

**STABYLAN**

## High-Temperature Chain Oils



LUBRICANTS.  
TECHNOLOGY.  
PEOPLE.



**LUBRITECH**  
Special Application Lubricants

# LUBRICANTS. TECHNOLOGY. PEOPLE.

## FUCHS LUBRITECH – Special Application Lubricants

Within the FUCHS Group, we at FUCHS LUBRITECH are the experts for highly specialised applications. We develop, produce and distribute the world's leading branded products of our own. Our employees are committed to solving your challenges. We are there, with you and for you.





## **LUBRITECH**

### *Special Application Lubricants*

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#### **Facts and figures**

**Company:** FUCHS LUBRITECH GmbH, part of the FUCHS Group, based in Kaiserslautern, Germany

**LUBRITECH:** the Special Application Lubricants Division of the FUCHS Group

**Product range:** LUBRITECH GROUP offers a full range of more than 1,000 special products, including food grade lubricants, adhesive lubricants, lubricating fluids and greases, pastes, solid film lubricants, concrete release agents, aerosols and metal-forming lubricants

**Certifications:** ISO 9001: 2008, ISO 21469, Halal, Kosher

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**FUCHS** has developed, produced, and sold lubricants and related specialties for more than 80 years – for virtually all applications and sectors. With over 100,000 customers and 50 companies worldwide, the FUCHS Group is the world's leading independent lubricant supplier.

Within the FUCHS Group, **FUCHS LUBRITECH** is the expert for Special Application Lubricants. A team of more than 500 specialists around the world work to meet your needs. However demanding the application, we offer a specialised solution. Service is a crucial and fundamental component of our offering. Our experts offer on-site technical consultation to assure performance, efficiency and process reliability.

**FUCHS LUBRITECH** special lubricants stand for the highest performance and sustainability, safety and reliability as well as efficiency and cost savings. They represent a promise: **technology that pays back.**

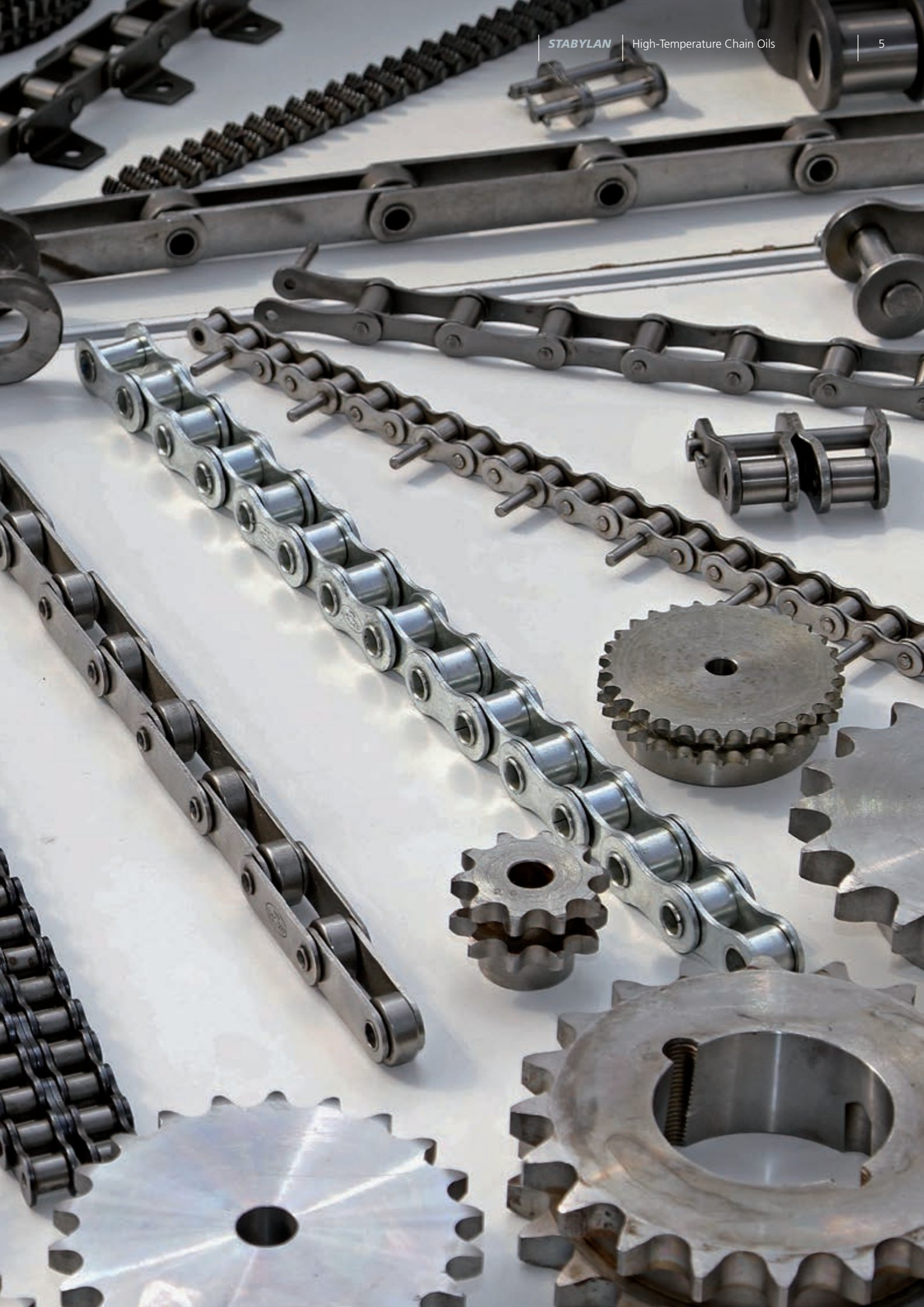
## HIGH-TEMPERATURE CHAIN OILS BY FUCHS LUBRITECH FOR THE MOST DEMANDING APPLICATIONS IN INDUSTRY

