to 120
Suitable cleaners: TUNCLEAN 700 TUNCLEAN FDB 915			



TUNGREASE CP-X/50 – FULLY SYNTHETIC HIGH PERFORMANCE GREASE			
PRODUCT DESCRIPTION	ADVANTAGES	APPLICATION AREA	TECHNICAL DATA
Dynamically light, fully synthetic H1 high-performance grease with high wear and corrosion protection	<ul style="list-style-type: none"> High pressure absorption capacity enables optimum wear protection and thus extends component service life Exceptional water resistance and high corrosion protection allow reliable lubrication even under the influence of water or in outdoor applications Versatile high-performance lubricating grease to support grease variety reduction in the food, beverage and pharmaceutical industries Oxidation and shear stable for a long grease life 	<ul style="list-style-type: none"> Speciality lubricating grease for a wide range of operating conditions in the food, beverage and pharmaceutical industries: <ul style="list-style-type: none"> For loaded rolling and plain bearings, joints and other sliding pairs on machines and systems, e.g. at filling stations, autoclaves, deflector wheels Fans and ovens Linear guides and drives Also for applications outside the food industry where water resistance, a wide temperature range and/or high loads are the decisive criteria or special regulations require the use of non-critical lubricants 	<ul style="list-style-type: none"> Colour space: beige Density (20°C) [g/cm³]: 0,94 Base oil: PAO Thickener: calcium sulphonate complex soap Drop point [°C]: > 270 Base oil viscosity (40°C) [mm²/s]: 50 NLGI class (DIN 51818): 00, 0, 1 und 2 Four-Ball test (DIN 51350-2) [N]: 4200 Operating temperature [°C]: -40 to 140
Suitable cleaners: TUNCLEAN 700 TUNCLEAN FDB 915			



TUNAP

High-performance lubricants for bearings



Calcium sulphonate complex greases

TUNGREASE CP-2/200 – FULLY SYNTHETIC HIGH PERFORMANCE GREASE			
PRODUCT DESCRIPTION	ADVANTAGES	APPLICATION AREA	TECHNICAL DATA
<p>Fully synthetic H1 high-performance grease with high wear and corrosion protection</p> <p>Suitable cleaners: TUNCLEAN 700 TUNCLEAN FDB 915</p>	<ul style="list-style-type: none"> • Excellent load-carrying capacity for optimum wear protection for extended component and machine service life • The special water resistance and excellent corrosion protection enable reliable lubrication even under harsh conditions or in outdoor applications • Versatile high-performance lubricating grease to support grade reduction in the food, beverage and pharmaceutical industries • Oxidation and shear stable for a long grease life 	<p>Speciality lubricating grease for a wide range of operating conditions in the food, beverage and pharmaceutical industries:</p> <ul style="list-style-type: none"> • Loaded rolling and plain bearings, joints and other sliding pairs on machines and systems e.g. in filling stations, autoclaves, deflection wheels, fans, ovens • Linear guides and drives <p>Also for applications outside the food industry, where water resistance, a wide temperature range and/or high loads are the decisive criteria or special regulations require the use of non-critical lubricants</p>	<ul style="list-style-type: none"> • Colour space: beige • Density (20°C) [g/cm³]: 0,97 • Base oil: synthetic • Thickener: calcium sulphonate complex soap • Drop point [°C]: > 270 • Base oil viscosity (40°C) [mm²/s]: 200 • NLGI class (DIN 51818): 2 • Four-Ball test (DIN 51350-2) [N]: 3800 • Operating temperature [°C]: -40 to 160

