FUCHS Industrial Lubricants

For extra process reliability

Lubricants for body parts and outer skin panels in the automotive sector

FUCHS EUROPE SCHMIERSTOFFE GMBH

YOUR STRONG GLOBAL PARTNER

HOW WE EXCEL

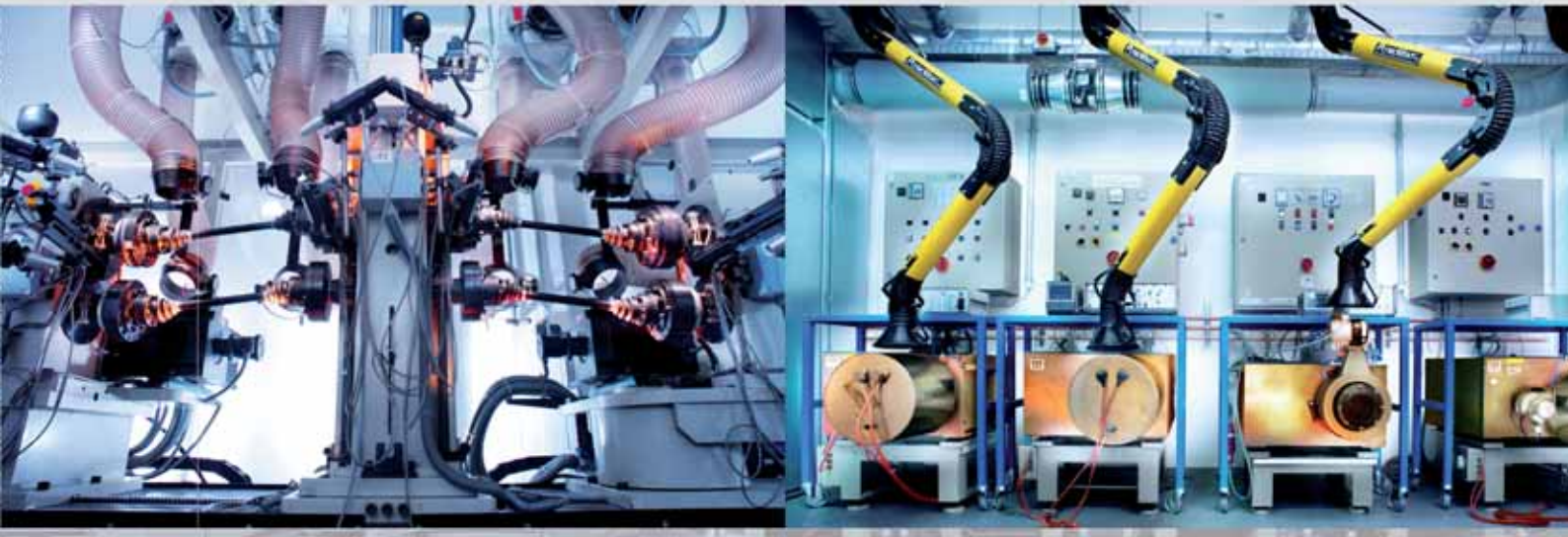
We are a German company whose almost 600 employees manufacture and market a wide range of lubricants and derived specialties. The company, which was founded in 1931 as RUDOLF FUCHS, is located in Mannheim and is a 100 % subsidiary of FUCHS PETROLUB AG, which is the largest independent lubricants manufacturer worldwide.

Our company's degree of specialisation 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 9001:2000 and ISO/TS 16949:2002, 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.

FOR INDUSTRIAL LUBRICANTS



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!

DIN EN ISO 9001:2000
ISO/TS 16949:2002
DIN EN ISO 14001:2004
REG.NR. 2476

FUCHS

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Corrosion protection in steel mills

Our thixotropic corrosion protection oils, prelubes and hotmelts can be applied in-house by the steel mills.

Corrosion protection oil	
ANTICORIT RP 4107 S	Standard corrosion preventive used by European steel manufacturers. Resists run-off. Approved by the German VDA.
Prelube	
ANTICORIT PL 3802-39 S	Thixotropic corrosion preventive with outstanding drawing properties. Approved by the German VDA.
Hotmelt	
ANTICORIT PL 39 SX	Highly thixotropic, waxy corrosion preventive with outstanding drawing properties. Fulfils German VDA 230-202.