Where ever chains are used to transport goods under challenging conditions like high temperatures, with dust, dirt or humidity, STABYLAN chain oils are the best choice for lubrication. At FUCHS LUBRITECH we understand the demands and have a portfolio of products designed to meet the requirements of the different industries.

For over 60 years we at FUCHS LUBRITECH have dedicated ourselves to the performance and efficiency of your machines and applications. We concentrate on the development, production and distribution of trendsetting high-performance lubricants for the most demanding applications in the most diverse branches of industry.

We provide innovative lubricant solutions designed to keep your assets in optimum condition and operating at maximum efficiency. Our own R&D, the production of state-of-the-art lubricants and their global availability pays off. Numerous leading OEMs have approved and referenced our lubricants.





## Key applications

Every application has its own challenges. High-quality chain oils are essential for chains running under rough conditions. Our efficient and state-of-the-art STABYLAN range is ideal for such applications. STABYLAN chain oils are successfully used worldwide to lubricate chains in the most demanding high-temperature applications.

### Gypsum



In the production of **gypsum boards** long curing ovens are used to remove the water from the boards and harden them. The drying ovens have several chain-driven levels. The chains have to be lubricated with chain oils resistant to the temperatures of the curing oven and simultaneously protecting the chains from corrosion. Oils with high resistance to thermal degradation such as STABYLAN will allow small quantities to be applied and reduce oil dripping and contaminating the gypsum plates. A special high-quality oil will allow the maximum relubrication cycle times and maximize the life of these highly expensive assets.

### Mineral wool



Curing ovens in **mineral wool production** (glass or stone wool mats) are operated at high temperatures. The chains driving the conveyor belts have to be lubricated using special high-temperature chain oils. On the one hand these chain oils shall be thermally stable to prevent them from becoming lacquer-like, thus remaining liquid despite the high temperatures; on the other hand, they have to withstand the process conditions prevailing in the oven, e.g. corrosive process air. In this environment STABYLAN products exceed the requirements.



## Paint shops



The automotive industry has exacting standards when it comes to quality. In **automotive paint shops** transport chains are used to convey the painted car bodies through curing ovens. This involves particular requirements on the high-temperature chain oils used to lubricate the drive chains. They have to resist the high temperatures of the ovens and must be “paint-friendly” so as not to cause any adverse effect on the paint surface. The high standards of the automotive industry have to be met. STABYLAN oils are silicone-free and designed for this environment being paint-friendly and having a very high resistance to extreme temperatures.

## Food



Ovens in **food production** (mainly bakeries and confectionery processing) are often operated at high temperatures. With these high temperatures required, high heat resistance and stability of the lubricant is crucial. Thermal stability is a prerequisite to prevent them from forming solid residues. Nevertheless, they have to withstand the process conditions prevailing in and outside the oven, e.g. flour dust. At the same time, the lubricant has to fulfill highest food safety standards in order to reduce any contamination risk to a minimum. This can be obtained by using chain lubricants which are NSF H1 registered as well as ISO 21469, Halal and Kosher certified.