TUNGREASE CP-2/460 – FULLY SYNTHETIC HIGH PERFORMANCE GREASE			
PRODUCT DESCRIPTION	ADVANTAGES	APPLICATION AREA	TECHNICAL DATA
<p>Fully synthetic H1 high-performance grease with high wear and corrosion protection</p> <p>Suitable cleaners: TUNCLEAN 700 TUNCLEAN FDB 915</p>	<ul style="list-style-type: none"> • Excellent load-carrying capacity for optimum wear protection for extended component and machine service life • The special water resistance and excellent corrosion protection enable reliable lubrication even under harsh conditions or in outdoor applications • Versatile high-performance lubricating grease to support grade reduction in the food, beverage and pharmaceutical industries • Oxidation and shear stable for a long grease life 	<p>Speciality lubricating grease for a wide range of operating conditions in the food, beverage and pharmaceutical industries:</p> <ul style="list-style-type: none"> • Loaded roller and plain bearings, joints and other sliding pairs on machines and systems, e.g. in filling stations, autoclaves, deflection wheels, fans, ovens • Linear guides and drives <p>Also for applications outside the food industry where water resistance, a wide temperature range and/or high loads are the decisive criteria or special regulations require the use of non-critical lubricants</p>	<ul style="list-style-type: none"> • Colour space: beige • Density (20°C) [g/cm³]: 0,95 • Base oil: synthetic • Thickener: calcium sulphonate complex soap • Drop point [°C]: > 285 • Base oil viscosity (40°C) [mm²/s]: 460 • NLGI class (DIN 51818): 2 • Four-Ball test (DIN 51350-2) [N]: 3500 • Operating temperature [°C]: -40 to 160

Aluminium complex greases

TUNGREASE H1/EP-X – FULLY SYNTHETIC H1-MULTI-PURPOSE GREASE			
PRODUCT DESCRIPTION	ADVANTAGES	APPLICATION AREA	TECHNICAL DATA
<p>Fully synthetic H1 multi-purpose grease for the food processing industry</p> <p>Suitable cleaners: TUNCLEAN 700 TUNCLEAN FDB 915</p>	<ul style="list-style-type: none"> • Good adhesion • Very good corrosion protection • Reduces friction and wear • High load-carrying capacity • Very good water resistance • Very good oxidation and ageing resistance • Versatile high-performance lubricating grease to support grade reduction in the food, beverage and pharmaceutical industries • Good corrosion protection reduces the risk of premature bearing failure 	<ul style="list-style-type: none"> • Specially developed for use in areas where there is a risk of direct, technically unavoidable contact with food. • For the lubrication of plain and roller bearings, lifting cylinders, joints, guide rods, cams, etc. • Use even under difficult conditions (low and high temperatures, high loads, shock and impact loads as well as the influence of water) 	<ul style="list-style-type: none"> • Colour space: beige • Density (20°C) [g/cm³]: 0,875 • Base oil: PAO • Thickener: aluminium complex soap • Drop point [°C]: > 240 • Base oil viscosity (40°C) [mm²/s]: 350 • NLGI class (DIN 51818): 000, 00, 1 und 2 • Four-Ball test (DIN 51350-2) [N]: 2600 • Operating temperature [°C]: -30 to 130

Lubricant solutions with micro-smoothing effect: TUNAP OMC₂ additive technology

The active complex of the TUNAP OMC₂ additive technology (Organic Molybdenum Compound) changes the structure of metal surfaces through a special micro-smoothing effect. This results in numerous advantages:

- ✓ The roughness of the components is not rubbed off, instead they deform under load.
- ✓ The pressure absorption capacity of the surfaces increases significantly.
- ✓ In the micro range, flow smoothing occurs and thus a significant reduction in friction losses and wear. friction losses and wear.

Compared to conventional lubricants, it therefore enables a longer service life with lower lubricant consumption. Lower frictional heat ensures reduced energy consumption and makes a lasting contribution to reducing CO₂ emissions and negative environmental impacts. The lower maintenance and repair costs also increase machine availability. This in turn results in cost savings for disposal, which leads to significant cost and resource savings.



TUNAP

High-performance lubricants for bearings



Lithium greases

TUNGREASE EP-2 – LITHIUM SOAP GREASE			
PRODUCT DESCRIPTION	ADVANTAGES	APPLICATION AREA	TECHNICAL DATA
Multipurpose EP lithium soap grease Suitable cleaners: TUNCLEAN 895 915	<ul style="list-style-type: none"> • Good load-carrying capacity • High shear stability • High adhesion • Versatile EP grease to support grease variety reduction • Good corrosion protection reduces the risk of premature bearing failure 	<ul style="list-style-type: none"> • For the lubrication of loaded plain, roller and ball bearings, guides and joints • Shock and vibration applications in industry, transport and agriculture 	<ul style="list-style-type: none"> • Colour space: yellow • Density (20°C) [g/cm³]: 0,88 • Base oil: mineral oil • Thickener: lithium soap • Drop point [°C]: > 185 • Base oil viscosity (40°C) [mm²/s]: 220 • NLGI class (DIN 51818): 2 • Four-Ball test (DIN 51350-2) [N]: 2200 • Operating temperature [°C]: -30 to 120

