

FUCHS Industrial Lubricants

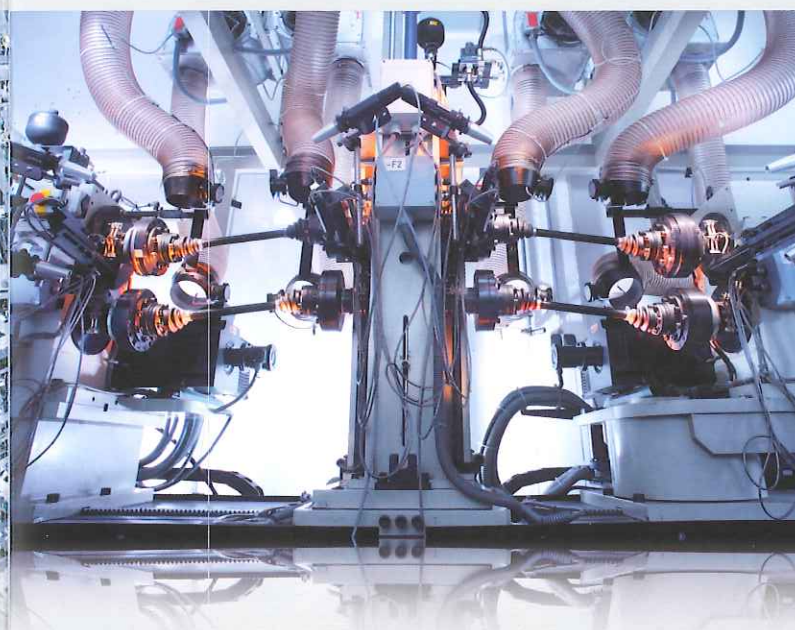
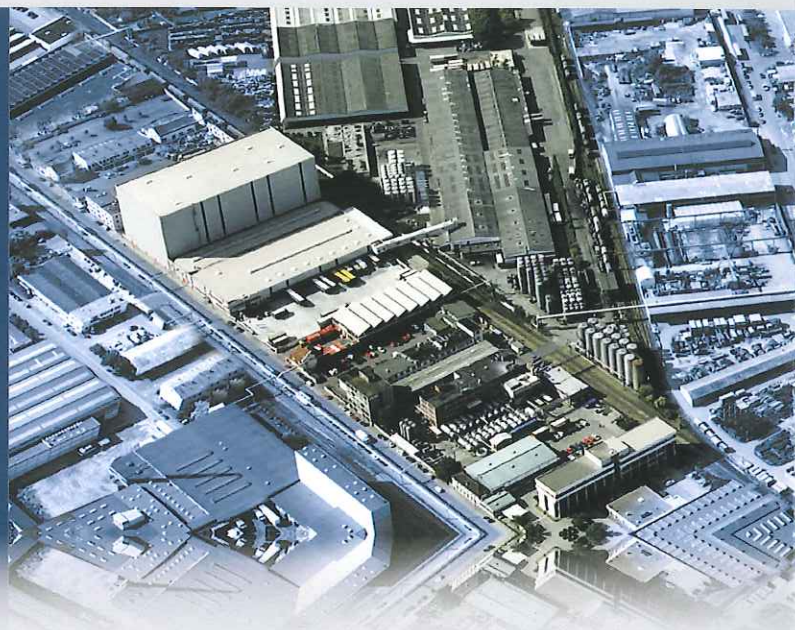
Innovation and service



LUBRICANTS FOR STEEL MILLS



YOUR STRONG GLOBAL PARTNER FOR INDUSTRIAL LUBRICANTS



HOW WE EXCEL

From a family company to an international group. From local roots to world-wide expansion. This is the history of the progress and success of FUCHS. The key word being innovation. In 1931, in Mannheim, Rudolf Fuchs founded a company to import and market high quality refinery products. The company's first export of its own products got underway in 1952, to the Near East. FUCHS is promoting expansion both nationally and in exports.

Our company's degree of specialization and innovation is way above the industrial average in this field. The full product line includes almost 2,000 lubricants and derived specialties for all walks of life, industrial processes and applications. Our customer's success is also our success. Because partnership to us means passing-on benefits.

