



**YOUR EFFICIENCY
IS OUR PASSION**

Product Range **Metal Forming Lubricants**



» We are passionate about what we do. Together we solve your challenges with our experience, dedication and focused teamwork. «

About FUCHS LUBRITECH

High-performance lubricants for the most demanding applications.

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

Being part of the group of companies of **FUCHS PETROLUB SE**, the world's largest independent supplier of lubricants, we act flexibly and independently – with our own self-contained product range and world-leading strong brands.

Headquartered in Kaiserslautern and with locations in the United Kingdom, France, Australia, the USA, Brazil, Japan, China and India as well as distributors and partners in more than 60 countries we guarantee the worldwide availability of our products. You can always rely on a uniform quality standard all over the world.

Our **range** of products includes adhesive lubricants, lubricating fluids and greases, pastes, solid film lubricants, concrete release agents, aerosols and metal forming lubricants – overall more than 1,000 specialty products that are precisely tailored to the respective application. Our high-performance lubricants significantly contribute to an economical and as well eco-friendly operation of your equipment.

Our **product brands**, like CEPLATTYN®, CASSIDA®, LUBRODAL®, gleitmo® or STABYL®, represent top quality and reliability in the most diverse **branches of industry**, such as cement and mining, forging, food and beverage, wind power, steel, construction, railways, glass and surface technology.

We consider **service** as a crucial and fundamental component of our products. Our local experts contribute through their broad process-spanning expertise and on-site technical consultation to the performance, efficiency and process reliability of your entire application.

We are the specialists for high-performance lubricants for applications in tribological marginal areas.

Call us!



Our employees on the front page (from left):

Sebastian Ansell, Technical Service & Business Development Manager, South East Asia
Mark Pobjoy, Technical Service & Business Development Manager, India & Asia Pacific

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LUBRODAL® Metal Forming Lubricants

Metal forming lubricants bearing the LUBRODAL® trade mark stand for the highest quality and excellent results in applications. The core product range, described in the following pages, fulfils the requirements of standard hot forming processes, from simple to complex. For special forming processes, still more products are available upon request. Whether conventional forging, non-ferrous metal forming, high-speed forging, precision forming or die-casting, FUCHS LUBRITECH has the right lubricant for you.

LUBRODAL® products are water-miscible die lubricants for massive forming of metals in the hot and warm temperature range. With or without graphite, black or white, LUBRODAL®'s excellent properties fulfil the highest demands.

HYKOGREEN® is the name associated with special applications in metal forming. These are efficient release agents and lubricants, which are not mixable in water.

Another broad field of application is the foundry industry, in which LUBRODAL® and HYKOGREEN® products have been successfully used for many years as release agents and auxiliary materials.

Particularly for die-casting, a comprehensive, high-quality product range is available. But chill casting and gravity casting can also be carried out using FUCHS LUBRITECH mould-facing lubricants.



Lubricants for hot 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 fulfil 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.

LUBRODAL® F 20 CH

Hot forging of steel

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.

Product code	Application	Application method
1575	Hot forming of steel	Spraying
Mixing ratio	Packages	Frost-sensitive
1:4 to 1:30	25/220/1200 kg	yes

LUBRODAL® F 21 A SET

Hot forging of steel and non-ferrous metals

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.

Product code	Application	Application method
3313	Complex forming	Spraying
Mixing ratio	Packages	Frost-sensitive
1:1 to 1:25	25/200/1000 kg	yes

LUBRODAL® F 24 W

Warm forming of steel in automatic presses

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.

Product code	Application	Application method
1560	Warm forming of steel	Spraying
Mixing ratio	Packages	Frost-sensitive
1:1 to 1:3	25/200/1000 kg	yes

LUBRODAL® F 28 B

Hot forming of steel and non-ferrous metals

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.

Product code	Application	Application method
1594	Hot forming of steel and non-ferrous metals	Spraying
Mixing ratio	Packages	Frost-sensitive
1:2 to 1:10	25/220 kg	yes

LUBRODAL® F 29/2 – TB

Hot forming of steel and non-ferrous metals

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.