TUNGREASE LMO-X/40 – HIGH PERFORMANCE GREASE WITH MICRO FLOW SURFACE SMOOTHENING			
PRODUCT DESCRIPTION	ADVANTAGES	APPLICATION AREA	TECHNICAL DATA
High-performance lubricating grease for friction reduction and long-term lubrication Suitable cleaners: TUNCLEAN 895 915	<ul style="list-style-type: none"> • Lubrication at increased loads • Proven long-term and lifetime lubrication • Reduces friction and wear • Improved running-in • Reduces corrosion • Oxidation and shear stable 	<ul style="list-style-type: none"> • For the lubrication of roller and plain bearings, highly loaded small gears, guides and joints, even under high loads for stable long-term lubrication • Use in almost all areas to increase operational safety and storage life 	<ul style="list-style-type: none"> • Colour space: red • Density (20°C) [g/cm³]: 0,875 • Base oil: semi-synthetic • Thickener: lithium soap • Drop point [°C]: > 185 • Base oil viscosity (40°C) [mm²/s]: 40 • NLGI class (DIN 51818): 2 • Four-Ball test (DIN 51350-2) [N]: > 4000 • Operating temperature [°C]: -30 to 140

TUNGREASE LN-2/100 – SPECIAL LITHIUM GREASE			
PRODUCT DESCRIPTION	ADVANTAGES	APPLICATION AREA	TECHNICAL DATA
Dynamically light lithium special grease for long-term lubrication Suitable cleaners: TUNCLEAN 895 915	<ul style="list-style-type: none"> • Protects rolling bearings against fatigue damage, in particular white etching cracks (WEC) and wear • Very good protection of metal surfaces due to effective corrosion protection and good water resistance • Extremely wide temperature range • Very good running behavior at the start with low temperatures for reduced peak currents and noise development • Synthetic base oils ensure excellent high-temperature resistance and enable extended relubrication intervals and even lifetime lubrication 	Lubrication of fast rotating roller bearings, e.g. in tension rollers, fans, electric motors, etc.	<ul style="list-style-type: none"> • Colour space: yellowish • Density (20°C) [g/cm³]: 0,9 • Base oil: synthetic • Thickener: lithium speciality soap • Drop point [°C]: > 180 • Base oil viscosity (40°C) [mm²/s]: 100 • NLGI class (DIN 51818): 2 • Operating temperature [°C]: -40 to 160

TUNGREASE LP-2 – FULLY SYNTHETIC SPECIAL GREASE			
PRODUCT DESCRIPTION	ADVANTAGES	APPLICATION AREA	TECHNICAL DATA
Fully synthetic special grease for a particularly easy running even at low temperatures Suitable cleaners: TUNCLEAN 895 915	<ul style="list-style-type: none"> • Excellent corrosion protection • Damping properties • Good compatibility with ABS, PC and POM • Low starting and running resistance, especially at low temperatures, for increased efficiency and energy savings • Oxidation and shear stable for a long grease life • A wide operating temperature range and excellent compatibility with common plastics enable a wide range of applications in electrical/electronic components and small drives 	<ul style="list-style-type: none"> • For lifetime lubrication of electrical/electronic components, especially those coated with brass, copper, tin, nickel, silver and gold, e.g. mains switches, circuit boards and potentiometers in electrical/electronic components in the automotive industry • TUNGREASE LP-2 is also suitable for the lubrication of moving contact mechanisms made of plastic • For the lubrication of roller bearings, especially at particularly low temperatures 	<ul style="list-style-type: none"> • Colour space: beige • Density (20°C) [g/cm³]: 0,816 • Base oil: PAO • Thickener: lithium soap • Drop point [°C]: > 185 • Base oil viscosity (40°C) [mm²/s]: 30 • NLGI class (DIN 51818): 2 • Operating temperature [°C]: -40 to 140

