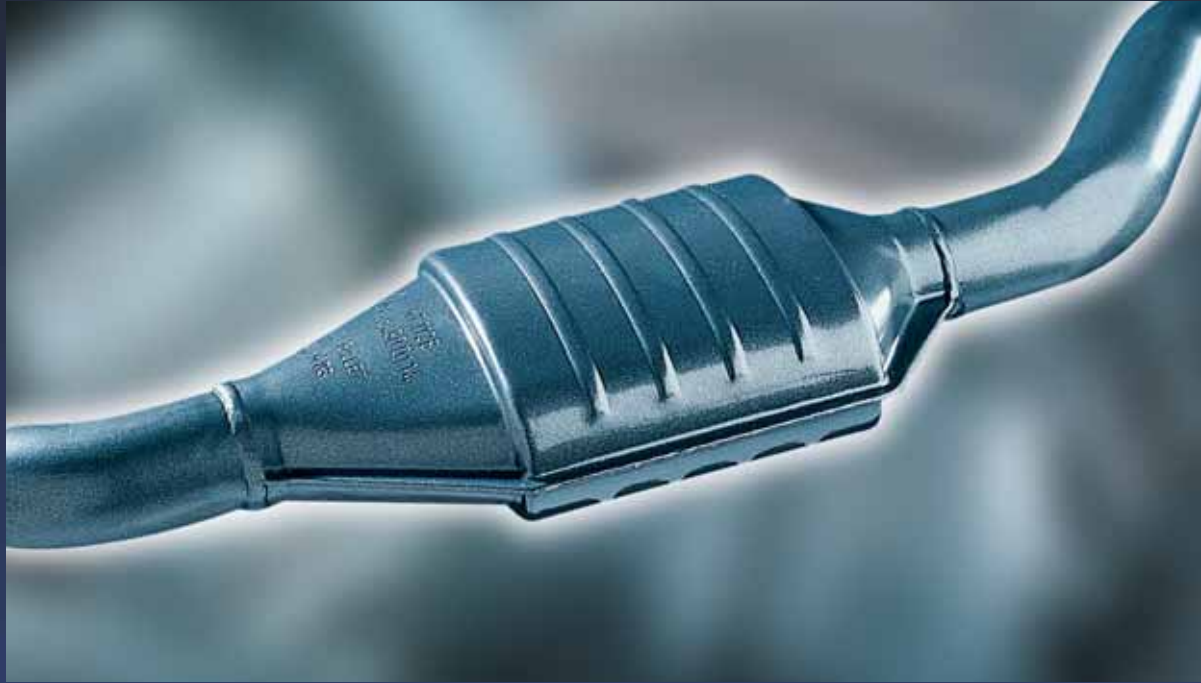


**FUCHS Industrial Lubricants**

**For extra process reliability**



**Lubricants for  
general forming operations**



FUCHS EUROPE SCHMIERSTOFFE GMBH

# YOUR STRONG GLOBAL PARTNER



## HOW WE EXCEL

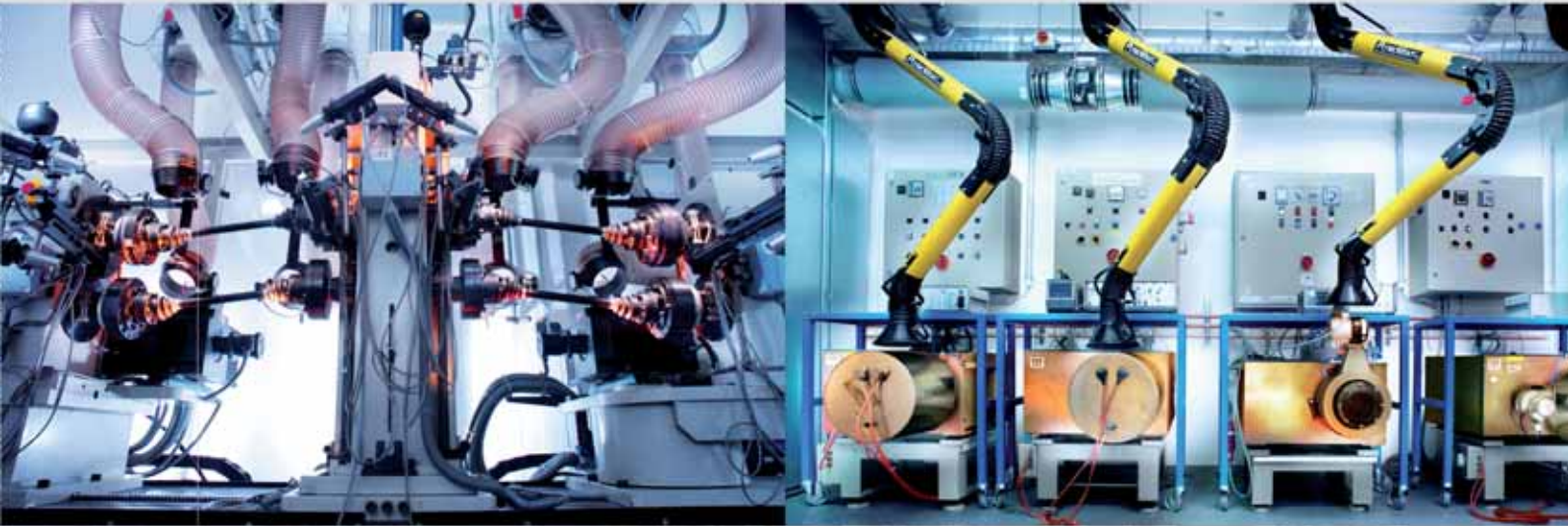
We are a German company whose almost 600 employees manufacture and market a wide range of lubricants and derived specialties. The company, which was founded in 1931 as RUDOLF FUCHS, is located in Mannheim and is a 100 % subsidiary of FUCHS PETROLUB AG, which is the largest independent lubricants manufacturer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





