

# LUBRITECH – Metal Forming Lubricants

Product Range

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.**



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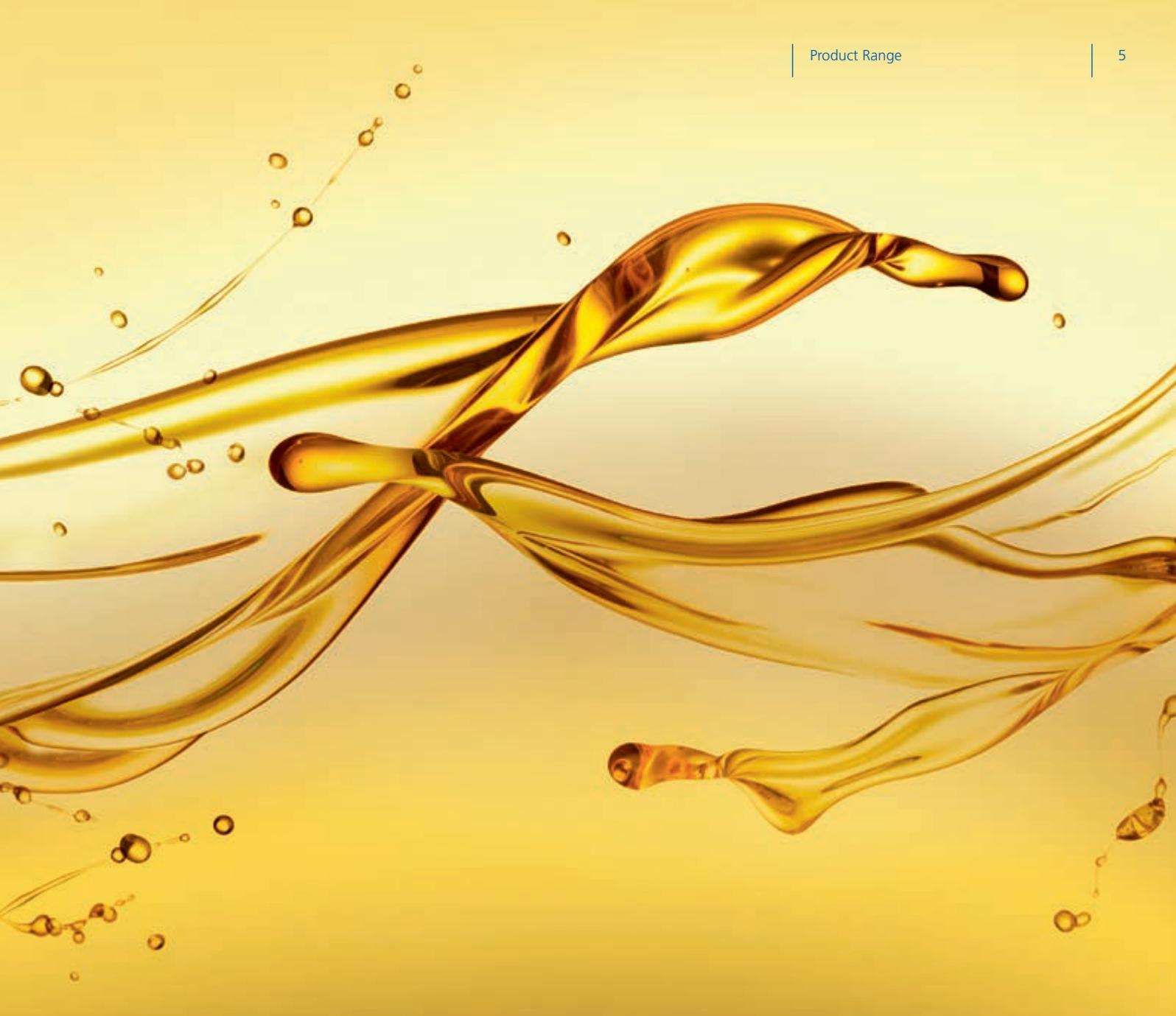
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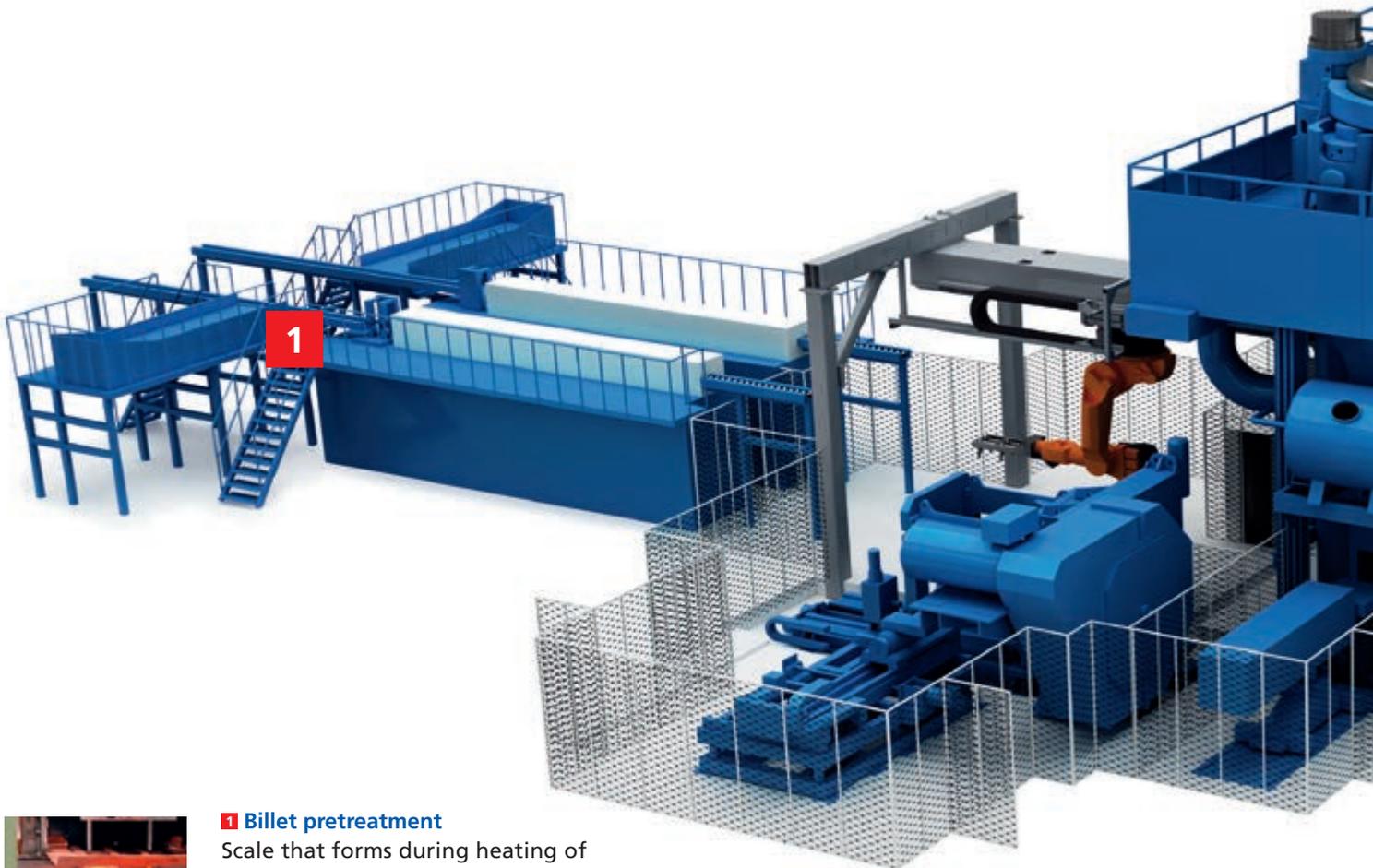
## SPECIALTY LUBRICANTS FOR HOT METAL FORMING OPERATIONS

Excellent part quality, optimum machinery utilization, reduced operating cost, lower environmental impact: whenever tolerances in industrial applications decrease, our commitment to developing lubricants increases. Conventional forging, non-ferrous metal forming, high-speed or precision forging, LUBRODAL metal forming lubricants are connected with the highest quality and excellent application results all over the world. We develop all of our specialty lubricants in close cooperation with the users – for highest part quality, process stability and economical results. The core product range described in the following pages fulfills the requirements of standard hot forming processes, from simple to complex. For special forming processes still more products are available upon request.



## Fields of application for hot metal forming lubricants in the forging process

The forging industry is a broad field of different applications, each with a high level of special requirements for the needed lubricants. Products of the LUBRODAL range cover all established forging applications and related processes. Starting from scale reduction products over graphite pre-coatings for warm forging to all different kinds of tool lubrication – e.g. for warm or hot forging, high-speed or precision forging, reducer or ring rolling, seamless tube manufacturing and much more.