## Product overview

Product name	Description
<b>STABYLAN 5000</b>	<p><b>Fully synthetic high-temperature chain lubricant</b></p> <p>STABYLAN 5000 is a fully synthetic oil which is extremely thermally resistant thus not becoming lacquer-like in high-temperature applications. STABYLAN 5000 features high corrosion protection anti-wear properties at high temperatures. Therefore, STABYLAN 5000 supports along chain life.</p>
<b>STABYLAN 5001</b>	<p><b>Fully synthetic high-temperature chain-lubricant</b></p> <p>STABYLAN 5001 is a fully synthetic high-temperature chain oil with high corrosion protection properties and outstanding temperature stability. STABYLAN 5001 does not form solid residues at high temperatures, thus allowing a long life of the chains used. Furthermore the friction is reduced by the excellent wear protection, even at elevated temperatures.</p>
<b>STABYLAN 5002</b>	<p><b>Fully synthetic high-temperature chain lubricant</b></p> <p>STABYLAN 5002 is a fully synthetic high-temperature chain oil with high corrosion protection properties and outstanding temperature stability. STABYLAN 5002 does not form solid residues at high temperatures, thus allowing a long life of the chains used. Furthermore the friction is reduced by the excellent wear protection, even at elevated temperatures. This lubricant is especially characterized by its excellent adhesion.</p>
<b>STABYLAN 5006</b>	<p><b>Fully synthetic high-temperature chain lubricant</b></p> <p>STABYLAN 5006 is a fully synthetic high-temperature chain oil involving a very good corrosion protection and an excellent thermal stability. STABYLAN 5006 provides for a long life of the chains used because of its high compressive strength.</p>
<b>STABYLAN 5020</b>	<p><b>Fully synthetic high-temperature chain lubricant</b></p> <p>STABYLAN 5020 is a fully synthetic high-temperature chain oil with high corrosion protection properties and an outstanding temperature stability. STABYLAN 5020 does not form solid residues at elevated temperatures, thus allowing a long life of the chains used. Furthermore an excellent wear protection is guaranteed even at high temperatures.</p>
<b>STABYLAN 6020</b>	<p><b>Fully synthetic chain lubricant for extreme high temperatures</b></p> <p>STABYLAN 6020 is a fully synthetic high-temperature chain oil for low consumption lubrication of chains exposed to extreme high temperatures. STABYLAN 6020 ensures an extraordinarily good wear protection at elevated temperatures. The very low evaporation tendency at extreme temperatures results in quantity savings in the two digit percentage range versus conventional high-temperature chain oils. As a consequence smoke and unpleasant odors are reduced accordingly within the direct work environment. The still free-flowing residue of STABYLAN 6020 when used at high temperatures guarantees smooth-running chains.</p>
<b>CASSIDA CHAIN OIL HTE</b>	<p><b>Synthetic high-temperature chain lubricant for food and beverage processing equipment</b></p> <p>CASSIDA CHAIN OIL HTE is a synthetic, high-performance ester-based oil which has been specially formulated for the food industry to lubricate drive and transport chains at elevated temperatures. It is based on an advanced blend of synthetic fluids and selected additives chosen for their ability to meet the stringent requirements of the food and beverage industry. Certified by NSF for ISO 21469 and registered by NSF (Class H1) for use where there is potential for incidental food contact. Produced according to FLT Quality Standards, in facilities where HACCP audit and Good Manufacturing Practice have been implemented and form part of the quality and hygiene management systems ISO 9001 and ISO 21469.</p>