# Lubricants for general forming operations.

## 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. 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.

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 formation of an effective barrier between the material and

## Stamping/embossing

Solvent-based	
RENOFORM UBO SERIES	Annealing residue-free forming oils. Volatile at room temperature. Contains VOC*. For all materials.
RENOFORM LVO SERIES	Annealing residue-free forming oils. Volatile at room temperature. VOC*-free. For all materials.
Non water-miscible	
RENOFORM MBO SERIES and HBO SERIES	Mineral oil-based forming lubricants for all materials. Very high-performance, mineral oil-based forming lubricants for steel and stainless steel.
PLANTOFORM SERIES	Mineral oil-free forming oils for aluminium and copper.

\*VOC = Volatile Organic Compounds.





the tool requires lubricants with outstanding performance.

## Fine blanking

### Non water-miscible (chlorine-free)

**RENOFORM  
HBO SERIES**

Highly active fine blanking oils for steel and stainless steel.

### Non water-miscible (containing chlorine)

**RENOFORM  
MZAN SERIES**

Mineral oil-based fine blanking oils especially for stainless steel.

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.

## Drawing/deep drawing

### Water-miscible (chlorine-free)

**RENOFORM  
MBW SERIES**

Emulsifiable, deep drawing oils for all materials.

### Non water-miscible (chlorine-free)

**RENOFORM  
MBO SERIES  
and  
HBO SERIES**

Mineral oil-based drawing and deep drawing oils for all materials.

Very high-performance, mineral oil-based drawing and deep drawing oils for steel and stainless steel.

**PLANTOFORM  
SERIES**

Mineral oil-free drawing and deep drawing oils for copper and aluminium (biodegradable).

**RENOFORM  
HBT SERIES**

Drawing greases for deep draws. Suitable for all materials.

**RENOFORM  
HBX 60**

Non water-miscible dry-film lubricant (hotmelt) with outstanding wear protection for steel and stainless steel.

### Non water-miscible (containing chlorine)

**RENOFORM  
MZAN SERIES**

Drawing and deep-drawing oils, specially formulated for stainless steel.

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Edition 07/2008



# 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 available.

### 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.
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### 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 filmforming agents for pure, stainless drying.
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### 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.
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### 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 a hydraulic water and coolant additive.
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.
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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.



# The complete lubricants program from the specialists.

## All from one supplier

The manufacturing of formed metal components involves a great many complex steps. These steps are interdependent on each other and must be 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:  $\nu_{40} =$  \_\_\_\_\_ mm<sup>2</sup>/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 µm PE film  Individual packaging  Closed packaging  
 In greaseproof paper  In µm VCI film  In racks  Open packaging  
 With VCI  On greaseproof paper  Other: \_\_\_\_\_

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

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

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

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

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

Application:  Dipping  Hot application  Temperature: \_\_\_\_\_ °C  
 Spraying  Drying possible  Other: \_\_\_\_\_

Supplementary comments:

\_\_\_\_\_

\_\_\_\_\_

Signature: \_\_\_\_\_

Date: \_\_\_\_\_

**FUCHS Industrial Lubricants**

## **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.



Contact:



### **FUCHS EUROPE SCHMIERSTOFFE GMBH**

Friesenheimer Straße 15  
68169 Mannheim / Germany  
Phone: +49 621 3701-0  
Fax: +49 621 3701-570  
E-mail: [zentrale@fuchs-europe.de](mailto:zentrale@fuchs-europe.de)  
[www.fuchs-europe.de](http://www.fuchs-europe.de)

Export Division  
Friesenheimer Straße 9  
68169 Mannheim / Germany  
Phone: +49 621 3701-703  
Fax: +49 621 3701-719