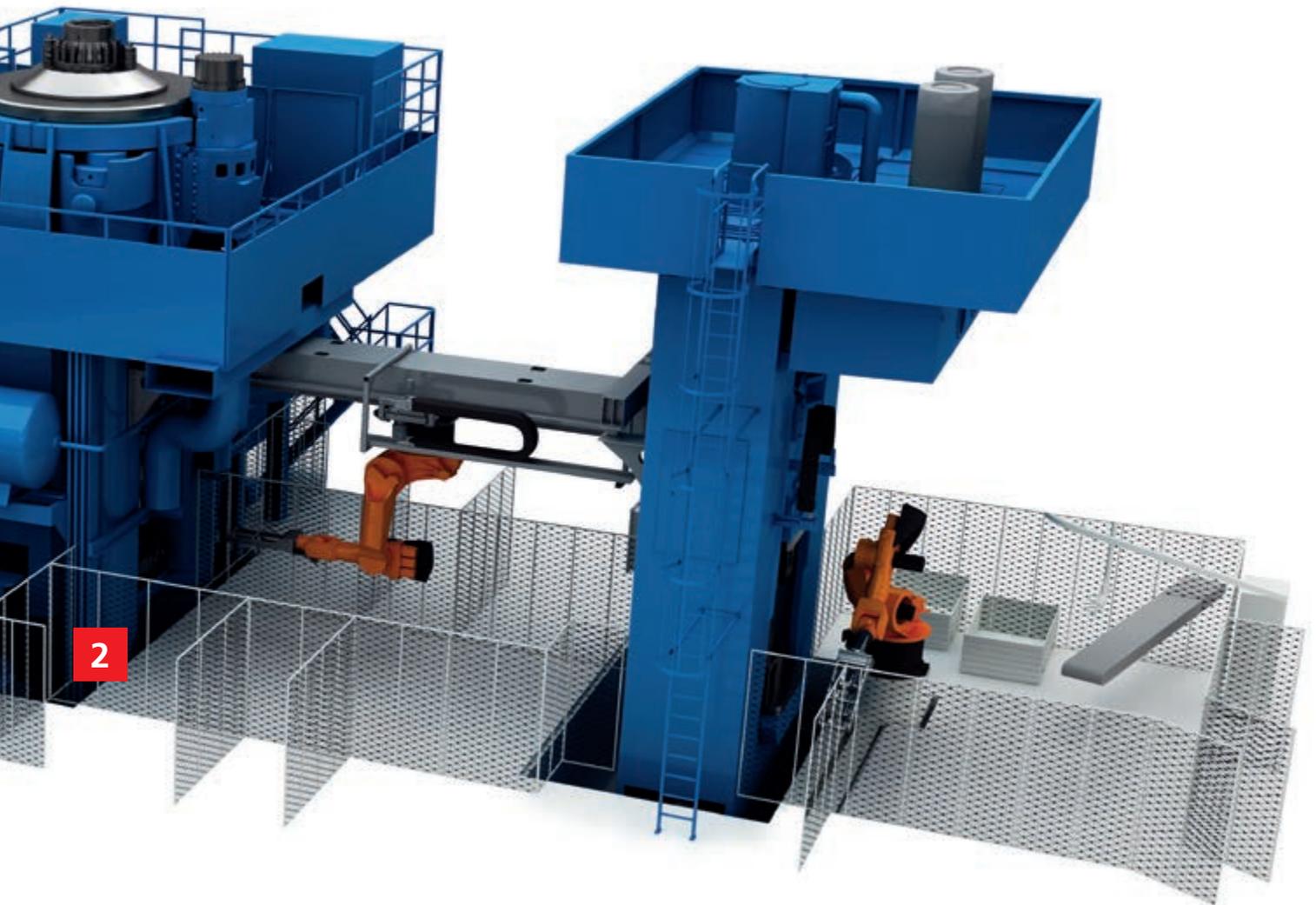
### **1 Billet pretreatment**

Scale that forms during heating of the billets has negative effects on the part quality and on the die life. Billet faces sticking to each other can cause interruptions that lead to an unstable process. A pretreatment with the products of the LUBRODAL range, which have been specifically designed for such a purpose, can help to minimise these effects.



## 2 Die lubrication

The lubricants of the LUBRODAL series cover a wide range of applications. Due to the great variety of parameters in forging each application has to be considered separately. The LUBRODAL division team will be pleased to support you in this matter. In general it has to be noted that all water-based die lubricants need to be sprayed. In deep cavities with long extrusion paths (e.g. when forging crankshafts), graphite-free water-based products reach their limits. For applications like this, products containing graphite must be used.





**LUBRICANTS FOR HOT METAL FORMING –  
WATER-MISCIBLE, CONTAINING GRAPHITE**

During hot forming processes, lubrication and cooling of the tools are necessary. As the geometry of the parts is becoming more and more complex, the requirements for the lubricants are also constantly increasing. The modern LUBRODAL metal forming lubricants fulfill these increased requirements, so that today it is possible to work with

environmentally friendly graphite-water dispersions in many forging operations in which oil/graphite products were previously used. Economic working, excellent cooling of the tools and optimal flow behavior can be realized, when LUBRODAL products are combined with modern spraying systems.

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## Hot forming of steel

### ■ LUBRODAL F 20 CH HOT FORMING OF STEEL

Description	Application method	Mixing ratio	Packages	Frost-sensitive
Stable concentrate of graphite in water, profitable due to high solid content of 40%. Dilution ratios of 1:4 to 1:30 are recommended, depending on part geometry and weight. Application manually or automatic. Versatile lubricant for hot forming of steel with good wetting properties.	Spraying	1:4 to 1:30	25/220/1200 kg	yes

### ■ LUBRODAL F 31 EB HOT FORMING OF STEEL

Description	Application method	Mixing ratio	Packages	Frost-sensitive
Graphite concentrate in water (32% solids). Recommended dilution ratios of 1:3 up to 1:20, according to the geometry and weight of the parts. Automatic or manual spraying application. Economic standard lubricant for conventional hot forging.	Spraying	1:1 to 1:20	25/220/1000 kg	yes

### ■ LUBRODAL F 105 HOT FORMING OF STEEL

Description	Application method	Mixing ratio	Packages	Frost-sensitive
Water miscible graphite dispersion (25% solids) for die lubrication during hot forging of steel. Depending on the difficulty and geometry of the parts dilution ratios from 1:2 to 1:20 are recommended. Economical lubricant for a wide range of applications.	Spraying	1:2 to 1:20	25/200/1000 kg	yes

### ■ LUBRODAL F 185 HOT FORMING OF STEEL

Description	Application method	Mixing ratio	Packages	Frost-sensitive
Combination of a transparent formulation with an addition of graphite. Excellent releasing and propulsive effects and due to a small addition of graphite the lubrication power is superior to regular transparent formulations. Considerably reduced cleaning efforts in comparison to regular water-graphite formulations.	Spraying	1:1 to 1:10	25/200/1000 kg	yes

### ■ LUBRODAL F 442 HOT FORMING OF STEEL

Description	Application method	Mixing ratio	Packages	Frost-sensitive
Dispersion of finely ground graphite in water (40% solids). Dilutable with water in any ratio. High performance lubricant with outstanding wetting properties even at high temperatures. Particularly suitable for highly complex forming operations, e.g. for extrusion operations with long flow paths.	Spraying	1:4 to 1:30	25/230/1000 kg	yes

## Hot forming of steel

### ■ LUBRODAL F 645 AFE HOT FORMING OF STEEL

Description	Application method	Mixing ratio	Packages	Frost-sensitive
Dispersion of very finely ground, colloidal graphite in water (18 % solids). Application dependent, dilution ratios of 1:2 to 1:10 are recommended. Applied by automatic or manual spraying. Versatile metal forming lubricant with outstanding wetting properties. Also suitable for warm forming and particularly for precision forging.	Spraying	1:2 to 1:10	25/200/1000 kg	yes

### ■ LUBRODAL F 1205 HD HOT FORMING OF STEEL

Description	Application method	Mixing ratio	Packages	Frost-sensitive
Concentrate of graphite and additives in water (24 % solids). Dilution ratios of 1:4 to 1:15 are recommended, depending on geometry and weight of the parts. Applied by automatic or manual spraying. Versatile lubricant with excellent wetting and separating properties.	Spraying	1:4 to 1:15	25/200/1000 kg	yes

### ■ LUBRODAL HY-N HOT FORMING OF STEEL

Description	Application method	Mixing ratio	Packages	Frost-sensitive
Thin fluid dispersion of finely ground graphite in water, dilution application dependent. LUBRODAL HY-N is used for precision forging of steel, but is also suitable for other complex hot or warm forming operations.	Spraying	1:2 to 1:10	10/25/200 kg	yes

### ■ WAGRAS RH 20 HOT FORMING OF STEEL

Description	Application method	Mixing ratio	Packages	Frost-sensitive
Stable, aqueous concentrate of carefully prepared, selected graphites (22 % solids) with good wetting properties for various hot and warm forming processes. Dilution ratio varies from 1:3 to 1:20, depending on the geometry of the parts. Application by manual or automatic spraying systems.	Spraying	1:3 to 1:20	10/25/200/1000 kg	yes

## Warm forming of steel

### ■ LUBRODAL F 21 A SET HOT AND WARM FORGING OF STEEL AND NON-FERROUS METALS

Description	Application method	Mixing ratio	Packages	Frost-sensitive
Concentrate of graphite in water (32 % solids). Recommended dilution ratios of 1:5 up to 1:25, according to the geometry and weight to the parts. Applied by automatic or manual spraying. Lubricant for complex hot and warm forming operations.	Spraying	1:1 to 1:25	25/200/1000 kg	yes

## Warm forming of steel

### ■ LUBRODAL F 24 W WARM FORMING OF STEEL IN AUTOMATIC PRESSES

Description	Application method	Mixing ratio	Packages	Frost-sensitive
Colloidal dispersion of graphite in an oil/water emulsion with excellent releasing, lubricating and cooling effects. No sedimentation on diluting with tap water (1:1). Application by matching spray technique makes LUBRODAL F 24 W an ideal alternative to graphite/oil products.	Spraying	1:1 to 1:3	25/200/1000 kg	yes

### ■ LUBRODAL F 41 G WARM FORMING OF STEEL

Description	Application method	Mixing ratio	Packages	Frost-sensitive
Sedimentation-stable graphite/water dispersion with 32 % solid contents. LUBRODAL F 41 G is preferably used as a circulation lubricant for warm forging of steel. It is based on a formulation of selected graphites and is suitable for very complex warm and hot forming.	Spraying	1:1 to 1:25	25/200/1000 kg	yes