TUNAP

High-performance lubricants for bearings



Lithium greases

TUNGREASE LP-1 – FULLY SYNTHETIC SPECIAL GREASE			
PRODUCT DESCRIPTION	ADVANTAGES	APPLICATION AREA	TECHNICAL DATA
<p>Fully synthetic and easy running special grease for low-temperature applications</p> <p>Suitable cleaners: TUNCLEAN 895 915</p>	<ul style="list-style-type: none"> • Excellent corrosion protection • Damping properties • Good compatibility with ABS, PC and POM • Low starting and running resistance, especially at low temperatures, for increased efficiency and energy savings • Oxidation and shear stable for a long grease life • A wide operating temperature range and excellent compatibility with common plastics enables a wide range of applications in electrical/electronic components and small drives 	<ul style="list-style-type: none"> • For lifetime lubrication of electrical/electronic components, especially those coated with brass, copper, tin, nickel, silver and gold, e.g. main switches, circuit boards and potentiometers in electrical/electronic components in the automotive industry • TUNGREASE LP-1 is also suitable for the lubrication of moving contact mechanisms made of plastic • For the lubrication of rolling bearings, especially at particularly low temperatures 	<ul style="list-style-type: none"> • Colour space: beige • Density (20°C) [g/cm³]: 0,816 • Base oil: synthetic • Thickener: lithium speciality soap • Drop point [°C]: > 185 • Base oil viscosity (40°C) [mm²/s]: 30 • NLGI class (DIN 51818): 1 • Operating temperature [°C]: -40 to 130

TUNGREASE LP-2/D6 – FULLY SYNTHETIC SPECIAL GREASE			
PRODUCT DESCRIPTION	ADVANTAGES	APPLICATION AREA	TECHNICAL DATA
<p>Special synthetic grease developed for longer component life in a wide temperature range</p> <p>Suitable cleaners: TUNCLEAN 895 915</p>	<ul style="list-style-type: none"> • Very good damping and noise behaviour due to a high base oil viscosity and solid lubricant additives • Protection against wear and corrosion for reliable long-term lubrication • Good adhesive properties • Prevents the formation of metal oxides • Good compatibility with common plastics 	<ul style="list-style-type: none"> • TUNGREASE LP-2/D6 was developed for the long-term lubrication of components such as plain bearings, roller bearings, small gears and linear guides. • For the lubrication of friction contacts with plastics • Tests show good compatibility with ABS, PC and POM. Typical applications are subject to low or medium loads and must function easily and smoothly 	<ul style="list-style-type: none"> • Colour space: white • Density (20°C) [g/cm³]: 0,82 • Base oil: synthetic • Thickener: lithium soap • Base oil viscosity (40°C) [mm²/s]: 600 • NLGI class (DIN 51818): 2 • Operating temperature [°C]: -30 to 150

PTFE greases

TUNGREASE 250 – HIGH TEMPERATURE GREASE			
PRODUCT DESCRIPTION	ADVANTAGES	APPLICATION AREA	TECHNICAL DATA
<p>Synthetic high-performance lubricating grease with organic thickener and OMC₂ technology</p> <p>Suitable cleaners: TUNCLEAN 895 TUNCLEAN EL 915</p>	<ul style="list-style-type: none"> • With OMC₂ technology • Very good corrosion protection • Excellent temperature consistency • Especially for the material pairing steel/steel • High pressure absorption capacity extends operating times and enables optimum wear protection • Extremely low friction coefficient supports energy savings and promotes smooth running even under the highest pressure loads, vibration, shock loads and in highly loaded rolling and plain bearings • Reliable long-term and lifetime lubrication 	<ul style="list-style-type: none"> • For long-term lubrication of roller and plain bearings in high-temperature applications • Typical applications: Conveyor systems, fans, dryers, motors, pumps, calanders and compressors, e.g. in painting lines, film stretching systems, extraction systems, textile machines, in corrugated cardboard production such as calander rolls or in chemical plants • In addition, in apparatus and plant engineering and in the precision engineering sector 	<ul style="list-style-type: none"> • Colour space: white • Density (20°C) [g/cm³]: 0,95 • Base oil: synthetic • Thickener: organic • Base oil viscosity (40°C) [mm²/s]: 200 • NLGI class (DIN 51818): 2 • Four-Ball test (DIN 51350-2) [N]: 6000 • Operating temperature [°C]: -30 to 200