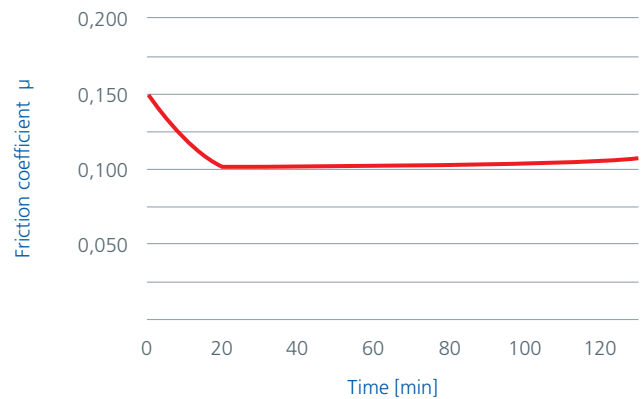
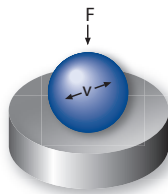
Application area	Characteristics
<p>STABYLAN 5000 is especially suitable for high-temperature applications of all types of conveyor and drive chains in, for example, the chemical and automotive industries, mechanical engineering, wood and plastics processing, packaging equipment, textile industry, gypsum boards or paint shops.</p>	<p>Colour: yellow            Temperature range: -20°/+240° C            Base oil: synthetic            Viscosity at 40° C: 100 mm<sup>2</sup>/s            Viscosity Index: 110            Flashpoint: 260° C            Pourpoint: -30° C</p>
<p>STABYLAN 5001 is especially suitable for high-temperature applications of all types of conveyor and drive chains in, for example, the chemical and automotive industries, mechanical engineering, wood and plastics processing, packaging equipment, textile industry, gypsum boards or paint shops.</p>	<p>Colour: yellow            Temperature range: -15°/+240° C            Base oil: synthetic            Viscosity at 40° C: 180 mm<sup>2</sup>/s            Viscosity Index: 91            Flashpoint: 260° C            Pourpoint: -20° C</p>
<p>STABYLAN 5002 is especially suitable for high-temperature applications of all types of conveyor and drive chains in, for example, the chemical and automotive industries, mechanical engineering, wood and plastics processing, packaging equipment or textile industry.</p>	<p>Colour: yellow            Temperature range: -15°/+220° C            Base oil: synthetic            Viscosity at 40° C: 412 mm<sup>2</sup>/s            Viscosity Index: 96            Flashpoint: 255° C            Pourpoint: -18° C</p>
<p>STABYLAN 5006 is suitable for all types of drive and conveyor chains, sliding surfaces, and eccentrics, for example in the chemical and automotive industry, in engineering, in steel hydraulics construction, in wood and plastics processing, in the packaging and textile industry. STABYLAN 5006 is also used wherever the chain is exposed to salt or splash water.</p>	<p>Colour: yellow            Temperature range: 0°/+240° C            Base oil: synthetic            Viscosity at 40° C: 3000 mm<sup>2</sup>/s            Viscosity Index: 132            Flashpoint: 260° C            Pourpoint: -7° C</p>
<p>STABYLAN 5020 is suitable for high-temperature applications of all types of conveyor and drive chains. STABYLAN 5020 was especially developed for the lubrication of roller chains in curing ovens in the production of insulating material, gypsum boards or paint shops.</p>	<p>Colour: yellow            Temperature range: -20°/+250° C            Base oil: synthetic            Viscosity at 40° C: 220 mm<sup>2</sup>/s            Viscosity Index: 107            Flashpoint: 250° C            Pourpoint: -42° C</p>
<p>STABYLAN 6020 was especially developed for low-consumption lubrication of chains in curing ovens of insulating material production plants. STABYLAN 6020 can also be used for any steel-sprocket chains especially in the high-temperature range, e.g. in ovens and dryers of the metal, wood, paper, and construction material industries as well as for clamping, drying and fastening machines in the textile industry. In the production of gypsum boards, mineral wool as well as in paint shops.</p>	<p>Colour: reddish            Temperature range: -20°/+260° C            Base oil: synthetic            Viscosity at 40° C: 130 mm<sup>2</sup>/s            Viscosity Index: 105            Flashpoint: 290° C            Pourpoint: -39° C</p>
<p>Drive and transport chains in the food industry.            Also intended for use in equipment for manufacturing food packaging.</p>	<p>Colour: yellowish            Temperature range: -25°/+240° C            Base oil: synthetic            Viscosity at 40° C: 230 mm<sup>2</sup>/s            Viscosity Index: 106            Flashpoint: &gt;250° C            Pourpoint: &lt;-30° C</p>

## Test methods for high-temperature chain oils

STABYLAN chain oils must pass several test methods to prove their ability for high-temperature applications. Real operating conditions are simulated in order to ensure that the chain oils can withstand the high requirements of the different areas of use.