### ■ LUBRODAL FC 331 GRAPHITE PRE-COATING FOR WARM FORGING (700–800 °C)

Description	Application method	Mixing ratio	Packages	Frost-sensitive
Colloidal suspension of high grade graphite, which is diluted with water. Homogenous, firmly adhering layer protects against oxidation and supports the subsequent forming processes on the press. Application possible by spraying, flooding or dipping.	Spraying, flooding or dipping	1:1 to 1:3	25/220/1000 kg	yes

## Hot forming of steel and non-ferrous metals

### ■ LUBRODAL F 28 B HOT FORMING OF STEEL AND NON-FERROUS METALS

Description	Application method	Mixing ratio	Packages	Frost-sensitive
Concentrate of graphite in water (30 % solids). Recommended dilution ratios of 1:2 to 1:10, depending on the geometry and weight of the parts. Applied by automatic or manual spraying. Lubricant for hot forming with a wide application range and very good wetting properties.	Spraying	1:2 to 1:10	25/220 kg	yes

### ■ LUBRODAL F 475 E PRECISION FORGING OF STEEL AND NON-FERROUS METALS

Description	Application method	Mixing ratio	Packages	Frost-sensitive
Water-miscible concentrate of high purity fine particle size graphite in water (25 % solids) with a wide range of wetting temperatures. Suitable for warm and hot forging and particularly for precision forging of complex geometries.	Spraying	1:2 to 1:10	25/200/1000 kg	yes

## Hot forming of steel and non-ferrous metals

### ■ LUBRODAL F 3629 HOT FORGING OF SPECIAL PURPOSE STEEL AND NON-FERROUS METALS

Description	Application method	Mixing ratio	Packages	Frost-sensitive
Micro-fine graphite dispersion in a water carrier (19% solids). In combination with suitable spraying devices, wetting temperatures as high as 400 °C are possible. High performance lubricant, designed exclusively for hot forming of high-alloyed steel and non-ferrous metals.	Spraying	1:1 to 1:10	25/200/1000 kg	yes

### ■ LUBRODAL FC 441/50 HOT FORMING OF STEEL AND ALUMINIUM

Description	Application method	Mixing ratio	Packages	Frost-sensitive
Stable dispersion of finely ground graphite in water. Following the evaporation of the carrier water, LUBRODAL FC 441/50 produces a closed, thermally stable and highly adhesive graphite film on the treated tool and metal surfaces. Application can be in the form of spraying or dipping.	Spraying	1:1 to 1:5	10/25/210 kg	yes

### ■ LUBRODAL W 27 F HOT FORMING OF STEEL AND NON-FERROUS METALS

Description	Application method	Mixing ratio	Packages	Frost-sensitive
Colloidal dispersion of finely ground graphite in water (27% solids). Dilutable in water, mixing ratio application dependent. Applied by automatic or manual spraying. Lubricant for precision forging with excellent wetting properties.	Spraying	1:1 to 1:25	10/25/210 kg	yes

### ■ LUBRODAL W 27 F/260 HOT FORMING OF STEEL AND NON-FERROUS METALS

Description	Application method	Mixing ratio	Packages	Frost-sensitive
Concentrate of finest ground graphite in water (27% solids). Dilutable with water in any ratio, dependent on the application. Applied by automatic or manual spraying. Lubricant for hot forming operations with outstanding wetting properties.	Spraying	1:1 to 1:25	10/25/210 kg	yes

## Hot forming of non-ferrous metals

### ■ LUBRODAL F 29/2 – TB HOT FORMING OF STEEL AND NON-FERROUS METALS

Description	Application method	Mixing ratio	Packages	Frost-sensitive
Concentrate of graphite in water (36,5% solids), dilutable with water. Mixing ratios are application dependent. Applied by automatic or manual spraying. Developed exclusively for difficult forgings with a high degree of deformation, e.g. the forging of titanium turbine blades.	Spraying	1:3 to 1:20	25/220 kg	yes

## Hot forming of non-ferrous metals

### ■ LUBRODAL F 33 AL HOT FORGING OF ALUMINIUM

Description	Application method	Mixing ratio	Packages	Frost-sensitive
Water-miscible concentrate of colloidal graphite in an emulsion for forming of non-ferrous metals. Designed exclusively for spray application. Outstanding wetting when sprayed as a fine mist. Forms a thin, firmly adhering separating film on the surface of the tool.	Spraying	1:1 to 1:50	25/210/1000 kg	yes

## Hot rolling, pipe production

### ■ LUBRODAL F 70 M – 40 LV HOT ROLLING, PIPE PRODUCTION

Description	Application method	Mixing ratio	Packages	Frost-sensitive
Stable, free-flowing graphite dispersion which can be simply and economically diluted with water. Tried and tested as a mandrel bar lubricant, for pipe bending processes, production of loops and manufacturing of railway wheels.	Spraying	1:4 to 1:30 / 1:0,5 to 1:7	25/230/1000 kg	yes





**LUBRICANTS FOR HOT METAL FORMING –  
NON-WATER-MISCIBLE, CONTAINING GRAPHITE**

Non-water-miscible hot forming lubricants are suitable for particularly complex forming processes with long flow paths. In this field of application, the products of the HYKOGREEN series fulfill highest demands. Due to the

excellent lubrication properties of graphites in oil-based carrier liquids, high tool life and optimal part quality are guaranteed.

## Overview

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## Hot forming of brass

### ■ GRASINOL 64-80 HOT FORMING OF BRASS

Description	Application method	Packages	Frost-sensitive
Suspension of graphite and special additives in mineral oil. GRASINOL 64-80 is ready for use and can be applied by manual or automatic spraying systems. GRASINOL 64-80 is preferably used for the lubrication of the tools during warm forging of brass valves.	Spraying	9/180/900 kg	no

### ■ HYKOGREEN 87/3 HOT FORMING OF BRASS

Description	Application method	Packages	Frost-sensitive
Stable suspension of colloidal graphite and additives in mineral oil. HYKOGREEN 87/3 is ready for use and normally applied manually or by automatic spray lubrication systems. HYKOGREEN 87/3 is mainly used for the lubrication of tools during the hot pressing of brass.	Spraying	10/25/180/850 kg	no

### ■ HYKOGREEN MB 1000 HOT FORMING OF BRASS

Description	Application method	Packages	Frost-sensitive
Liquid lubricant containing colloidal graphite for the hot forming of non-ferrous metals. The use of chemically pure, ultra-finely ground graphite guarantees a stable dispersion in a carrier fluid containing mineral oil. HYKOGREEN MB 1000 adheres well to hot tool surfaces and forms a thin lubricating film which is high-temperature and pressure resistant.	Spraying	10/25/180 kg	no

## Hot forming of steel (valve forging)

### ■ HYKOGREEN 87/40 HOT FORMING OF STEEL (VALVE FORGING)

Description	Application method	Packages	Frost-sensitive
Flowable dispersion of graphite in carrier fluid containing mineral oil. HYKOGREEN 87/40 is ready for use and should be applied undiluted by dripping. HYKOGREEN 87/40 has outstanding spreading and penetrating properties on hot tool surfaces.	Drip lubrication	25/50/200/1000 kg	no

### ■ HYKOGREEN 87/43 HOT FORMING OF STEEL AND SPECIAL ALLOYS (VALVE FORGING)

Description	Application method	Packages	Frost-sensitive
Flowable dispersion of graphite in a mineral oil based carrier liquid. Suitable for complex extrusions during hot forging of steel, such as forging of valves (mono- or bi-metal). Can be applied by dripping or spraying.	Drip lubrication or spraying	25/50/200/1000 kg	no

## Hot forging of steel (valve forging)

### ■ HYKOGREEN 87/45 T-30 HOT FORMING OF STEEL AND SPECIAL ALLOYS (VALVE FORGING)

Description	Application method	Packages	Frost-sensitive
Flowable dispersion of graphite in a carrier fluid containing mineral oil. HYKOGREEN 87/45 T-30 is ready for use and should be applied undiluted by dripping. HYKOGREEN 87/45 T-30 has outstanding spreading and penetrating properties on hot tool surfaces. Particularly suitable for the forging of mono-valves, made of special alloys.	Drip lubrication	25/50 kg	no

## Hot forming of steel

### ■ HYKOGREEN 217 HOT FORMING OF STEEL AND RELATED ALLOYS

Description	Application method	Packages	Frost-sensitive
Stable dispersion of chemically pure graphite in a base oil with high flash point. HYKOGREEN 217 flows easily, contains no heavy metals and burns nearly ashless. For most applications, HYKOGREEN is ready for use and can be applied by spraying (airless) or manually (swabbing, brushing, etc.).	Spraying and manual	10/25/190 kg	no

### ■ HYKOGREEN GF 12 HOT FORMING OF STEEL AND RELATED ALLOYS

Description	Application method	Packages	Frost-sensitive
Grease-like die lubricant, containing chemically pure graphite and high-quality additives. HYKOGREEN GF 12 is an option for difficult forming operations (extrusion) or other forging processes in which die lubricants containing water cannot be used.	Brushing and swabbing	5/25/50/190 kg	no

### ■ HYKOGREEN PASTE 712 HOT FORMING OF STEEL AND RELATED ALLOYS

Description	Application method	Packages	Frost-sensitive
Pasty die lubricant, containing chemically pure graphite and without heavy metals and halogens. HYKOGREEN PASTE 712 is an option for difficult forming operations and other forging processes and is applied manually by swabbing or brushing.	Brushing and swabbing	5/25/50/190 kg	no