TUNGREASE 300 – HIGH TEMPERATURE GREASE			
PRODUCT DESCRIPTION	ADVANTAGES	APPLICATION AREA	TECHNICAL DATA
<p>Chemically inert H1 special grease for long-term lubrication at high temperatures</p> <p>Suitable cleaners: TUNCLEAN 700 TUNCLEAN EL 915</p>	<ul style="list-style-type: none"> • Particularly high thermal and oxidative stability with extremely low evaporation loss enables extended relubrication intervals • Ideal for applications under the influence of aggressive media due to exceptional chemical resistance • Good compatibility with common plastics and elastomers • Non-flammable 	<ul style="list-style-type: none"> • For long-term lubrication in high-temperature applications of roller and plain bearings and other lubrication points exposed to extreme temperatures • For long-term and lifetime lubrication in aggressive environments • For the lubrication of oxygen fittings • Typical applications: Coating lines, fans, calanders, kiln cars, film stretching plants, extraction plants, textile machines, chemical plants, bleaching plants, dyeing plants, galvanising plants, acid factories, paper and food industry 	<ul style="list-style-type: none"> • Colour space: white • Density (20°C) [g/cm³]: 1,9 • Base oil: PFPE • Thickener: organic • Base oil viscosity (40°C) [mm²/s]: 500 • NLGI class (DIN 51818): 000, 00, 1, 2 • Operating temperature [°C]: -40 to 250



TUNAP

High-performance lubricants for bearings



Inorganic thickened greases

TUNGREASE BA – H1-HIGH TEMPERATURE GREASE



PRODUCT DESCRIPTION	ADVANTAGES	APPLICATION AREA	TECHNICAL DATA
Chemically inert H1 special grease for lubrication at extremely high temperatures Suitable cleaners: TUNCLEAN 700 TUNCLEAN EL 915	<ul style="list-style-type: none"> • Good compatibility with common plastics and elastomers • Extremely low evaporation rate provides best possible lubrication in furnace systems even at more than +300°C • Particularly high thermal stability with extremely low vapour loss enables extended relubrication intervals • High chemical resistance to aggressive media or oxidative influences allows use even under adverse environmental condition 	<ul style="list-style-type: none"> • Especially for the lubrication of slide-ways and rollers in oven systems • For lifetime lubrication in aggressive environments • For rolling and plain bearings at low speed, e.g. in dryers, electric motors and fans as well as joints and other sliding surfaces 	<ul style="list-style-type: none"> • Colour space: white, pink • Density (20°C) [g/cm³]: 1,9 • Base oil: PFPE • Thickener: inorganic • Base oil viscosity (40°C) [mm²/s]: 1000 • NLGI class (DIN 51818): 2 • Four-Ball test (DIN 51350-2) [N]: 6000 • Operating temperature [°C]: -20 to 350

TUNGREASE FBN – HIGH TEMPERATURE GREASE



PRODUCT DESCRIPTION	ADVANTAGES	APPLICATION AREA	TECHNICAL DATA
Chemically inert H1 special grease for long-term lubrication at high temperatures Suitable cleaners: TUNCLEAN FDB TUNCLEAN EL 915	<ul style="list-style-type: none"> • Good compatibility with common plastics and elastomers • Very low evaporation rate offers best possible lubrication in furnace systems even up to +300°C • Particularly high thermal stability with extremely low vapour loss enables extended relubrication intervals • High chemical resistance to aggressive media or oxidative influences allows use even under adverse environmental conditions 	<ul style="list-style-type: none"> • Especially suitable for the lubrication of slideways and rollers in oven systems • For rolling and plain bearings at low speed, e.g. in dryers, electric motors and fans as well as joints and other sliding surfaces • Suitable for lifetime lubrication in aggressive environments 	<ul style="list-style-type: none"> • Colour space: white • Density (20°C) [g/cm³]: 1,9 • Base oil: PFPE • Thickener: inorganic • Base oil viscosity (40°C) [mm²/s]: 500 • NLGI class (DIN 51818): 2 • Four-Ball test (DIN 51350-2) [N]: 6000 • Operating temperature [°C]: -40 to 300