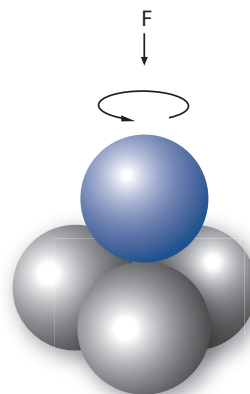
### Linear-oscillation test machine

- DIN 51834-8, ASTM 5706 and 5707
- Oscillating test body on plate (lubricated)
- Contact geometry: punctiform (alternatively flat surface or linear)
- Test criteria: coefficient of friction, wear
- Test at high sliding speeds and variable surface pressures, temperatures, amplitudes and frequencies



### Four-Ball test method

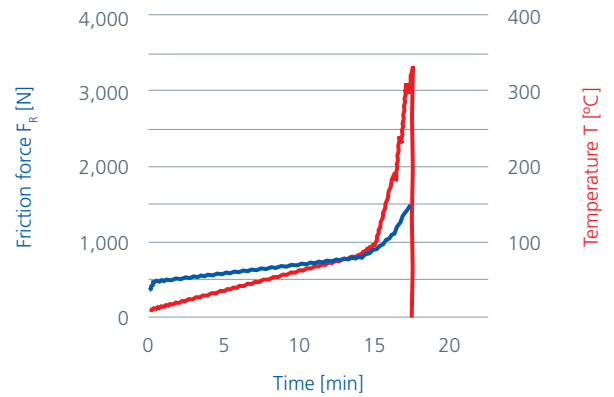
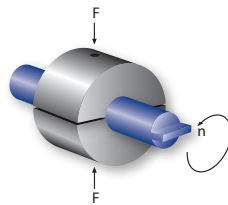
- DIN 51350 (1-5)
- Rotating ball on three fixed balls
- Contact geometry: punctiform
- Test criteria: four-ball welding load, wear
- Gradual increase in test force until the balls are welded
- Constant test force for a specified period (1h or 1min), measurement of wear calotte





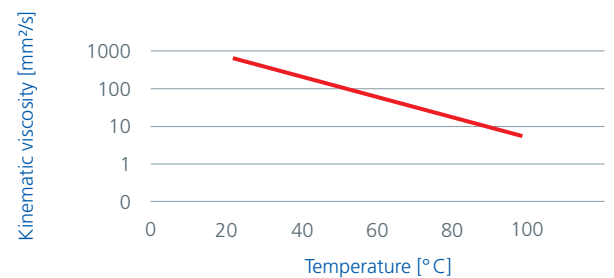
**Almen-Wieland test method**

- LUBRITECH specification
- Rotating shaft (lubricated) fixed in two bearing shells
- Contact geometry: linear
- Test criteria: seizing load, coefficient of friction
- Measurement with low sliding speeds and high surface pressure



**Ubbelohde viscometer**

- DIN 51562-1
- Capillary-based method of measuring viscosity
- Test criteria: kinematic viscosity



**Evaporation loss and residue formation**

- FUCHS LUBRITECH in-house test
- Testing of evaporation behavior and stability of high-temperature oils
- Test criteria: weight loss, condition of residues



## Innovative lubricants need Experienced application engineers

Every lubricant change should be preceded by expert consultation on the application in question. Only then the best lubricant system can be selected. Experienced LUBRITECH engineers will be glad to advise on products for the application in question and also on our full range of lubricants.



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The information contained in this product information is based on the experience and expertise of FUCHS LUBRITECH GmbH in the development and manufacturing of lubricants, and represents the current cutting edge. The performance of our products can be influenced by a series of factors, especially the specific use, the method of application, the operational environment, component pretreatment, possible external contamination, etc. For this reason, universally valid statements about the function of our products are not possible. Our products must not be used in aircraft/spacecraft or their components, unless such products are removed before the components are assembled into the aircraft/spacecraft. The information given in this product information represents general, non-binding guidelines. No warranty expressed or implied is given concerning the properties of the product or its suitability for any given application. We therefore recommend that you consult a FUCHS LUBRITECH GmbH application engineer to discuss application conditions and the performance criteria of the products before the product is used. It is the responsibility of the user to test the functional suitability of the product and to use it with the corresponding care. Our products undergo continuous improvement. We therefore retain the right to change our product range, the products and their manufacturing processes as well as all details of our product information sheets at any time and without warning, unless otherwise provided in customer-specific agreements. With the publication of this product information, all previous editions cease to be valid. Any form of reproduction requires express prior written permission from FUCHS LUBRITECH GmbH.