## Hot forming of steel

### ■ HYKOGREEN UMD 2/1 HOT AND WARM FORMING OF STEEL

Description	Application method	Packages	Frost-sensitive
Mineral oil based lubricant containing graphite with excellent flowing characteristics. HYKOGREEN UMD 2/1 is normally used for forward and backward extrusion as well as warm forging of ferrous metals. It is mainly applied undiluted by automatic spray lubricating systems.	Spraying	10/25/200/1000 kg	no

### ■ KOLLIGEEN GRAPHIT-PASTE HOT FORMING OF STEEL AND RELATED ALLOYS

Description	Application method	Packages	Frost-sensitive
Pasty die lubricant, containing finest, chemically pure graphite, free of heavy metals and halogens. KOLLIGEEN GRAPHIT-PASTE is an option for difficult forming operations on hydraulic presses and is applied by brushing or swabbing.	Brushing and swabbing	6x1/10 kg	no

## Hot forming of steel and non-ferrous metals

### ■ HYKOGREEN AL 3672 HOT FORMING OF NON-FERROUS METALS

Description	Application method	Packages	Frost-sensitive
Graphite-containing, lead-free lubrication concentrate with high quality EP-additives. Particularly for complex hot forming operations of aluminium and other non-ferrous metals, a good flow of material is ensured.	Spraying, dipping or manual	25/200/1000 kg	no

### ■ HYKOGREEN G 30 HOT FORMING OF STEEL AND NON-FERROUS METALS

Description	Application method	Packages	Frost-sensitive
Pasty viscous concentrate of chemically pure graphite in a base oil with high flash point. Preferably used for hot forming. Serves as a separating lubricant during drop forging and for tool lubrication during extrusion of aluminium and brass.	Spraying and manual	25/185 kg	no

### ■ HYKOGREEN G 60 HOT FORMING OF STEEL AND NON-FERROUS METALS

Description	Application method	Packages	Frost-sensitive
Pasty oil-graphite-dispersion for hot forming of steel and non-ferrous metals. It is used as a separating lubricant during drop forging and for tool lubrication during extrusion of aluminium and brass.	Spraying and manual	25/230 kg	no

## Hot forming of steel and non-ferrous metals

### ■ ZONAL 1000 HOT FORMING OF STEEL AND NON-FERROUS METALS

Description	Application method	Packages	Frost-sensitive
Flowable dispersion of high purity fine particle size graphite in a mineral oil containing carrier fluid. Suitable for a wide range of applications. Can be applied by spraying, brushing or swabbing.	Spraying, brushing and swabbing	20/200 kg	no

### ■ ZONAL 1002 HOT FORMING OF STEEL AND NON-FERROUS METALS

Description	Application method	Packages	Frost-sensitive
Highly fluid dispersion of high purity fine particle size graphite in a mineral oil containing carrier fluid. Suitable for a wide range of applications. Can be applied by spraying, brushing or swabbing.	Spraying, brushing and swabbing	20/180 kg	no



**LUBRICANTS FOR HOT METAL FORMING –  
WATER-MISCIBLE, GRAPHITE-FREE**

Today, in the interest of reducing contamination and environmental pollution, die lubricants that can be diluted with water are preferred. Over the years, the importance of graphite-free formulations, also known as white to transparent lubricants, has vastly increased, particularly due to the needs of industrial hygiene. These products are also well suited to forging operations in which graphite-

free products would previously never have been considered. White LUBRODAL products have now accordingly proven themselves for these applications. From rolling machines over conventional forging presses and hammers to modern, fully automated high-speed-forging-machines there is a very wide field of applications.

## Overview

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## Hot forming of steel

### ■ LUBRODAL F 318 N-HV TRANSPARENT CIRCULATION LUBRICANT

Description	Application method	Mixing ratio	Packages	Frost-sensitive
LUBRODAL F 318 N-HV is used for warm and hot forging of steel. Wherever graphite containing lubricants have to be replaced due to hygienic reasons. Contains no pigments. Therefore no residues, no clogging of valves, nozzles or filter systems. The dilution ratio varies dependent on the type of application between 1:1 and 1:40. Suitable for flood-application as well as spraying.	Spraying or flooding	1:1 to 1:40	220/1000 kg	yes

### ■ LUBRODAL F 325 N TRANSPARENT CIRCULATION LUBRICANT

Description	Application method	Mixing ratio	Packages	Frost-sensitive
Effective concentrate of synthetic and natural agents, dilutable with water. Excellent separation and wetting. Dilution ratio application dependent between 1:1 and 1:40. Economic circulation lubricant for warm and hot forging of steel.	Spraying or flooding	1:1 to 1:40	220/1000 kg	yes

### ■ LUBRODAL F 400 HIGH PERFORMANCE LUBRICANT FOR SPECIAL ALLOYS

Description	Application method	Mixing ratio	Packages	Frost-sensitive
Transparent, synthetic concentrate with specific additives for special steels and related alloys, which are difficult to form. Thermally stable ingredients enable high wetting temperatures. Also optimally suited to circulation lubrication.	Spraying or flooding	1:3 to 1:25	25/220/1000 kg	yes

### ■ LUBRODAL F 84 HM - PLUS HAMMER FORGING OF STEEL

Description	Application method	Mixing ratio	Packages	Frost-sensitive
Water miscible die lubricant with excellent expanding effects. LUBRODAL F 84 HM - PLUS was specially developed for hammer forging. It is supplied as a stable concentrate and has to be diluted with water before application.	Spraying	1:2 to 1:30	25/220/1000 kg	yes

## High-speed-forging of steel

### ■ LUBRODAL C 48 PM FLOODING LUBRICANT FOR HORIZONTAL AUTOMATIC FORGING PRESSES

Description	Application method	Mixing ratio	Packages	Frost-sensitive
Brown, pigment-free concentrate with excellent release and cooling effect. Simple to mix with water in any ratio. Circulation cooling lubricant for high-speed forging on HATEBUR machines.	Spraying or flooding	1:2 to 1:20	25/220/1000 kg	yes

## High-speed-forging of steel

### ■ LUBRODAL C 102 LUBRICANT FOR HOT FORMING OF METALS

Description	Application method	Mixing ratio	Packages	Frost-sensitive
Emulsion of modified oils in water with harmonized additives. LUBRODAL C 102 is suitable for the lubrication and separation during forging of steel and other metals. It can also be used as an additive for the start-up of circulation lubrication systems. Recommended dilution ratios are 1:5 to 1:10.	Spraying	1:5 to 1:10	10/25/200 kg	yes

### ■ LUBRODAL F 318 H TRANSPARENT CIRCULATION LUBRICANT

Description	Application method	Mixing ratio	Packages	Frost-sensitive
Combination of synthetic and natural agents, dilutable with water (1:2 to 1:20). LUBRODAL F 318 H has excellent cooling and separating effects as well as very good wetting properties. Particularly suitable for horizontal forging machines with short cycle times.	Spraying or flooding	1:2 to 1:20	25/220/1000 kg	yes

## Hot-forming of non-ferrous metals

### ■ LUBRODAL F 25 AL HOT FORMING OF NON-FERROUS METALS

Description	Application method	Mixing ratio	Packages	Frost-sensitive
Stable emulsion concentrate with ingredients of high thermal stability. Due to good penetrating properties, they spread fast to a thin layer on the tool surface. LUBRODAL F 25 AL does not form build-ups in the dies. When forging aluminium, dilution ratios of 1:3 to 1:10 are used.	Spraying	1:3 to 1:10	25/200/1000 kg	yes

### ■ LUBRODAL F 40 S WATER-MISCIBLE METAL FORMING LUBRICANT FOR NON-FERROUS METALS

Description	Application method	Mixing ratio	Packages	Frost-sensitive
Water-miscible lubricant for spray application. Special additives provide excellent release and lubricating properties. The optimum dilution rate must be determined in practice.	Spraying	1:5 to 1:10	25/200/1000 kg	yes

## Hot rolling of steel

### ■ LUBRODAL RM 4000 TRANSPARENT CIRCULATION LUBRICANT FOR THE HOT ROLLING OF STEEL

Description	Application method	Mixing ratio	Packages	Frost-sensitive
Mineral oil free alternative to conventional rolling oils and emulsions. LUBRODAL RM 4000 is used in diluted form in the hot rolling of steel for caliber and tool lubrication. LUBRODAL RM 4000 is a concentrate which can be mixed with water in any ratio.	Spraying or flooding	1:3 to 1:30	25/220/1000 kg	yes

## Pipe production

### ■ LUBRODAL ST 500 V MANDREL BAR LUBRICANT FOR PUSH BENCH MILLS

Description	Application method	Mixing ratio	Packages	Frost-sensitive
Water-miscible, graphite-free high-temperature lubricant with pronounced release effect in hot forming processes of steel. LUBRODAL ST 500 V can be very easily diluted with water. The optimal dilution ratio should be determined in preliminary tests prior to application.	Spraying, flooding or dipping	1:1 to 1:3	30/250/1400 kg	no





**OTHER LUBRICANTS FOR  
SPECIAL APPLICATIONS**

To meet the versatile demands of forging, casting and related industries, we developed a wide product range. Following, some of our lubrication and release agents for special applications are described.