Product code	Application	Application method
1788	Hot forming of steel and non-ferrous metals	Spraying
Mixing ratio	Packages	Frost-sensitive
1:3 to 1:20	25/220 kg	yes

LUBRODAL® F 31 EB

Hot forming of steel

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.

Product code	Application	Application method
1746	Hot forming of steel	Spraying
Mixing ratio	Packages	Frost-sensitive
1:1 to 1:20	25/220/1000 kg	yes

LUBRODAL® F 33 AL

Hot forging of aluminium

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.

Product code	Application	Application method
2840	Non-ferrous metal forming (aluminium)	Spraying
Mixing ratio	Packages	Frost-sensitive
1:1 to 1:50	25/210 kg	yes

LUBRODAL® F 41 G

Warm forming of steel

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.

Product code	Application	Application method
3352	Complex forming	Spraying
Mixing ratio	Packages	Frost-sensitive
1:1 to 1:25	25/200/1000 kg	yes

LUBRODAL® F 70 M – 40 LV

Hot rolling, pipe production

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.

Product code	Application	Application method
2585	Hot forming, rolling processes, pipe production	Spraying
Mixing ratio	Packages	Frost-sensitive
1:4 to 1:30 / 1:0,5 to 1:7	25/230/1000 kg	yes

LUBRODAL® F 442

Hot forming of steel

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.

Product code	Application	Application method
3342	Hot forming of steel	Spraying
Mixing ratio	Packages	Frost-sensitive
1:4 to 1:30	25/230/1000 kg	yes

LUBRODAL® F 645 AFE

Hot forming of steel

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.

Product code	Application	Application method
3645	Hot forming of steel	Spraying
Mixing ratio	Packages	Frost-sensitive
1:2 to 1:10	25/200/1000 kg	yes

LUBRODAL® F 1205 HD

Hot forming of steel

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.

Product code	Application	Application method
3389	Hot forming of steel	Spraying
Mixing ratio	Packages	Frost-sensitive
1:4 to 1:15	25/200/1000 kg	yes

LUBRODAL® F 3629

Hot forging of special purpose steel and non-ferrous metals

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.

Product code	Application	Application method
5544	Hot forging of special purpose steel and non-ferrous metals	Spraying
Mixing ratio	Packages	Frost-sensitive
1:1 to 1:10	25/200/1000 kg	yes

LUBRODAL® F AL 3446 C

Hot forging of aluminium

Water based lubrication concentrate, containing graphite (40 % solids). Due to a special binder system and additives, wetting temperatures as high as 430 °C are possible. It is recommended to start with a dilution of 2 parts of LUBRODAL F 3446 C and 1 part of water. Lubricant for complex hot forming processes of aluminium and other non-ferrous metals.

Product code	Application	Application method
5540	Hot forming of aluminium	Spraying
Mixing ratio	Packages	Frost-sensitive
2:1 to 1:10	25/200/1200 kg	yes

LUBRODAL® FC 331

Graphite pre-coating for semi-hot forging (700-800 °C)

Colloidal suspension of high grade graphite, which is diluted with water. Homogeneous, firmly adhering layer protects against oxidation and supports the subsequent forming processes on the press. Application possible by spraying, flooding or dipping.

Product code	Application	Application method
3064	Pre-graphiting in warm forming	Spraying, flooding or dipping
Mixing ratio	Packages	Frost-sensitive
1:1 to 1:3	25/220/1000 kg	yes

LUBRODAL® FC 441/50

Hot forming of steel and aluminium

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.

Product code	Application	Application method
3234	Hot forming of steel and aluminium	Spraying
Mixing ratio	Packages	Frost-sensitive
1:1 to 1:5	10/25/210 kg	yes

LUBRODAL® HY - N

Hot forming of steel

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 semi-hot forming operations.

Product code	Application	Application method
2355	Hot forming of steel	Spraying
Mixing ratio	Packages	Frost-sensitive
1:2 to 1:10	10/25/200 kg	yes

LUBRODAL® W 27 F

Hot forming of steel and non-ferrous metals

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.