The advantage of a strong market presence: FUCHS is the largest independent manufacturer of lubricants in the world. The benefit of premium, innovative products from a full-line manufacturer: With a complete product line as well as tailor-made special solutions, FUCHS has a product for every application. The benefits of reliability: Certified according to DIN EN ISO 9001 y DIN EN ISO 14001, FUCHS has been continuously upgrading its highly specialised lubricants for decades.

And naturally, partnership for us also means providing our customers with competent support. With comprehensive marketing. With high-performance logistics. With the development of successful service concepts. And qualified consulting. Because together, we can achieve more.

WHAT INCREASES THE VALUE OF OUR PRODUCTS

We develop lubricants: application-specific and tailor-made for our customer's processes. Together we look for the best lubricants for our customers. This cooperation is unique in terms of its form, scope and intensity. **We call it development partnership.** The success of our development partnerships is based on an important fact: FUCHS is not one of the oil-giants.

FUCHS is a multinational, independent lubricant manufacturer. Our independence is the difference. We are open to new solutions, open for visions – the prerequisites for innovations. And innovation is the defining characteristic of FUCHS. 70 % of our products are less than five years old and the great majority of our products are individual solutions. Challenge us and see!



Process chain in steel mills

Continuous casting



“Specially designed for ingot mould lubrication during continuous steel casting”

Our products also function perfectly in the extreme conditions encountered in continuous casting lines and they are specially formulated to withstand the highest temperatures and pressures.

	Lubricant and demoulding fluid for continuous casting of steel
CENTEZEE U/series	Lubricate the wall of the ingot mould during the pouring operation so that the molten metal is able to flow without any jamming or seizing up. CENTEZEE U/series does not resinify at high temperatures. It is water-free, thus avoiding explosions and the production of steam. It also eliminates the possibility of hydrogen forming on reaction with the liquid iron. It improves heat transfer between the metal and the ingot mould. Centezee is available in three different viscosities (U/50, U/65 and U/85).
RENOFORM DS 129	Specially designed for ingot mould lubrication during continuous casting. It greatly facilitates distribution at high temperature, forming a fine film that is required for mould lubrication. Renoform DS 129 does not leave any carbon deposits and it has lower indices of iodine and polyunsaturated oils than rapeseed oil, which prevents the formation of lacquers and polymers that lead to carbon deposits.

	Fire-resistant hydraulic oils
HYDROTHERM 46 M	Type HFC fire-resistant hydraulic fluid for use in applications subject to fire risks. Fulfills the demands of the 7th Luxembourg Report.
PLANTOFLUX AT - S Series	Demulsifying, water-free, Type HFD-U fire-resistant hydraulic fluids, ISO-VG 46/68. For hydraulic applications subject to fire risks, based on synthetically esters, approved factory mutual, USA.
	Greases for plain and rolling bearings
RENOLIT CX-FO 20	Calcium complex soap multipurpose EP grease with excellent pumpability in long piping systems to extreme radiated heat, NLGI 2.
RENOLIT CXI Series	Heavy-duty calcium-sulphate complex soap grease with excellent corrosion protection, good resistance to aggressive media and radiated heat.
RENOLIT SEB 2 H	Lithium soap EP grease for steel mills with good pumpability and a broad range of applications. Approved to SEB 181 253, NLGI 2.
RENOLIT FAP 502	Heavy-duty lithium-calcium soap grease with good corrosion protection, NLGI 2.

Hot rolling



“Highly developed formulations extend working rolls life”

Hot Rolling Mills work with excellent performance in the extreme process conditions with Fuchs Hot Rolling Oils thanks to the controlled lubrication provided when applied even in small quantities.

	TRENOIL H Series
Application	TRENOIL H Series are recommended to be used on the centre and on the edges of the hot-rolled steel.
Properties and advantages	Very low consumption. Reduction of electricity consumption. Longer working rolls life.

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Cold rolling



“Specially designed for rolling in tandem and reversing rolling mills and, generally, with fine gauges”

Skin-passing



“Wetting, cleaning and rust protection properties ensure the highest quality of the finished coil”

Process-specific rolling emulsions optimize consumption and thus make a direct contribution towards cutting costs.

Water-miscible and neat products for skin-passing processes generate optimum surface finishes.