## Overview

Field of application	Product	Page
High temperature lubricants	LUBRODAL BN	32
	LUBRODAL HY 15	32
	LUBRODAL KB 10 CONC	32
Metal forming lubricant	LUBRODAL C 120	32
Aqueous corrosion protection	LUBRODAL KS 20	33
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	LUBRODAL ZG 600	33
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Additive for die lubricants	LUBRODAL F 270 EP	36
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## High temperature lubricants

### ■ LUBRODAL BN HIGH-TEMPERATURE LUBRICANT

Description	Application method	Packages	Frost-sensitive
Dispersion of white solid lubricants in water, used as a high-temperature lubricant in the forming of non-ferrous metals (e.g. titanium) and as a release coating for isothermal forging processes up to 1000 °C. LUBRODAL BN is supplied as a concentrate and must be diluted with water prior to use. The product contains no heavy metals, halogens or compounds containing mineral oils.	Spraying, dipping or brushing	6x1/5 kg	yes

### ■ LUBRODAL HY 15 WATER BASED HIGH-TEMPERATURE LUBRICANT

Description	Application method	Packages	Frost-sensitive
Stable dispersion of graphite in water with a very fine particle size distribution. All ingredients are burned residue-free (no build-ups). LUBRODAL HY 15 can be used versatilely, e.g. during hot forming of steel and non-ferrous metals or as a chain lubricant during continuous casting of non-ferrous metals, to avoid adhesion between chain and transported metals.	Spraying	10/25/200 kg	yes

### ■ LUBRODAL KB 10 CONC WATER BASED HIGH-TEMPERATURE LUBRICANT

Description	Application method	Packages	Frost-sensitive
Water-miscible parting lubricant for thermally loaded transport and conveyor chains. LUBRODAL KB 10 CONC is also suitable to use as a high-temperature lubricant for forming of special alloys, steel and non-ferrous metals (titanium). LUBRODAL KB 10 CONC can be applied by dipping, brushing or spraying. For spray application, the product is to be diluted with water in a ratio of 1:2 up to 1:10.	Spraying, dipping or brushing	10x1/5/10/25/210 kg	yes

## Metal forming lubricant

### ■ LUBRODAL C 120 METAL FORMING LUBRICANT

Description	Application method	Packages	Frost-sensitive
Stable water-graphite dispersion, based on finely ground natural graphite in optimal concentrations. LUBRODAL C 120 is used in the cold and hot forming of metals and specifically as mould facing, release agent for glass forming operations, high-temperature dry lubricant, conductive coating in the electrical industry, metal forming lubricant in the cold forming of heavy sheet steel (flanging) and as a release agent for anode rods in aluminium smelter.	Spraying, dipping or brushing	10/30 kg	yes

## Aqueous corrosion protection

### ■ LUBRODAL KS 20 AQUEOUS CORROSION PROTECTION

Description	Application method	Packages	Frost-sensitive
Boron-free corrosion inhibitor, which easily dissolves in water. LUBRODAL KS 20 prevents steel corrosion, particularly in combination with water-miscible metal forming lubricants. LUBRODAL KS 20 is applied in a concentration of 3 % of the diluted lubricant by volume/weight.	Additivation	5/25/220/1000 kg	yes

## Agent for cutting of refractory bricks

### ■ LUBRODAL RCL 40 AGENT FOR CUTTING, SAWING AND GRINDING REFRACTORY BRICKS

Description	Application method	Packages	Frost-sensitive
Water based solution of additives with good lubricating and cooling properties, specifically for cutting, sawing and grinding of electrically molten refractory bricks and fire resistant materials. LUBRODAL RCL 40 is applied in a concentration of 3 % and affords a good separation of the release and sawing sludge. Tap water can be used as diluent. LUBRODAL RCL 40 is applied by beam nozzles on the sawing tooth in the slit area.	Spraying, dipping or brushing	200/1000 kg	yes

## Scale reduction coatings

### ■ LUBRODAL SR 300 LIQUID RELEASE AND PROTECTIVE COATING

Description	Application method	Packages	Frost-sensitive
Water-based, graphite-free coating for the pre-treatment of steel billets. LUBRODAL SR 300 is used for the hot forming of steel wherever scaling occurs caused by heat treatment. LUBRODAL SR 300 is supplied as a ready-for-use product and is applied pure. Spray application is advantageous, but application by dipping, flooding and brushing is also possible.	Spraying, flooding, dipping or brushing	5/10/25/220/1000 kg	no

### ■ LUBRODAL ZG 600 LIQUID RELEASE AND PROTECTIVE COATING

Description	Application method	Packages	Frost-sensitive
Water-based, graphite-free coating for the heat-treatment of forged and cast steel parts. In addition to its scale prevention capabilities, LUBRODAL ZG 600 has very good separation properties and can reduce the risk of billet-sticking in the furnace.	Spraying, flooding, dipping or brushing	5/10/25/250 kg	yes

### ■ LUBRODAL SR 900 LIQUID RELEASE AND PROTECTIVE COATING

Description	Application method	Packages	Frost-sensitive
Graphite-free protection coating for the heat-treatment of steel (> 1000 °C). Wherever skin decarburization and scaling can occur. Also suitable for high-alloy-steels. LUBRODAL SR 900 is at the same time a separation agent, to avoid sticking of hot steel parts.	Spraying or brushing	5/10/25/250 kg	yes

## Pre-graphiting

### ■ LUBRODAL TROMMELGRAPHIT PRE-GRAPHITING AGENT

Description	Application method	Packages	Frost-sensitive
Water-based graphite paste for minimization of oxide and scale formation during inductive heating and improvement of the transformation results during the following forging process. Preferred for smaller billets (part weight up to 500g) during hot forming of brass.	Mechanically, with suitable rotating drums	5/6x1/10 kg	yes

## Glass coating for hot forming of titanium

### ■ LUBRODAL GS B1 - PLUS GLASS DISPERSION FOR THE HOT FORMING OF TITANIUM

Description	Application method	Packages	Frost-sensitive
Water-based glass coating with good lubricating properties and protective functions, specifically for the hot forming of titanium and special alloys and the extrusion of nickel alloys. After application to the metallic surface and heating up to the forming temperature, LUBRODAL GS B1-PLUS produces a closed, heat-resistant glass film with good adhesion. LUBRODAL GS B1 - PLUS is ready for use, but can also be diluted with water up to a mixing ratio of 1:1 according to application requirements.	spraying, dipping or brushing	5/10/25 kg	yes

## Facing concentrate for steel billets

### ■ LUBRODAL RV 20 FACING CONCENTRATE FOR STEEL BILLETS

Description	Application method	Packages	Frost-sensitive
Water-miscible release-facing for the front face coating of large steel billets. LUBRODAL RV 20 contains special inorganic mineral solids to prevent the sticking of the billets during heating and transport. LUBRODAL RV 20 is supplied as a concentrate and diluted with water in the ratio of 1:1. Application to the cold front faces of the billets is possible by brushing, swabbing or rolling.	Brushing, swabbing or rolling	10/25 kg	yes

## Cold forming of steel

### ■ KOLLIGEEN CF-PASTE A HIGH PERFORMANCE LUBRICANT FOR COLD FORMING OF STEEL

Description	Application method	Packages	Frost-sensitive
Grey-black, homogenous paste based on oil and grease. Due to its extremely smooth, paste-like consistency KOLLIGEEN-CF-PASTE A can be applied by swabbing or a suitable spray system. KOLLIGEEN-CF-PASTE A is a high-quality concentrate for the cold forming of steel and can be used to lubricate both the workpiece (cold forming) and the tool (cold and hot forming).	Swabbing or suitable spray system	1/5/10 kg	no

### ■ KOLLIGEEN W 115 MOLYBDENUM DISULPHIDE / WATER DISPERSION FOR COLD FORMING OF STEEL

Description	Application method	Packages	Frost-sensitive
Stable concentrate of high-value molybdenum disulphide in water, diluted according to application with water in the ratio of 1:1 up to 1:5. KOLLIGEEN W 115 is used for the forging and calibration of steel at temperatures up to 250 °C and applied by spraying or dipping to the pre-heated, grease-free workpieces.	Spraying equipment or dipping	5/25/150 kg	yes

### ■ KOLLIGEEN W 808 DISPERSION OF SOLID LUBRICANTS FOR COLD FORMING OF STEEL

Description	Application method	Packages	Frost-sensitive
Stable dispersion of white, synthetic solid lubricants in water. Forms a well adhesive lubrication film on the workpieces after spraying or dipping application. Dilution ratios of 1:1 to 1:5 are recommended. Prior to the coating, the workpieces have to be grease-free and should be pre-heated.	Spraying or dipping	25/150 kg	yes

## Hot forming of steel

### ■ HYKOGREEN 820 WHITE PASTE FOR HOT FORMING

Description	Application method	Packages	Frost-sensitive
Soft paste, based on mineral oil with white solid lubricants. They are effective in a wide temperature range and thus assist the forming process at all stages. HYKOGREEN 820 contains no graphite and can be applied by brushing or swabbing to the dies and tools. If a thinner mixture is required, it can be mixed with HYKOGREEN 821. HYKOGREEN 820 is not soluble in water.	Brushing or swabbing	6x1/5/25/70 kg	no

### ■ HYKOGREEN 821 WHITE LUBRICATION LIQUID FOR HOT FORMING

Description	Application method	Packages	Frost-sensitive
Liquid, based on mineral oil with white solid lubricants. HYKOGREEN 821 is used in die forging, hot extrusion, hot rolling and hot bending. HYKOGREEN 821 can be applied by brushing or swabbing to the dies and tools. HYKOGREEN 821 cannot be mixed with water and is applied undiluted.	Spraying, brushing or swabbing	1/5/25 kg	no

## Additive for die lubricants

### ■ LUBRODAL F 270 EP ADDITIVE FOR DIE LUBRICANTS

Description	Application method	Packages	Frost-sensitive
Additive of synthetic agents to improve lubrication properties of die lubricants. LUBRODAL F 270 EP is used, when conventional forming lubricants reach their limits. It is also used as an additive for flood lubrication on horizontal high-speed-forging machines to improve the lubricating properties.	Additivition	10/25/200/ 1000 kg	yes