Product code	Application	Application method
1582	Hot forming of steel and non-ferrous metals	Spraying
Mixing ratio	Packages	Frost-sensitive
1:1 to 1:25	10/25/210 kg	yes

LUBRODAL® W 27 F/260

Hot forming of steel and non-ferrous metals

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.

Product code	Application	Application method
1758	Hot forming of steel and non-ferrous metals	Spraying
Mixing ratio	Packages	Frost-sensitive
1:1 to 1:25	10/25/210 kg	yes

WAGRAS RH 20

Hot forming of steel

Stable, aqueous concentrate of carefully prepared, selected graphites (22 % solids) with good wetting properties for various hot and semi-hot 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.

Product code	Application	Application method
803	Complex forming	Spraying
Mixing ratio	Packages	Frost-sensitive
1:3 to 1:20	10/25/200/1000 kg	yes



Lubricants for hot 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 fulfil highest

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

GRASINOL 64-80

Hot forming of brass

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 semi-hot forging of brass valves.

Product code	Application	
882	Hot pressing of brass	
Application method	Packages	Frost-sensitive
Spraying	9/180/900 kg	no

HYKOGREEN® 87/3

Hot forming of brass

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.

Product code	Application	
1531	Hot pressing of brass	
Application method	Packages	Frost-sensitive
Spraying	10/25/180/850 kg	no

HYKOGREEN® 87/40

Hot forming of steel (valve forging)

Stable, 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.

Product code	Application	
3080	Extrusion processes for the hot forming of steel	
Application method	Packages	Frost-sensitive
Drip lubrication	25/50/200/1000 kg	no

HYKOGREEN® 87/45 T-30

Hot forming of steel and special alloys (valve forging)

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.

Product code	Application	
3382	Extrusion processes for the hot forming of steel and special alloys	
Application method	Packages	Frost-sensitive
Drip lubrication	25/50/200 kg	no

HYKOGREEN® 217

Hot forming of steel and related alloys

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.).

Product code	Application	
1590	Hot forming of steel	
Application method	Packages	Frost-sensitive
Spraying and manual	10/25/190 kg	no

HYKOGREEN® AL 2543 C

Hot forming of non-ferrous metals

Graphite-containing, lead-free 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. Specially at tooling temperatures between 320 to 430 °C HYKOGREEN AL 2543 C shows exceptional material flow.

Product code	Application	
1583	Hot forming of non-ferrous metals	
Application method	Packages	Frost-sensitive
Spraying, dipping or manual	25/200/1000 kg	no

HYKOGREEN® G 30

Hot forming of steel and non-ferrous metals

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 aluminum and brass.

Product code	Application	
2984	Hot forming of steel and non-ferrous metals	
Application method	Packages	Frost-sensitive
Spraying and manual	25/185 kg	no

HYKOGREEN® G 60

Hot forming of steel and non-ferrous metals

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.

Product code	Application	
1583	Hot forming of steel and non-ferrous metals	
Application method	Packages	Frost-sensitive
Spraying and manual	25/230 kg	no

HYKOGREEN® GF 12

Hot forming of steel and related alloys

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.

Product code	Application	
5530	Hot forming of steel	
Application method	Packages	Frost-sensitive
Brushing and swabbing	5/25/50/190 kg	no

HYKOGREEN® GR 5

Hot forming of steel

Dispersion of colloidal graphite in a mineral oil with excellent separating and lubrication properties. HYKOGREEN GR 5 is particularly used for difficult massive transformations to lubricate moulds and deep engravings during semi-hot forging processes of steel.

Product code	Application	
2343	Hot forming of steel	
Application method	Packages	Frost-sensitive
Brushing and swabbing	20/180 kg	no

HYKOGEEEN® MB 1000

Hot forming of brass

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. HYKOGEEEN MB 1000 adheres well to hot tool surfaces and forms a thin lubricating film which is high-temperature and pressure resistant.