TUNGREASE DAB – H1-MULTI-PURPOSE GREASE



PRODUCT DESCRIPTION	ADVANTAGES	APPLICATION AREA	TECHNICAL DATA
H1 multi-purpose grease containing white oil with multifunctional additive combination for the food industry Suitable cleaners: TUNCLEAN 700 915	<ul style="list-style-type: none"> • Physiologically harmless and water-clear paraffin oil according to DBA and FDA • Absolute taste and odour neutrality • Good oxidation and ageing stability • Excellent corrosion protection • Suitable as a base material for cosmetic preparations • Versatile multi-purpose lubricating grease based on white oil for the food, beverage and pharmaceutical industries • Specially developed for use in areas where there is a risk of direct, technically unavoidable contact with foodstuffs • Cleans, cares and protects at the same time • Reduces friction and wear • Economical to use 	<ul style="list-style-type: none"> • Lubrication and care of seals, joints, chains and all moving parts where there is a risk of direct contact between lubricant and foodstuff. • Suitable for all oil lubrication points on machines in the food industry (including filling machines, packaging machines, sealing machines, chains and conveyors, gears, plain bearings, joints, pistons, guides, pipework, roller bearings, as a release agent and lubricant, for stainless steel care in breweries, bakeries, meat factories, canteen kitchens and hospitals and as corrosion protection in the entire food industry) 	<ul style="list-style-type: none"> • Colour space: colourless • Density (20°C) [g/cm³]: 0,9 • Base oil: medical white oil • Thickener: inorganic • Base oil viscosity (40°C) [mm²/s]: 120 • NLGI class (DIN 51818): 2 • Four-Ball test (DIN 51350-2) [N]: 2200 • Operating temperature [°C]: -20 to 130

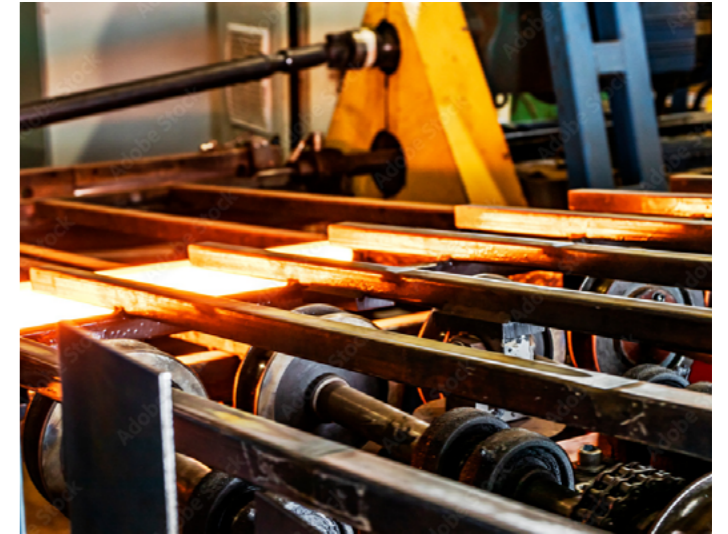
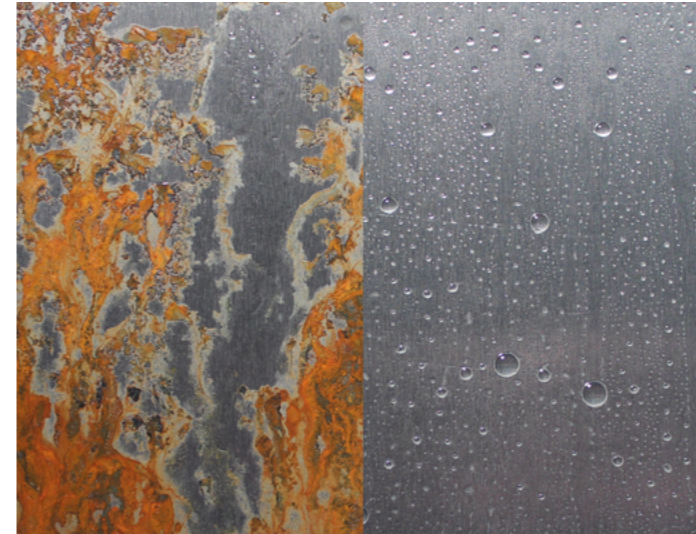
Reliability through effective testing procedures for maximum safety and productivity



Overall, lubricants play a critical role in the performance, life and reliability of bearings in a wide range of industrial applications. Their selection and application requires careful consideration to achieve the best possible results and minimize total cost of ownership. TUNAP's top priority is therefore the reliable performance of your high-performance lubricants in all their aspects.