## Assembly paste for thermally loaded components

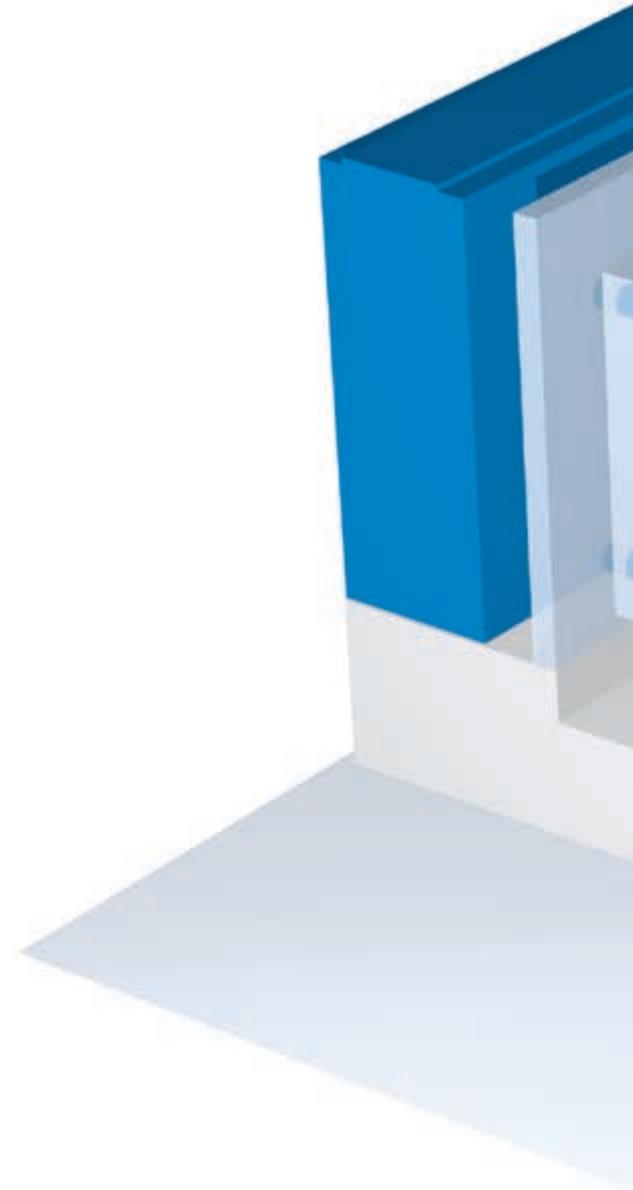
### ■ HYKOGEEEN HSP ASSEMBLY PASTE FOR THERMALLY LOADED COMPONENTS

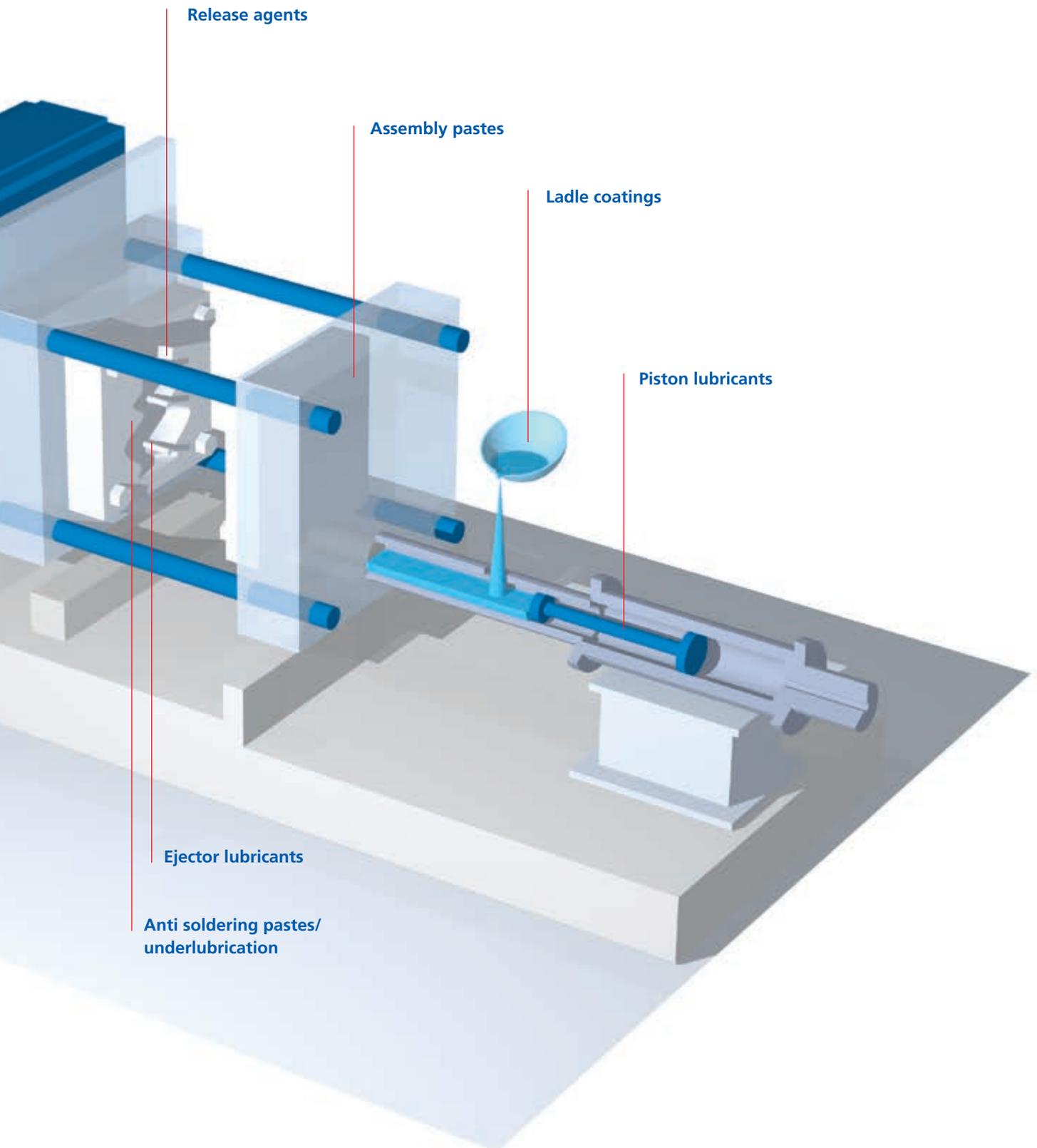
Description	Application method	Packages	Frost-sensitive
Smooth, copper-coloured paste based on mineral oil. Excellent separating properties and reduced dropping behavior due to a good balance of thickener system and inorganic dry lubricants. Special paste for assembling and maintenance of thermally loaded connecting links (screws, hinges, etc.) and tools in machinery of forging and casting industry.	Manual application	6x1/5/10 kg	no



## Fields of application for hot metal forming lubricants in die casting

For pressure die casting and other casting operations, a comprehensive, high quality product range is available. The products of the LUBRODAL range cover the whole process from ladle coatings over plunger lubricants to release agents and also auxiliary products like assembly pastes, ejector lubricants or anti-soldering pastes.





## **DIE CASTING – RELEASE AGENTS**

The release agents of the LUBRODAL series ensure excellent releasing, high tool life and best part quality. Wetting, lubrication and cooling have been taken to account during development as well as economics. Due to

high dilution ratios, our release agents enable an efficient way of working and prevent residues on the part or in the tools.

## Overview

Field of application	Product	Page
<b>Mould release agent for aluminium die casting</b>	LUBRODAL AL 50	42
	LUBRODAL AL 80	42
	LUBRODAL AL 100	42
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<b>Mould release agent for aluminium and magnesium die casting</b>	LUBRODAL AL 100/21	44
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<b>Minimum quantity lubrication agent for aluminium die casting</b>	HYKOGREEN RLP 100	44
<b>Mould release agent for zinc die casting</b>	HYKOGREEN ZN 10	45
	HYKOGREEN ZN 15	45

## Mould release agent for aluminium die casting

### ■ LUBRODAL AL 50 MOULD RELEASE AGENT FOR ALUMINIUM DIE CASTING

Description	Application method	Mixing ratio	Packages	Frost-sensitive
Milky emulsion, applied in spray form as mould lubricant for the die casting of aluminium and other non-ferrous metals. LUBRODAL AL 50 contains active agents with very good release and lubrication properties. The good spreading properties enable the distribution of the lubricant in the form of a thin layer over the die casting mould.	Spraying	1:40 to 1:80	25/200/1000 kg	yes

### ■ LUBRODAL AL 80 MOULD RELEASE AGENT FOR ALUMINIUM AND ZINC DIE CASTING

Description	Application method	Mixing ratio	Packages	Frost-sensitive
Water based concentrate for die casting of aluminium, zinc and other non-ferrous metals. LUBRODAL AL 80 contains active agents with high thermal stability and forms no build-ups or residues in and next to the moulds. Recommended values for aluminium die casting are dilution ratios 1:70 up to 1:110.	Spraying	1:70 to 1:110	25/200/1000 kg	yes

### ■ LUBRODAL AL 100 MOULD RELEASE AGENT FOR ALUMINIUM AND ZINC DIE CASTING

Description	Application method	Mixing ratio	Packages	Frost-sensitive
Emulsion concentrate, to be diluted with water. Generates a closed and well adhesive lubrication film after spraying. Forms no build-ups and has outstanding wetting properties. This ensures clean and economical working. The dilution ratio is application dependent.	Spraying	1:80 to 1:120	25/200/1000 kg	yes

### ■ LUBRODAL BKR 100 DIE CASTING RELEASE AGENT

Description	Application method	Mixing ratio	Packages	Frost-sensitive
Emulsion concentrate, which provides excellent wetting and cooling of the moulds. LUBRODAL BKR 100 is of high thermal stability, is pyrolyzed residue-free and forms no build-ups. Economic use due to high dilution ratios with water.	Spraying	1:80 to 1:120	25/200/1000 kg	yes