Product code	Application	
3215	Hot forming of brass	
Application method	Packages	Frost-sensitive
Spraying	10/25/180 kg	no

HYKOGEEEN® PASTE 712

Hot forming of steel and related alloys

Pasty die lubricant, containing chemically pure graphite and without heavy metals and halogens. HYKOGEEEN PASTE 712 is an option for difficult forming operations and other forging processes and is applied manually by swabbing or brushing.

Product code	Application	
3712	Hot forming of steel and related alloys	
Application method	Packages	Frost-sensitive
Brushing and swabbing	5/25/50/190 kg	no

HYKOGEEEN® UMD 2/1

Hot forming of steel and related alloys

Mineral oil based lubricant containing graphite with excellent flowing characteristics. HYKOGEEEN UMD 2/1 is normally used for forward and backward extrusion as well as semi-hot forging of ferrous metals. It is mainly applied undiluted by automatic spray lubricating systems.

Product code	Application	
1776	Hot forming of steel	
Application method	Packages	Frost-sensitive
Spraying	10/25/200/1000 kg	no

KOLLIGEEN GRAPHIT-PASTE

Hot forming of steel and related alloy

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.

Product code	Application	
820	Hot forming of steel and related alloys	
Application method	Packages	Frost-sensitive
Brushing and swabbing	6x1/10 kg	no



Lubricants for hot 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.

LUBRODAL® C 48 PM

Flooding lubricant for horizontal automatic forging presses

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.

Product code	Application	Application method
1599	Hot forming of steel; particularly with very hot tools	Spraying or flooding
Mixing ratio	Packages	Frost-sensitive
1:2 to 1:20	25/220/1000 kg	yes

LUBRODAL® C 102

Lubricant for hot forming of metals

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.

Product code	Application	Application method
3087	Forging of steel and non-ferrous metals	Spraying
Mixing ratio	Packages	Frost-sensitive
1:5 to 1:10	10/25/200 kg	yes

LUBRODAL® F 25 AL

Hot forming of non-ferrous metals

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.

Product code	Application	Application method
3387	Hot forming of non-ferrous metals	Spraying
Mixing ratio	Packages	Frost-sensitive
1:3 to 1:10	25/200/1000 kg	yes

LUBRODAL® F 40 S

Water-miscible metal forming lubricant for non-ferrous metals

Water-miscible lubricant for spray application. Special additives provide excellent release and lubricating properties. The optimum dilution rate must be determined in practice.

Product code	Application	Application method
1081	Hot forming of aluminium- and brass-alloys	Spraying
Mixing ratio	Packages	Frost-sensitive
1:5 to 1:10	25/200/1000 kg	yes

LUBRODAL® F 84 HM - PLUS

Die lubricant for the hammer forging of steel

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.

Product code	Application	Application method
3348	Hot forming of steel	Spraying
Mixing ratio	Packages	Frost-sensitive
1:2 to 1:30	25/220/1000 kg	yes

LUBRODAL® F 318 H

Transparent circulation lubricant

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.

Product code	Application	Application method
2398	Circulation lubricant for hot forming of steel	Spraying or flooding
Mixing ratio	Packages	Frost-sensitive
1:2 to 1:20	25/220/1000 kg	yes

LUBRODAL® F 318 N-HV

Transparent circulation lubricant

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.

Product code	Application	Application method
3399	Warm and hot forging of steel	Spraying or flooding
Mixing ratio	Packages	Frost-sensitive
1:1 to 1:40	220/1000 kg	yes

LUBRODAL® F 325 N

Transparent circulation lubricant

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.

Product code	Application	Application method
3401	Warm and hot forging of steel	Spraying or flooding
Mixing ratio	Packages	Frost-sensitive
1:1 to 1:40	220/1000 kg	yes

LUBRODAL® F 400

High performance lubricant for special alloys

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.

Product code	Application	Application method
2494	Hot forming of steel, special alloys and non-ferrous metals	Spraying or flooding
Mixing ratio	Packages	Frost-sensitive
1:3 to 1:25	25/220/1000 kg	yes

LUBRODAL® RM 4000

Transparent circulation lubricant for the hot rolling of steel

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.