For greases and bearings, reliability refers to the ability of the lubricant and bearing to maintain their function over a period of time under the intended operating conditions without failure or degradation in performance. This is influenced by a number of factors, including the quality of the lubricant, the design and condition of the bearing and the operating conditions.

Lubricating bearings is about maintaining constant and effective lubrication over the long term to ensure bearing performance and service life. Reliable lubrication with high-performance greases from TUNAP helps to reduce bearing wear, minimize friction and heat generation, and protect against corrosion and other damage.



Operational reliability

Failures or reduced performance of bearings can often lead to production downtimes, increased maintenance costs and production costs.

We have extensive testing facilities and highly qualified employees that enable us to guarantee consistently high product quality. In this way, we help to maximize the operational reliability of your systems and machines so that you can rely on smooth and efficient production.

Service life

Lubricating greases and bearings should hold the performance for their expected service life without premature fatigue or failure. This depends on the quality of the lubricant, proper application and maintenance, and other factors.

That's why we only use selected, high-quality raw materials and subject them to extensive testing to ensure product quality. Our many years of experience and commitment to excellence enable us to offer high-performance lubricants that you can rely on to ensure the reliability of your equipment and machinery.

Corrosion protection

Our high-performance lubricants stand for maximum reliability, especially when it comes to effectively protecting bearing surfaces against corrosion and chemical attack, particularly in damp or aggressive environments.

To ensure that our products meet these requirements, they undergo rigorous testing. For example, they are extensively tested in the SKF Emcor test in accordance with DIN 51802 and in salt spray chambers in accordance with ISO 9227. In this way, we ensure that our lubricants and bearings offer reliable performance even under extreme conditions.

Temperature stability

The stability of a grease under different temperature conditions is another crucial aspect of its reliability. It must be able to provide adequate lubrication performance without clumping, leaking or other problems.

We subject our lubricants to a variety of tests, including tests in accordance with DIN 51821 in the so-called FE9 rolling bearing testing machine. Here, the grease service life is tested in hours at a defined temperature to ensure that our products work reliably even under extreme temperatures. The temperature specifications for our products are based on practical test bench measurements. In addition, we use the dropping point, which is measured in-house in accordance with IP396, as the maximum upper service temperature of greases. In this way, we ensure that our lubricants offer reliable performance even at extreme temperatures.

Resistance to load

Efficient lubricating greases must be able to withstand the demands and loads during operation without succumbing to premature wear or damage. This includes the ability to cope with high loads, vibrations and shock loads. Wear protection is a decisive criterion in the development of high-performance lubricants.

We therefore subject our products to extensive model and component tests, which are carried out in accordance with standardized procedures or our in-house method. For example, VKA tests in accordance with DIN 51350 and SRV tests in accordance with DIN 51834 are used. These tests ensure that our high-performance lubricants offer reliable performance even under extreme conditions and effectively minimize wear.



Grease consistency

Over a longer period of time, our high-performance lubricants provide consistent lubrication performance without significantly changing or degrading their properties.

To ensure this, we carry out tests for shear stability, both after 60,000 and after 100,000 double strokes. In addition, the shear stability of our high-performance greases is also checked and ensured in the rolling stability tester in accordance with ASTM D 1831. This enables us to ensure that our greases offer reliable performance even under extreme conditions and maintain their lubricating properties.