## Mould release agent for aluminium die casting

### ■ LUBRODAL C 35/30 MOULD RELEASE AGENT FOR ALUMINIUM AND ZINC DIE CASTING

Description	Application method	Mixing ratio	Packages	Frost-sensitive
The concentrate is an emulsion of modified oils in water. A balanced additive combination is guaranteeing excellent lubricating and releasing properties. LUBRODAL C 35/30 was specially developed for economic lubrication and releasing in the die casting of aluminium and zinc alloys. Values for the mixing ratio are for aluminium: 1:30 up to 1:60 and for zinc: 1:50 up to 1:80.	Spraying	1:30 to 1:80	25/200/950 kg	yes

### ■ LUBRODAL C 35/40 MOULD RELEASE AGENT FOR ALUMINIUM DIE CASTING

Description	Application method	Mixing ratio	Packages	Frost-sensitive
Emulsion of modified oils in water with a harmonized combination of additives for optimum lubrication and releasing. LUBRODAL C 35/40 was designed especially for economical lubrication and releasing during aluminium pressure die casting and has excellent wetting properties. Values for the mixing ratio with water are 1:50 up to 1:120.	Spraying	1:50 to 1:120	25/200/1000 kg	yes

### ■ LUBRODAL C 100/74 MOULD RELEASE AGENT FOR PRESSURE DIE CASTING

Description	Application method	Mixing ratio	Packages	Frost-sensitive
Stable emulsion concentrate, used as a sprayable mould release agent for pressure casting of aluminium, magnesium and other non-ferrous metals. Active agents with high release effects spread fast over tool surfaces due to excellent wetting properties. LUBRODAL C 100/74 effectively reduces residues and sticking on the moulds.	Spraying	1:70 to 1:110	25/200 kg	yes

## Mould release agent for aluminium and magnesium die casting

### ■ LUBRODAL AL 100/21 MOULD RELEASE AGENT FOR ALUMINIUM AND MAGNESIUM DIE CASTING

Description	Application method	Mixing ratio	Packages	Frost-sensitive
Stable emulsion concentrate applied as a mould lubricant in spray form for the die casting of aluminium, magnesium and other non-ferrous metals. The use of LUBRODAL AL 100/21 greatly reduces pore formation. Recommended values for aluminium die casting are dilution ratios are 1:80 up to 1:140.	Spraying	1:80 to 1:140	25/200/1000 kg	yes

### ■ LUBRODAL C 100 SF MOULD RELEASE AGENT FOR ALUMINIUM AND MAGNESIUM DIE CASTING

Description	Application method	Mixing ratio	Packages	Frost-sensitive
Siloxane-free emulsion concentrate for the die casting of aluminium, magnesium and other non-ferrous metals. LUBRODAL C 100 SF does not form any residues or build-ups in and near the moulds. The dilution ratio depends upon the die casting and spraying characteristics and particularly depends upon the mould temperature and degree of difficulty of the cast part. Values for the dilution ratio are for aluminium: 1:80 up to 1:120 and for magnesium: 1:60 up to 1:80.	Spraying	1:60 to 1:120	25/200/1000 kg	yes

## Minimum quantity lubrication agent for aluminium die casting

### ■ HYKOGREEN RLP 100 MINIMUM QUANTITY LUBRICATION AGENT FOR ALUMINIUM DIE CASTING

Description	Application method	Mixing ratio	Packages	Frost-sensitive
HYKOGREEN RLP 100 is a mixture of high-grade oils, used for the minimum quantity lubrication during aluminium die casting. Due to the abdication of a carrier medium, wetting of even very hot tools is possible. The use of modern, automatic spraying equipment ensures economic working.	Spraying (minimum quantity lubrication)	undiluted	10/180 kg	no

## Mould release agent for zinc die casting

### ■ HYKOGREEN ZN 10 MOULD RELEASE AGENT FOR ZINC DIE CASTING

Description	Application method	Mixing ratio	Packages	Frost-sensitive
Ready for use, non-water-miscible mould release agent for zinc die casting. HYKOGREEN ZN 10 is primarily applied with an automatic spray system. Due to its excellent releasing properties, sparingly application is sufficient.	Spraying	undiluted	20/150/750 kg	no

### ■ HYKOGREEN ZN 15 MOULD RELEASE AGENT FOR ZINC DIE CASTING

Description	Application method	Mixing ratio	Packages	Frost-sensitive
Non-water-miscible mould release agent specifically for zinc die casting, primarily applied with an automatic spray system. HYKOGREEN ZN 15 is ready for use and has outstanding releasing properties.	Spraying	undiluted	20/160/800 kg	no



**DIE CASTING – AUXILIARY CASTING MATERIALS**

Besides die casting release agents there are a lot more products for metal casting in general. From facings for the different tools (moulds, ladles, etc.) over piston lubrication

of pressure die casting machines to ejector lubrication. There are suitable products for these applications in our delivery range, too.

## Overview

Field of application	Product	Page	
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Mould facings	HYKOGREEN KS 706	49	
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Silver-coloured high temperature parting lubricant	HYKOGREEN 438	52	
Anti soldering paste	HYKOGREEN CP 43	52	
Ejector pin lubricant	HYKOGREEN EP 10	52	

## Ladle coating

### ■ HYKOGREEN LS 50 BURN-IN PASTE FOR CASTING LADLES AND RELATED TOOLS

Description	Application method	Packages	Frost-sensitive
Soft, homogeneous paste with a high proportion of white solid lubricants. HYKOGREEN LS 50 is a "ready for use" burn-in paste for casting ladles and related tools in non-ferrous metal casting. HYKOGREEN LS 50 extends the life of the casting tools and ensures higher process safety.	Brushing or swabbing	6x1/5/25 kg	no

### ■ HYKOGREEN LS 507 FACING FOR CASTING LADLES, TOOLS, FUNNELS AND SPOUTS

Description	Application method	Packages	Frost-sensitive
Grey, easily applied high temperature lubricating paste. HYKOGREEN LS 507 is well suited as a facing for casting ladles, spouts, funnels and related tools in aluminium die casting, where high temperatures exclude oils and greases and slow movements occur while good separating properties are required.	Brushing or swabbing	6x1/5/25 kg	no

## Plunger lubrication

### ■ HYKOGREEN P 550 GRAPHITE-FREE PLUNGER OIL

Description	Application method	Packages	Frost-sensitive
Liquid, graphite-free plunger lubricant in non-ferrous metal die casting. HYKOGREEN P 550 adheres well to hot metallic surfaces and forms a thin, homogeneous lubricating film which is high-temperature and pressure resistant. HYKOGREEN P 550 is a ready-for-use lubricant and is primarily applied by automatic drip lubrication or spraying equipment.	Automatic drip lubrication or spraying	10/25/180 kg	no

### ■ HYKOGREEN P 770 GRAPHITE-CONTAINING PLUNGER OIL

Description	Application method	Packages	Frost-sensitive
Graphite-containing plunger lubricant for non-ferrous metal die casting. HYKOGREEN P 770 forms a homogeneous lubricating film on hot surfaces which is high-temperature and pressure resistant. HYKOGREEN P 770 is primarily applied by automatic drip lubrication or spraying equipment and can be used undiluted.	Automatic drip lubrication or spraying	10/25/180 kg	no

## Plunger lubrication

### ■ PISTON POWDER G 2 GRANULATE FOR PLUNGER LUBRICATION

Description	Application method	Packages	Frost-sensitive
Grey-black, free-flowing granulate for plunger lubrication in cold chamber machines for the die casting of non-ferrous metals. PISTON POWDER G2 is dosed in controlled amounts into the filling chamber with each shot.	Suitable dosing system	0,6/12/120 kg	no

### ■ PISTON POWDER W 1 GRANULATE FOR PLUNGER LUBRICATION

Description	Application method	Packages	Frost-sensitive
White, free-flowing powder, used for plunger lubrication in cold chamber machines, primarily for the die casting of aluminium and magnesium. PISTON POWDER W1 is applied by blowing in controlled amounts into the filling chamber with each shot, using a suitable dosing device.	Suitable dosing system	0,6/12/120 kg	no

## Mould facings

### ■ HYKOGREEN KS 706 MOULD FACING FOR CONTINUOUS ALUMINIUM CASTING

Description	Application method	Packages	Frost-sensitive
Bio-degradable, solid-free mould facing with excellent adhesion, used as parting lubricant in continuous aluminium casting. As a rule, HYKOGREEN KS 706 is applied in the casting die by automatic lubricating and dosing systems during the casting process.	Automatic lubricating and dosing system	55/190 kg	no

### ■ LUBRODAL C 25 GRAPHITE-CONTAINING MOULD FACING

Description	Application method	Packages	Frost-sensitive
Water-miscible graphite dispersion with good release and lubricating properties for chill casting of non-ferrous metals. LUBRODAL C 25 is supplied as a concentrate and must be diluted with water prior to use. Standard value for the dilution of LUBRODAL C 25 with water is a ratio up to 1:10. The optimal dilution ratio must be determined in practice.	Spraying	25/210 kg	yes

### ■ LUBRODAL C 52 C WATER-MISCIBLE WHITE MOULD FACING

Description	Application method	Packages	Frost-sensitive
Solid lubricant dispersion in water, forming a bright separating layer with good adhesion on the surfaces of the ingot moulds. The layer is permanent, heat-resistant and enables good metal flow without formation of pores or forming scales. LUBRODAL C 52 C is supplied as a concentrate and must be diluted with water prior to use. Standard values for the dilution of LUBRODAL C 52 C with water are mixing ratios of 1:2 up to 1:10.	Spraying	10/30 kg	yes