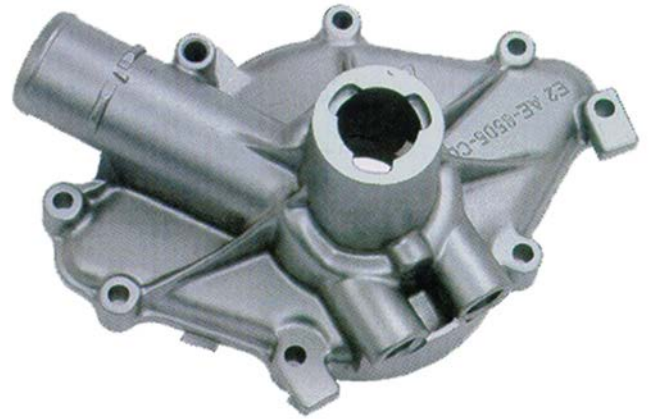
Product code	Application	Application method
3345	Hot rolling of steel	Spraying or flooding
Mixing ratio	Packages	Frost-sensitive
1:3 to 1:30	25/220/1000 kg	yes

LUBRODAL® ST 500 V

Mandrel bar lubricant for push bench mills

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.

Product code	Application	Application method
2838	Hot forming of steel, seamless pipe production	Spraying, flooding or dipping
Mixing ratio	Packages	Frost-sensitive
1:1 to 1:3	30/250/1400 kg	no



Die casting release agents

For die casting, a comprehensive, high quality product range is available. The releasing 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.

LUBRODAL® AL 50

Mould release agent for aluminium die casting

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.

Product code	Application	Application method
5207	Die casting of aluminium and other non-ferrous metals	Spraying
Mixing ratio	Packages	Frost-sensitive
1:40 to 1:80	25/200/1000 kg	yes

LUBRODAL® AL 80

Mould release agent for aluminium and zinc die casting

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.

Product code	Application	Application method
3287	Die casting of aluminium, zinc and other non-ferrous metals	Spraying
Mixing ratio	Packages	Frost-sensitive
1:70 to 1:110	25/200/1000 kg	yes

LUBRODAL® AL 100

Mould release agent for aluminium and zinc die casting

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.

Product code	Application	Application method
5500	Die casting of aluminium, zinc and other non-ferrous metals	Spraying
Mixing ratio	Packages	Frost-sensitive
1:80 to 1:120	25/200/1000 kg	yes

LUBRODAL® AL 100/21

Mould release agent for aluminium and magnesium die casting

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.

Product code	Application	Application method
3188	Die casting of aluminium, magnesium and other non-ferrous metals	Spraying
Mixing ratio	Packages	Frost-sensitive
1:80 to 1:140	25/200/1000 kg	yes

LUBRODAL® BKR 100

Die casting release agent

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.

Product code	Application	Application method
5502	Die casting of aluminium, zinc and other non-ferrous metals	Spraying
Mixing ratio	Packages	Frost-sensitive
1:80 to 1:120	25/200/1000 kg	yes

LUBRODAL® C 35/30

Mould release agent for aluminium and zinc die casting

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.

Product code	Application	Application method
1600	Die casting of aluminium and zinc	Spraying
Mixing ratio	Packages	Frost-sensitive
1:30 to 1:80	25/200/950 kg	yes

LUBRODAL® C 35/40

Mould release agent for aluminium die casting

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.

Product code	Application	Application method
1627	Die casting of aluminium	Spraying
Mixing ratio	Packages	Frost-sensitive
1:50 to 1:120	25/200/1000 kg	yes

LUBRODAL® C 100 SF

Mould release agent for aluminium and magnesium die casting

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.

Product code	Application	Application method
3187	Pressure die casting of non-ferrous metals	Spraying
Mixing ratio	Packages	Frost-sensitive
1:60 to 1:120	25/200/1000 kg	yes

LUBRODAL® C 100/74

Mould release agent for pressure die casting

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.

Product code	Application	Application method
3247	Pressure die casting of non-ferrous metals	Spraying
Mixing ratio	Packages	Frost-sensitive
1:70 to 1:110	200 kg	yes

HYKOGREEN® RLP 100

Minimum quantity lubrication agent for aluminium die casting

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.