	TRENOIL S Series
Product	TRENOIL S Series are cold rolling oils for Tandem and Reversing mills with high reductions.
Properties	<p>Excellent lubricant capacity: The high quality of esters contained allows for the rolling of materials with very thin final plate gauges.</p> <p>Excellent economic performance: process cost is excellent due to the emulsion stability, the concentration of which remains stable throughout its useful life.</p> <p>High speed rolling: The latest generation anti-wear additives, and the excellent wettability, ensure the maximum speed allowed in the mill. At the same time an excellent lubricant capacity ensures longer working rolls life.</p> <p>High level of end cleanliness: TRENOIL S Series selected esters burn off perfectly before reaching annealing temperatures.</p> <p>Mill cleanliness: Due to the emulsifiers included in the TRENOIL S Series, a good detergency of the contact areas is ensured.</p>
	Cold rolling oils and emulsions
TRENOIL S 700 Series S 800 Series	Highly-stable, emulsifiable synthetic oils for the cold rolling of steels. 800 series allows for simple handling even if the emulsion is unstable. 700 series excels with its stability against dragged-in contaminants.

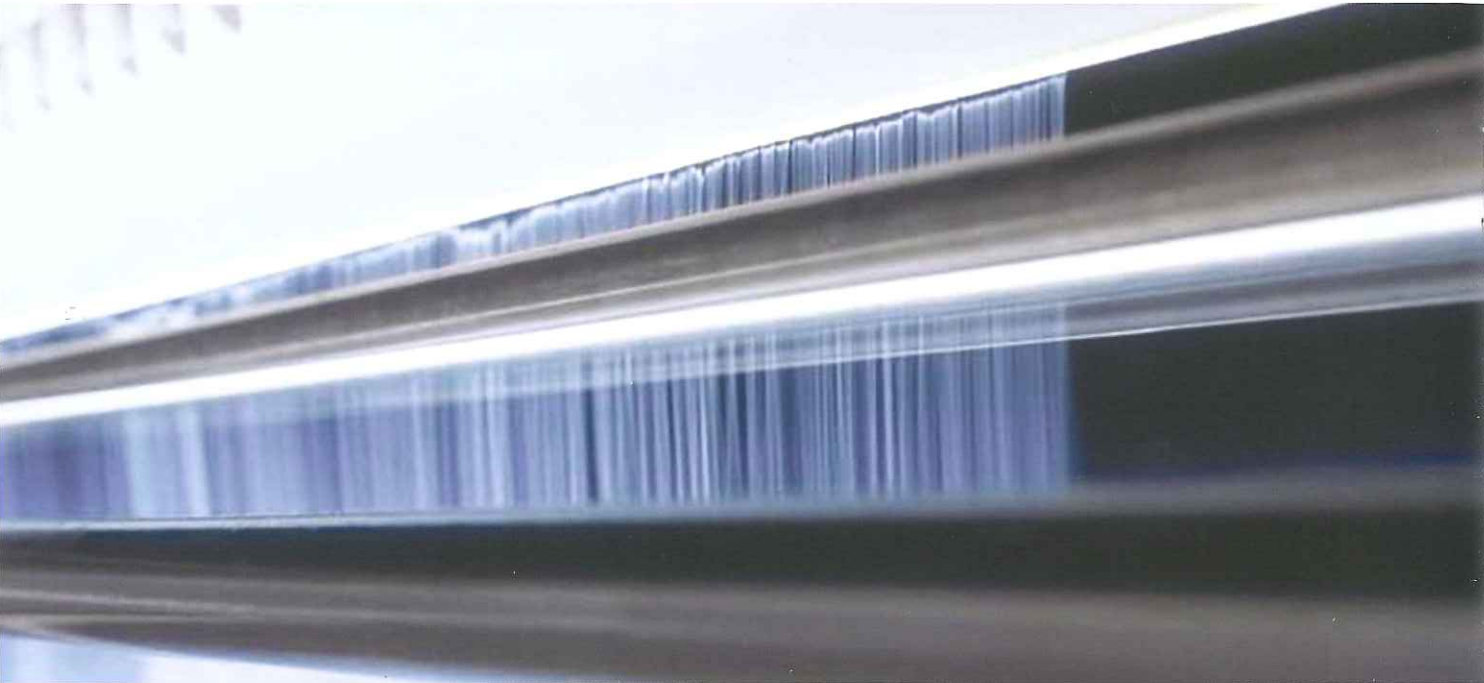
	TRENOIL T Series
Product	TRENOIL T Series are products for tin plate cold rolling in Tandem and Reversing mills, with or without the use of direct application systems. Using TRENOIL T Series, the rolling mill can work at very high speeds and maximum reductions will be achieved with reasonable rolling loads.
TRENOIL T 100	Emulsionable cold rolling oils for tin plate rolling.
TRENOIL T 200	Rolling oils for tin plate rolling with Direct Applications systems.
	Oils for MORGOL bearings
RENOLIN MORGOL Series	Demulsifying, high-performance general lubricating oils for MORGOL bearings. Fulfil and exceed the requirements of DANIELI (Italy, 2000) and SMS (2005).
	Greases for plain and rolling bearings
RENOLIT LX-PEP 2	High-temperature, EP lithium-complex soap, grease for plain and rolling bearings, NLGI 2.
RENOLIT SEB 2 H	Lithium-soap, EP steel mill grease with good pumpability for a broad range of applications. Approved acc. SEB 181 253, NLGI 2.