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Technical data of selected specialty lubricants



Product	Base oil	Viscosity	Low temperature limit in °C	High temperature limit in °C	Density (20°C) [g/cm ³]	NLGI class (DIN 51818)	VKA test (DIN 51350-2)	Drop point	NSF H1
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Product	Base oil	Viscosity	Low temperature limit in °C	High temperature limit in °C	Density (20°C) [g/cm ³]	NLGI class (DIN 51818)	VKA test (DIN 51350-2)	Drop point	NSF H1
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Calcium sulphonate complex soap

TUNGREASE CK-2	Mineral	180	-20	140	1	2	4800	> 290	
TUNGREASE CM-2/460	Mineral	460	-20	160	1,01	2	> 5000	> 270	
TUNGREASE CP-2/25	Syn.	25	-50	120	0,94	2	3800	> 270	✓
TUNGREASE CP-2/50	Syn.	50	-40	140	0,94	2	4200	> 270	✓
TUNGREASE CP-2/200	Syn.	200	-40	160	0,97	2	3800	> 270	✓
TUNGREASE CP-2/460	Syn.	460	-40	160	0,95	2	3500	> 285	✓
TUNPAS H1	Syn.	220	-45	200	1,12	2	6000	> 280	✓

Aluminum complex soap

TUNGREASE H1/EP-2	Syn.	350	-30	130	0,875	2	2600	> 240	✓
TUNGREASE H1/EP-1 150	Syn.	150	-30	130	0,875	1	2600	> 240	✓

Lithium special soap

TUNGREASE EP-2	Mineral	220	-30	120	0,88	2	2200	> 185	
TUNGREASE LMO 2/40	Partly syn.	40	-30	140	0,88	2	4800	> 190	
TUNGREASE LN-2/100	Syn.	100	-40	160	0,9	2	-	> 180	
TUNGREASE LP-2	Syn.	30	-40	140	0,816	2	-	> 185	
TUNGREASE LP-1 LT	Syn.	30	-40	130	0,816	1	-	> 185	
TUNGREASE LP-2/D6	Syn.	600	-30	150	0,82	2	-	> 190	

Polytetrafluoroethylene (PTFE)

TUNGREASE 250	Syn.	200	-30	200	0,95	2	6000	without drop point	
TUNGREASE 300	PFPE	500	-40	250	1,9	2	5000	without drop point	✓

Inorganic thickener

TUNGREASE BA	PFPE	1000	-20	350	1,9	2	6000	without drop point	✓
TUNGREASE FBN	PFPE	500	-40	300	1,9	2	6000	without drop point	✓
TUNGREASE DAB	Medical white oil	120	-20	130	0,9	2	2200	without drop point	✓

TUNAP

Packaging sizes

Consultancy, development and production from a single source

We supply you with optimised containers so that you can design your processes effectively and cost-efficiently. We offer customised solutions that are precisely tailored to your needs. Our range of containers offers flexibility and guarantees efficiency and economy, saving resources and the environment, as well as reducing your in-house stock levels.

Depending on the product line, various containers are ready for use as required:

- ✓ Tube
- ✓ Aerosols
- ✓ Cartridge
- ✓ Hobcock
- ✓ IBC
- ✓ Cans
- ✓ Bottles
- ✓ Canister
- ✓ Barrel

We work with you to develop and produce your own brand.

We are also happy to work with you to develop product solutions tailored to the needs of your target group. Whether highly specialised or cost-optimised lubricating greases, oils and pastes, cleaners or additives of the highest quality - we supply what you need. As a manufacturer with our own aerosol filling facility, we have extensive knowledge of a wide range of application methods and packaging forms. This allows you to benefit from the optimum combination of product and application for your particular application.



TUNAP works.

We are at your disposal with help and advice to answer your questions and support you in selecting the right products, container sizes and packaging forms. We look forward to working with you and offering you high-quality lubricants and optimised solutions that meet your requirements.

We focus on your individual needs:



- Dispenser**
100 g
- Tubes**
20 ml up to 300 ml
- Cartridges**
400 g / 500 g
- Two-chamber cans / bag on valve**
- Bottles**
30 ml up to 1000 ml
- Single bags**
3 g up to 20 g

TUNAP

Common packaging sizes



100 g



400 ml



500 ml



400 g / 800 g



1 L



1 kg



20 L



25 kg



160 - 180 kg / 200 L



For 50 years, the TUNAP Group has been an internationally operating manufacturer of aerosols and active ingredients for industrial and technical applications.

Research, development, production and sales from a single source: TUNAP systems maintain, protect and combine innovative chemistry with high sustainability standards.



We look forward to seeing you.

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With friendly recommendation