Product code	Application	Application method
3353	Die casting of aluminium	Spraying (minimum quantity lubrication)
Mixing ratio	Packages	Frost-sensitive
undiluted	10/180 kg	no

HYKOGEEEN® ZN 10

Mould release agent for zinc die casting

Ready for use, non-water-miscible mould release agent for zinc die casting. HYKOGEEEN ZN 10 is primarily applied with an automatic spray system. Due to its excellent releasing properties, sparingly application is sufficient.

Product code	Application	
3309	Die casting of zinc	
Application method	Packages	Frost-sensitive
Spraying	20/150/750 kg	no

HYKOGEEEN® ZN 15

Release agent for zinc die casting

Non-water-miscible mould release agent specifically for zinc die casting, primarily applied with an automatic spray system. HYKOGEEEN ZN 15 is ready for use and has outstanding releasing properties.

Product code	Application	
2887	Die casting of zinc	
Application method	Packages	Frost-sensitive
Spraying	20/160/800 kg	no



Auxiliary casting materials – pastes, oils, powders and facings

Besides die casting release agents, there are a lot more applications, when 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.

HYKOGREEN® 438

Silver-coloured high temperature parting lubricant

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 starving of particularly critical mould regions during the die casting of aluminium. Metallization and other unwanted effects are thus effectively suppressed.

Product code	Application	
1536	Starving of particularly critical mould regions	
Application method	Packages	Frost-sensitive
Brushing or swabbing	1/5/6x1/25 kg	no

HYKOGREEN® CP 43

Black pasty high-temperature lubricant (anti-soldering paste)

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.

Product code	Application	
2351	Anti-sticking paste for aluminium die casting for particularly critical regions of the mould	
Application method	Packages	Frost-sensitive
Brushing or swabbing	1/5/6x1/25 kg	no

HYKOGREEN® EP 10

Ejector pin lubricant

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.

Product code	Application	
5506	Ejector pin lubricant, anti-sticking paste for hot cores and mould parts	
Application method	Packages	Frost-sensitive
Brushing or spraying	1/6x1/15 kg	no

HYKOGREEN® KS 706

Mould facing for continuous aluminium casting

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.

Product code	Application	
2569	Continuous casting of aluminium	
Application method	Packages	Frost-sensitive
Automatic lubricating and dosing system	55/190 kg	no

HYKOGREEN® LS 50

Thermo-insulating white casting ladle facing

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.

Product code	Application	
2669	Burn-in paste for casting ladles and related tools	
Application method	Packages	Frost-sensitive
Brushing or swabbing	1/6x1/5/25 kg	no

HYKOGREEN® LS 507

High-temperature lubricant

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.

Product code	Application	
3285	Facing for casting ladles, tools, funnels and spouts	
Application method	Packages	Frost-sensitive
Brushing or swabbing	1/6x1/5/25 kg	no

HYKOGREEN® P 550

Graphite-free plunger oil

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.

Product code	Application	
1764	Piston lubrication in non-ferrous metal die casting	
Application method	Packages	Frost-sensitive
Automatic drip lubrication or spraying	10/25/180 kg	no

HYKOGREEN® P 770

Graphite-containing plunger oil

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.

Product code	Application	
2797	Graphite-containing plunger lubricant for non-ferrous metal die casting	
Application method	Packages	Frost-sensitive
Automatic drip lubrication or spraying	10/25/180 kg	no

LUBRODAL® C 25

Graphite-containing mould facing

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.

Product code	Application	
1578	Die casting and chill casting of non-ferrous metals	
Application method	Packages	Frost-sensitive
Spraying	25/210 kg	yes

LUBRODAL® C 52 C

Water-miscible white mould facing

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.

Product code	Application	
1469	Chill casting of non-ferrous metals	
Application method	Packages	Frost-sensitive
Spraying	10/30 kg	yes

LUBRODAL® C 60 OP

Base facing for casting of non-ferrous metals

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.