	TRENOIL SP Series
Product	TRENOIL SP Series are Skin Pass Rolling Oil. Nitrite, amines and boron free.
Application	TRENOIL SP Series are synthetic products, with an aqueous base, for use in skin-pass operations.
Properties	<p>Coolant capacity TRENOIL SP Series contains the necessary humectants additives to provide strip cooling and slight reduction of finish</p> <p>Strip cleaning. The detergent power of TRENOIL SP Series acts by eliminating strip contamination, and achieving finish of a superior quality.</p> <p>Corrosion resistant capacity. The composition of TRENOIL SP Series assures good protection of the metal in the case of an error in anti-oxidation application or if the sheet is not sufficiently dry when it emerges from the SKIN-PASS rolling mill.</p>

	Skin-passing oils
ANTICORIT SPO Series	Neat, barium-free skin-passing oils for the rolling of steel. The ANTICORIT SPO series offers, in addition, very good corrosion protection.
TRENOIL SP Series	Water-miscible, nitrite, amines and boron free oils for use in skin-pass operations. TRENOIL SP Series offers detergency and corrosion protection at a very high level.

Process chain in steel mills

Coil oiling / Coil coating



Our corrosion protection products are used by numerous well-known steel and automobile manufacturers and in many cases are the reference products of the VDA (German Association of the Automotive Industry). By continuously developing its products, FUCHS can also offer corrosion preventives in the future which offer the greatest possible process reliability.

	Steel mill oiling for automotive apps
ANTICORIT RP 4107 S	Barium-free standard steel mill oil, run-off inhibiting, excellent protection for indoor storage, in condensation climates and in acidic atmospheres. Fulfils VW A 001, OPEL B 040 12470, DBL 6757.05. VDA 230-201 reference oil.
ANTICORIT PL 3802 39 S	VDA-approved barium-free Prelube-thixotropic corrosion preventive with good forming properties, fulfils VDA 230-201.
ANTICORIT PL 39 SX	Drylube-dry lubricant, highly thixotropic with very good forming properties, fulfils VDA 230-202.
ANTICORIT PLS 100 T	Forming Prelube-thixotropic corrosion preventive with excellent forming properties. A further development of ANTICORIT PL 3802 39 S.

	General steel mill oiling
ANTICORIT 5012 S	Well established and tested corrosion protection oil with good performance in condensation climates. For the indoor and transport protection of cold-rolled steel.
ANTICORIT PLS 30 N	Barium-free corrosion preventive with forming properties for the protection of sensitive cold-rolled steel surfaces, zinc-coated or non-coated.
ANTICORIT RP 30 NT	Barium-free corrosion protection oil for the protection of cold-rolled steel during indoor storage and transport.
	General steel mill oiling
ANTICORIT VCI UNI FI*	Transparent VCI films in various formats. Also suitable for automated packing lines.
ANTICORIT VCI FE P*	VCI papers in various qualities, also in crepe form and with single-sided PE coatings.

* ANTICORIT VCI products are completely free of nitrites and secondary amines. They thus surpass the demands of TRGS 615. They do not release any poisonous or easily-flammable vapours. They are also free of heavy metals and thus pose no health risks.