## Mould facings

### ■ LUBRODAL C 60 OP BASE FACING FOR CASTING OF NON-FERROUS METALS

Description	Application method	Packages	Frost-sensitive
White dispersion of anorganic, mineral solids in water with a balanced additive/binder system. LUBRODAL C 60 OP is especially suitable for base coatings and pre-treatment of thermally high loaded metal casting tools, such as ladles, gutters and plungers. It can also be used as mould facing during casting of non-ferrous metals.	Spraying, brushing or dipping	6x1/5/10/30 kg	yes

### ■ LUBRODAL KS 55 WATER-MISCIBLE, FINELY DISPERSED MOULD FACING

Description	Application method	Packages	Frost-sensitive
LUBRODAL KS 55 is a beige-coloured release agent dispersion in water for gravity casting of Aluminium. It is primarily used as mould facing in the gravity casting of aluminium, especially when a smooth coating is required. LUBRODAL KS 55 is a concentrate and diluted with tap water according to the metal alloy, the mould and casting temperatures and the forming of the cast part, normally the dilution ratio is 1:1 up to 1:10.	Spraying	30 kg	yes

### ■ LUBRODAL SQC/1 SQUEEZE CASTING OF ALUMINIUM

Description	Application method	Packages	Frost-sensitive
Water miscible, white-grey mould facing for squeeze casting of aluminium. Excellent releasing properties. Depending on the difficulty of the parts, dilution ratios of 1:5 to 1:15 are recommended.	Spraying	5/10/30 kg	yes

### ■ WAGRAS AI CASTING BLACKENER, FACING

Description	Application method	Packages	Frost-sensitive
Casting release agent in form of a powder. Mix with water (ph-value > 7.5) and allow moisture expansion whilst stirring (min. 1 h). The graphite facing is suitable for thicknesses up to 30 mm. WAGRAS AI is applied by spraying, dipping or brushing and separates the part from the mould.	Spraying, dipping or brushing	40 kg	no

### ■ WAGRAS AI SPEZ. CASTING BLACKENER, FACING

Description	Application method	Packages	Frost-sensitive
Casting release agent in form of a fine milled powder, made of graphite, coke and plastic clay. Mix with water (ph-value > 7.5) and allow moisture expansion whilst stirring (min. 1 h). The graphite facing is suitable for thicknesses exceeding 30 mm. WAGRAS AI-SPEZ. is applied by spraying, dipping or brushing and separates the part from the mould.	Spraying, dipping or brushing	40 kg	no

## Mould facings

### ■ WAGRAS EF WEISS MOULD FACING (THERMALLY INSULATING)

Description	Application method	Packages	Frost-sensitive
Dispersion of chalk in water for light metal casting (48 % solids) with thermally insulating effect. Manual and automatic application is possible. Dilution ratios should be determined in trial. Homogenisation is recommended; rinse spraying devices and pipes after use.	Spraying, dipping or brushing	1/10/200 kg	yes

### ■ WAGRAS KS 20 MOULD FACING (HEAT CONDUCTING)

Description	Application method	Packages	Frost-sensitive
Stable dispersion of graphite in water for the casting of metal (25 % solids) based on finest ground graphites. Application can be manual or automatic. Dilution with tap water varies from 1:1 up to 1:7, depending on the difficulty.	Spraying, dipping or brushing	10/25/200 kg	yes

### ■ WAGRAS ZZ 20 MOULD FACING (HEAT CONDUCTING)

Description	Application method	Packages	Frost-sensitive
Stable dispersion of graphite in water for the casting of metal (22 % solids) based on finest graphites. Application can be manual or automatic. Dilution with tap water varies from 1:1 up to 1:7, depending on the difficulty.	Spraying, dipping or brushing	1/10/25/200 kg	yes

## Silver-coloured high temperature parting lubricant

### ■ HYKOGREEN 438 SILVER-COLOURED HIGH TEMPERATURE PARTING LUBRICANT

Description	Application method	Packages	Frost-sensitive
A balance of solid and paste-like ingredients produces a thin and firmly adhesive film. A high thermal resistance capability is achieved by means of extremely finely distributed graphite. HYKOGREEN 438 serves for the lubrication of particularly critical mould regions during the die casting of aluminium. Metallization and other unwanted effects are thus effectively suppressed.	Brushing or swabbing	5/6x1/25 kg	no

## Anti soldering paste

### ■ HYKOGREEN CP 43 BLACK PASTY HIGH-TEMPERATURE LUBRICANT (ANTI SOLDERING PASTE)

Description	Application method	Packages	Frost-sensitive
Anti sticking paste for aluminium die casting for particularly critical regions in the moulds, used to exclude metallization and other unwanted effects. A matched mixture of different ingredients guarantees good spreading capability on hot metallic surfaces. The product forms an extremely thin, homogeneous, oily film with excellent adherence.	Brushing or swabbing	5/6x1/25 kg	no

## Ejector pin lubricant

### ■ HYKOGREEN EP 10 EJECTOR PIN LUBRICANT

Description	Application method	Packages	Frost-sensitive
Auxiliary casting material with extremely good lubricating and sliding friction properties, containing high-quality basic components, chemically pure colloidal graphite, a carefully matched heavy metal and chlorine-free additive package, and adhesive additives. HYKOGREEN EP 10 is tried and tested for the lubrication of the ejector pins and guide rails on die casting machines and can also be used as an anti-sticking paste on hot cores and mould parts.	Brushing or swabbing	6x1/15 kg	no





# AEROSOLS

At FUCHS LUBRITECH a wide range of Aerosols is available, which has found its application in many industrial branches. Thanks to their precise and economical application even in poorly accessible places, lubricants out of the spray can from FUCHS LUBRITECH are indispensable for numerous applications in the field of assembly, service, care and maintenance. The targeted spraying prevents contamination of both the environment and the lubricant itself.

The subsequently described products have proved themselves in casting and forging industry and therefor complete our product range. They are suitable for starting phases of forging, during maintenance or assembly work on forging or casting machines, special forming operations and many other applications.

## Overview

Field of application	Product	Page
Oil and grease-free dry film spray	CON TRAER G 300 SPRAY	56
Grease paste spray with white solid lubricants	GLEITMO WSP 5040 SPRAY	56
Molybdenum disulphide powder spray	POWDER MoS <sub>2</sub> S SPRAY	56
Special rust loosener with solid lubricant package	FERROFORM SUPER 7 SPRAY	56
Rapid metal cleaner	METALBLANC SPRAY	57
Anticorrosion wax with good lubricating effect	DECORDYN 350 SPRAY	57

## Oil and grease-free dry film spray

### ■ CON TRAER G 300 SPRAY OIL AND GREASE-FREE DRY FILM SPRAY

CON TRAER G 300 Spray is a mineral oil free graphite spray. The easily evaporating solvents ensure a fast drying. Additives and components to improve adhesion guarantee a durable graphite film. CON TRAER G 300 SPRAY is used on cold tools during start-up of the machine or as a lubricant for special applications (e.g. forging parts for the medical sector).

## Grease paste spray with white solid lubricants

### ■ GLEITMO WSP 5040 SPRAY GREASE PASTE SPRAY WITH WHITE SOLID LUBRICANTS

gleitmo WSP 5040 SPRAY is a grease paste spray with highly effective white solid lubricants, used on cold tools during start-up of the machine. In addition, the product has proven itself as an assembly paste and can be used as a screw paste - here also in the high-temperature range up to 1200 °C.

## Molybdenum disulphide powder spray

### ■ POWDER MoS<sub>2</sub> S SPRAY MOLYBDENUM DISULPHIDE POWDER SPRAY

POWDER MoS<sub>2</sub> S SPRAY is molybdenum disulphide powder of the highest purity, obtained from natural molybdenite. The manufacturing process guarantees that the natural structure is maintained. POWDER MoS<sub>2</sub> S SPRAY can be sprayed uniformly onto the surface of the previously cleaned parts during cold extrusion.

## Special rust loosener with solid lubricant package

### ■ FERROFORM SUPER 7 SPRAY SPECIAL RUST LOOSENER WITH SOLID LUBRICANT PACKAGE

FERROFORM SUPER 7 SPRAY is a new type of mixture made from particularly powerful, resin and acid free penetrating and fine oils in combination with a highly effective combination of solid lubricants. FERROFORM SUPER 7 SPRAY is a multi-function spray with excellent penetrating capability, high spreading effect and corrosion protection properties. FERROFORM SUPER 7 SPRAY also has excellent lubricating properties.

## Rapid metal cleaner

### ■ METABLANC SPRAY RAPID METAL CLEANER

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METABLANC SPRAY is a fast-acting cleaner for metallic surfaces, with high solvency. METABLANC SPRAY has proven itself especially for obtaining oil and grease free surfaces subsequently treated with lubricating pastes, greases, solid film lubricants or screw locking agents where absolute cleanliness of the surface is required.

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## Anticorrosion wax with good lubricating effect

### ■ DECORDYN 350 SPRAY ANTICORROSION WAX WITH GOOD LUBRICATING EFFECT

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DECORDYN 350 SPRAY is a colourless liquid anticorrosion agent which forms an adhesive protective film after the evaporation of the solvent. This protective film has also good lubricating properties and does not have to be removed before using the tools. DECORDYN 350 SPRAY is used for the storage of casting moulds and forming tools which are temporarily stored and must still be ready for use all the time.

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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 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.



Contact:



**Global Headquarters**  
FUCHS LUBRITECH GmbH  
Werner-Heisenberg-Strasse 1  
67661 Kaiserslautern/Germany  
Tel.: +49 (0) 6301 3206-0  
[info@fuchs-lubritech.de](mailto:info@fuchs-lubritech.de)  
[www.fuchs.com/lubritech](http://www.fuchs.com/lubritech)

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.