Product code	Application	
3221	Base facing for casting of non-ferrous metals	
Application method	Packages	Frost-sensitive
Spraying, brushing or dipping	1:2 to 1:4	yes

LUBRODAL® KS 55

Water-miscible, finely dispersed mould facing

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.

Product code	Application	
3061	Gravity casting of aluminium	
Application method	Packages	Frost-sensitive
Spraying	30 kg	yes

PISTON POWDER G 2

Granulate for plunger lubrication

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.

Product code	Application	
5507	Plunger lubrication in cold chamber machines	
Application method	Packages	Frost-sensitive
Suitable dosing system	0,6/12/120 kg	no

PISTON POWDER W 1

Granulate for plunger lubrication

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.

Product code	Application	
5503	Plunger lubrication in cold chamber machines	
Application method	Packages	Frost-sensitive
Suitable dosing system	0,6/12/120 kg	no

WAGRAS AI

Casting blackener, facing

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.

Product code	Application	
854	Release agent for metal casting	
Application method	Packages	Frost-sensitive
Spraying, dipping or brushing	40 kg	no

WAGRAS AI SPEZ.

Casting blackener, facing

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.

Product code	Application	
861	Release agent for metal casting	
Application method	Packages	Frost-sensitive
Spraying, dipping or brushing	40 kg	no

WAGRAS EF WEISS

Mould facing (thermally insulating)

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.

Product code	Application	
807	Release agent for metal casting	
Application method	Packages	Frost-sensitive
Spraying, dipping or brushing	1/10/40/200 kg	yes

WAGRAS KS 20

Mould facing (heat conducting)

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.

Product code	Application	
801	Release agent for metal casting	
Application method	Packages	Frost-sensitive
Spraying, dipping or brushing	1/10/25/200 kg	yes

WAGRAS ZZ 20

Mould facing (heat conducting)

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.

Product code	Application	
806	Release agent for metal casting	
Application method	Packages	Frost-sensitive
Spraying, dipping or brushing	1/10/25/200 kg	yes



Other lubricants and release agents – 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.

LUBRODAL® BN

High-temperature lubricant

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.

Product code	Application	
2377	Forming of non-ferrous metals (e.g. titanium)	
Application method	Packages	Frost-sensitive
Spraying, dipping or brushing	1/10x1/5 kg	yes

LUBRODAL® C 120

Metal forming lubricant

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.

Product code	Application	
1711	High-temperature lubricant	
Application method	Packages	Frost-sensitive
Spraying, dipping or brushing	10/30 kg	yes

LUBRODAL® GS B1 - PLUS

Glass dispersion for the hot forming of titanium

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.

Product code	Application	
3321	Hot forming of titanium and special alloys	
Application method	Packages	Frost-sensitive
spraying, dipping or brushing	5/10/25 kg	yes

LUBRODAL® HY 15

Water based high-temperature lubricant

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 versatily, 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.

Product code	Application	
2896	Water based high-temperature lubricant	
Application method	Packages	Frost-sensitive
Spraying	10/25/200 kg	yes

LUBRODAL® KB 10 CONC

Water based high-temperature lubricant

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.

Product code	Application	
2782	Thermally loaded transport and conveyor chains	
Application method	Packages	Frost-sensitive
Spraying, dipping or brushing	1/5/10/25/210 kg	yes

LUBRODAL® KS 20

Aqueous corrosion protection

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.

Product code	Application	
5270	Corrosion inhibitor for water-based metal forming lubricants	
Application method	Packages	Frost-sensitive
Additivation	5/25/220/1000 kg	yes

LUBRODAL® RV 20

Facing concentrate for steel billets

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.

Product code	Application	
3363	Coating of large steel billets	
Application method	Packages	Frost-sensitive
Brushing, swabbing or rolling	10/25 kg	yes

LUBRODAL® RCL 40

Agent for cutting, sawing and grinding refractory bricks

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.

Product code	Application	
3328	Treatment of refractory bricks	
Application method	Packages	Frost-sensitive
Spraying, dipping or brushing	200/1000 kg	yes

LUBRODAL® SR 300

Liquid release and protective coating

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.