Cleaning of coils and stacks

For uniform oil films and for the removal of contaminants and debris from surfaces, low viscosity cleaners based on the latest generation of prelubes are used.

Prelube cleaners		
ANTICORIT PL 39 LV 8	Low-viscosity prelube cleaner, matched and fully compatible with:	
	The corrosion protection oil	ANTICORIT RP 4107 S
	The prelube	ANTICORIT PL 3802-39 S
	The drawing oils	RENOFORM MLO 3802-SN
		RENOFORM MCO 3028

While the information and figures given here are typical of current production and confirm to specification, minor variations may occur. Subject to amendment.
Edition 07/2008

Forming

The selection of the best drawing lubricants depends not only on the type of application but even more importantly, on the subsequent processing stages.

Solvent-based	
RENOFORM UBO SERIES	Annealing residue-free forming oils. Volatile at room temperature, for all materials (Contain VOC*).
RENOFORM LVO SERIES	Annealing residue-free forming oils. Volatile at room temperature, for all materials (Contain VOC*).

*VOC = Volatile Organic Compounds.

Water-miscible	
RENOFORM MBW SERIES	Emulsifyable forming lubricants for all materials.
Non water-miscible	
RENOFORM MCO 3802-SN and **RENOFORM MCO 3028**	Deep drawing oils for outer skin panels (spot lubricants). Fulfil German VDA 230-201.
RENOFORM MBO SERIES and **HBO SERIES**	Mineral oil-based drawing lubricants for all materials. Very high performance, mineral oil-based drawing lubricants for steel and stainless steel.
RENOFORM HBT SERIES	Deep drawing oils with pigments for all materials.

We offer a large number of drawing lubricants ranging from low to high-viscosity and containing various additive packages. The selection of the most suitable drawing lubricant depends on the type and difficulty of the application along with lubricant application method.

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The optimum lubricant for every stage in the process.

Cleaning

Surfaces for subsequent manufacturing processes may have to be oil-free and clean. There are a number of different types of cleaners.

Water-rinsable cleaners	
RENOCLEAN UWF	Water-rinsable cleaner. Free of aromatics. Contains VOC*.
RENOCLEAN KU	Odor-optimized, water-rinsable cleaner. Free of aromatics. Contains VOC*.
RENOCLEAN KLV	VOC*-free, universal solvent-based cleaner. Perfect for industrial, workshop and domestic applications.
Water-based alkaline (sprayable cleaners)	
RENOCLEAN VR 1021 SERIES	Medium-alkalinity. For use at temperatures between +35 °C and +60 °C.
Water-based alkaline (submersion cleaners)	
RENOCLEAN SPEZIAL 2000	Medium-alkalinity. Universal application such as components, floors, etc.
RENOCLEAN VR 1798/2	Medium-alkalinity. Universally suitable for steel and aluminium. Also for ultrasonic cleaners.

*VOC = Volatile Organic Compounds.

Corrosion protection

Corrosion protection is generally specified for storage and transport.

Dewatering fluids	
ANTICORIT DF SERIES	High-speed dewatering fluids. Form thin, highly-effective, oily-, waxy- or lacquer-like corrosion protection films. Also available in versions without film-forming agents for pure, stain-less drying.
Corrosion protection	
ANTICORIT OHK SERIES	Corrosion protection concentrates and ready-to-use versions with white spirit, isoparaffins and oils to protect all metals. Outstanding fingerprint-remover properties.
Water-based	
ANTICORIT MKR SERIES	Water-miscible corrosion preventives for the cleaning and interim protection of semi-finished components, phosphated parts and components used in the potable water sector. Also an additive for hydraulic water and coolant.
ANTICORIT SKR SERIES	Water-miscible, mineral oil-free and low-foaming additives for cooling and hydraulic water.
Vapour phase inhibitors	
ANTICORIT VCI SERIES	Advanced VCI technology for the protection of all metals. Available as VCI paper, film, powder, tablets or oils. Tailor-made solutions for corrosion protection and packaging.

A wide range of films are available ranging from oily to vaseline-like and wax-like. If a film is not required, we can solve your corrosion protection problems with our comprehensive VCI line of products. This includes paper, films, tablets, sponges and many other special solutions.

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The complete lubricants program from the specialists.