Additional applications

Alongside the process chain itself, there are numerous other FUCHS products which are perfect for additional applications.

	Greases
RENOLIT CX-HT 0	Heavy-duty calcium sulphonate-complex soap grease for the lubrication of open gears and chains, NLGI 0.
RENOLIT ST-FTM 2	High-temperature grease for plain and rolling bearings as well as guides which are exposed to extremely high temperatures up to T < 250°C, NLGI 2.
RENOLIT LZR 2 H	High-quality, multipurpose EP grease which is especially suitable for central lubrication systems in cranes, etc. NLGI 2.
RENOLIT CX-HT 2	Heavy-duty, calcium sulphonate-complex soap grease containing solid lubricants with outstanding corrosion protection for use in cranes, etc. as well as for plain and rolling bearings which are subject to extremely high temperatures (e.g. furnaces). NLGI 2. Also available in spray cans as RENOLIT UNILOAD.
RENOLIT SEB 2 H	Lithium-soap, EP steel mill grease with good pumpability for a broad range of applications. Especially suitable for sheet steel coiling machines. Approved acc. To SEB 181 253, NLGI 2.
RENOLIT LX-PEP 1/2	Lithium-complex soap special grease for universal shaft knuckle joint bearings, NLGI 1/2.
RENOLIT H 443-HD 88	Vibration-resistant, lithium-soap, EP multipurpose grease with good adhesion for use in electric motors, ventilators and blower bearings, NLGI 2/3.
RENOLIT SO-GFB	EP sodium-soap semi-fluid gear grease, NLGI 00.
RENOLIT CX-EP 0	Calcium-complex soap, EP multipurpose and semi fluid gear grease, NLGI 0.
	Cutting-fluids
ECOCOOL S Series	Mineral oil-, nitrite-, chlorine and zinc-free water-miscible cutting fluids. Especially recommended for roll grinding.
	Hydraulic oils
RENOLIN DTA Series	Hydraulic and general lubricating oils (machine oils) offering good oxidation resistance and corrosion protection. CL lubricating oils according to DIN 51517-2 and HL hydraulic oils according to DIN 51524-1, excellent demulsifying.
RENOLIN B Series	Lubricating and hydraulic oils with additives to improve ageing resistance, corrosion and wear protection. Demulsifying HLP hydraulic oils according to DIN 51524-2 (B HVI series: DIN 51524-3), ISO 11158-HM.
RENOLIN ZAF B Series	Demulsifying zinc- and ash-free hydraulic oils. Fulfil and surpass the minimum demands of HLP hydraulic oils acc. to DIN 51 524-2, ISO 6743/4 HM, ISO 11158 HM.
RENOLIN MR Series	Highly detergent general lubricating and hydraulic oils containing zinc. HLP-D acc. to DIN 51 502. Fulfil and surpass the demands of HLPD hydraulic oils acc. to DIN 51524-2, higher corrosion protection.
	Industrial oils
RENOLIN CLP Series	Demulsifying, EP/AW zinc- and silicone-free gear and general lubricating oils. Fulfil and surpass the minimum demands of CLP lubricating oils acc. to DIN 51517 Part 3 (2004), ISO 6743-6 and ISO 12925-1: CKC, CKD. US Steel 224, David Brown S1.53.10.
RENOLIN CLP PLUS Series	High-performance, EP/AW, detergent, zinc- and silicone-free gear and general lubricating oils. Fulfil the minimum demands of DIN 51517, ISO 6743-6 and ISO 12925-1: CKC, CKD lubricating oils, resistance and corrosion protection.

Fuchs TRENOIL brand performs to the most stringent industrial requirements around the globe.



Notes

**TRENOIL
ANTICORIT
RENOLIT**

The information contained in this product information is based on the experience and know-how of FUCHS LUBRICANTES, S.A.U. in the development and manufacturing of lubricants and represents the current state-of-the-art. 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 pre-treatment, possible external contamination, etc. For this reason, universally-valid statements about the function of our products are not possible. 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 LUBRICANTES, S.A.U. 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 program, the products, and their manufacturing processes as well as all details of our product information sheets at any time and without warning. With the publication of this product information, all previous editions cease to be valid.

FUCHS Industrial Lubricants

Innovative process media 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 FUCHS 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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