All from one supplier

The manufacturing of body parts and outer skin panels for the automotive sector involves a great many complex steps. These steps are interdependent on each other and carefully matched. And, in particular, the lubricants used have to guarantee optimum process compatibility. This leaflet provides an overview of the full line of products offered FUCHS.

Cross-compatibility is constantly monitored in our own, state-of-the-art research facilities and laboratories. This guarantees a reliable process chain starting with cleaning, to metalworking, through to corrosion protection.

As well as constant monitoring, we regularly add new products to our program.

Apart from conventional products and solutions, we also offer products which conform to national environmental legislation and/or VOC regulations.

Decades of experience, far-reaching know-how, global approvals from leading manufacturers and our local experts make our product program unique.

The benefits of FUCHS system products:

- Intensive consultation, optimum service – worldwide
- Full range of products – all from one supplier
- Fully compatible products
- No process failures caused by product incompatibility
- Thorough testing in in-house facilities
- Close cooperation in obtaining approvals

For optimum process reliability.

Ask the specialists:
The FUCHS check list for a product recommendation.

Based on this questionnaire, we can tell you which is the best lubricant for your particular needs.

Your address

Company/customer: _____ Phone: _____

Street: _____ Fax: _____

City: _____ E-mail: _____

Contact/function/dept.: _____

Which product do you currently use?

Forming lubricant: _____

Cleaner: _____

Corrosion protection: _____

Forming

Material (blank): ☐ Steel ☐ Stainless steel ☐ Aluminium ☐ Nonferrous metal

☐ Other: _____

Material thickness: s_0 = _____ mm

Tool: Material: _____ Coating: _____

Machine: Manufacturer: _____ Type: _____

Specification of the desired forming lubricant:

☐ Mineral oil-based ☐ Chlorine-free ☐ Corrosion protection
☐ Synthetic ☐ Pigments

Viscosity at +40 °C: ν_{40} = ___ mm^2/s Concentration: _____ %

Application:

☐ Spraying on the material ☐ Run-off
☐ Spraying the tool ☐ Flooding

☐ Other: _____

Simply copy, complete – as far as possible – and fax back to +49 621 3701-414.

Cleaning

Process: ☐ Dipping ☐ Spraying ☐ Flooding ☐ Other: _____

Type: ☐ Water-based ☐ Acidic ☐ Alkaline ☐ Neutral ☐ Other: _____

Washing: Wash temperature: _____ °C pH-value: _____ Duration: _____ s, min, hr

Storage: Type of storage: _____ Duration: _____ Days, Weeks

Subsequent processes: _____

Corrosion protection

Packing:
☐ None
☐ In greaseproof paper
☐ With VCI
☐ In µm PE film
☐ In µm VCI film
☐ On greaseproof paper
☐ Individual packaging
☐ In racks
☐ Other: _____
☐ Closed packaging
☐ Open packaging

Transport:
☐ No transport
☐ National
☐ Regional
☐ Sea freight on deck
☐ Within Europe
☐ Sea freight below deck

Storage condition:
☐ Warehouse
☐ Shed
☐ Outdoors
☐ Tropical climate
☐ Subtropical climate
☐ Temperate climate
☐ Cold climate
☐ Monsoon conditions
☐ Coastal region
☐ Temperature: _____ °C
☐ Humidity: _____ %
☐ Other: _____

Required corrosion protection duration:
☐ Up to 1 week
☐ Up to 1 month
☐ Up to 3 month
☐ Up to 6 month
☐ Up to 1 year
☐ Up to 1 1/2 year
☐ Up to 3 year
☐ Over 5 year

Film type:
☐ No film
☐ Oily
☐ Waxy
☐ Vaseline-like
☐ < 2 µm
☐ 2 – 5 µm
☐ > 5 µm
☐ _____

Characteristics of the corrosion preventive:
☐ Non-thixotropic
☐ Thixotropic
☐ With VCI inhibitors
☐ VOC-free solvent
☐ Solvent FP < +61 °C
☐ Solvent FP > +61 °C
☐ Water-based
☐ Barium-free

Application:
☐ Dipping
☐ Spraying
☐ Hot application
☐ Drying possible
☐ Temperature: _____ °C
☐ Other: _____

Supplementary comments: _____

Signature: _____ Date: _____

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Innovative lubricants need experienced application engineers

Every lubricant change should be preceded by expert consultation on the application in question. Only then can the best lubricant system 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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