Product code	Application	
3378	Hot forming of steel	
Application method	Packages	Frost-sensitive
Spraying, flooding, dipping or brushing	5/10/25/220/1000 kg	no

LUBRODAL® ZG 600

Liquid release and protective coating

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.

Product code	Application	
3384	Hot forming of steel	
Application method	Packages	Frost-sensitive
Spraying, flooding, dipping or brushing	5/10/25/220 kg	yes

LUBRODAL® SR 900

Liquid release and protective coating

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.

Product code	Application	
3900	Hot forming of steel	
Application method	Packages	Frost-sensitive
Spraying or brushing	5/10/25/250 kg	yes

LUBRODAL® TROMMELGRAPHIT

Pre-graphiting-agent

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.

Product code	Application	
2464	Pre-graphiting	
Application method	Packages	Frost-sensitive
Mechanically, with suitable rotating drums	5/6x1/10 kg	yes

LUBRODAL® F 270 EP

Additive for die lubricants

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.

Product code	Application	
5271	Hot and semi-hot forming of steel and non-ferrous metals	
Application method	Packages	Frost-sensitive
Addition	10/25/200/1000 kg	yes

HYKOGREEN® 820

White paste for hot forming

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.

Product code	Application	
2594	Hot forming of steel	
Application method	Packages	Frost-sensitive
Brushing or swabbing	1/6x1/5/25/70 kg	no

HYKOGREEN® 821

White lubrication liquid for hot forming

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.

Product code	Application	
2595	Hot forming of steel	
Application method	Packages	Frost-sensitive
Spraying, brushing or swabbing	1/5/25 kg	no

HYKOGREEN® HSP

Assembly paste for thermally loaded components

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.

Product code	Application	
2954	Assembly paste	
Application method	Packages	Frost-sensitive
Manual application	1/6x1/5/10 kg	no

KOLLIGEEN-CF-PASTE A

High performance lubricant for cold forming of steel

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).

Product code	Application	
5268	Cold forming of steel	
Application method	Packages	Frost-sensitive
Swabbing or suitable spray system	1/5/10/25 kg	no

KOLLIGEEN W 115

Molybdenum disulphide / water dispersion for cold forming of steel

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.

Product code	Application	
5190	Cold forming of steel	
Application method	Packages	Frost-sensitive
Spraying equipment or dipping	5/25/150 kg	yes

KOLLIGEEN W 116

Solid lubricant dispersion for the cold massive forming of steel

Stable dispersion of high-quality molybdenum disulphide and chemically pure graphite in water. Applied to the workpiece by a suitable spraying system or by dipping. According to application, KOLLIGEEN W 116 is diluted with water in a ratio of 1:1 up to 1:5. Before coating the workpieces, they have to be pre-heated and grease-free.

Product code	Application	
2985	Cold forming of steel	
Application method	Packages	Frost-sensitive
Spraying or dipping	5/25/220 kg	yes

KOLLIGEEN W 808

Dispersion of solid lubricants for cold forming of steel

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.

Product code	Application	
5808	Cold forming of steel	
Application method	Packages	Frost-sensitive
Spraying or dipping	25/150 kg	yes



Aerosols – Maintenance, repair and special applications

At FUCHS LUBRITECH a wide range of Aerosols is available, which has found its application in many industrial branches. 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.

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).

gleitmo WSP 5040

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.

POWDER MoS₂ S SPRAY

Molybdenum disulphide powder spray

POWDER MoS₂ 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 MoS₂ S SPRAY can be sprayed uniformly onto the surface of the previously cleaned parts during cold extrusion.

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.

METABLANC SPRAY**Rapid metal cleaner**

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.

DECORDYN 350 SPRAY**Anticorrosion wax with good lubricating effect**

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.

STABYLAN SI 210 SPRAY**Silicone lubricant**

STABYLAN SI 210 SPRAY is a liquid lubricant with good release properties based on silicone oil. STABYLAN SI 210 SPRAY is water-repellent, does not adhere dust and dirt and simplifies the cleaning of metal forming tools particularly in the field of aluminium forging.

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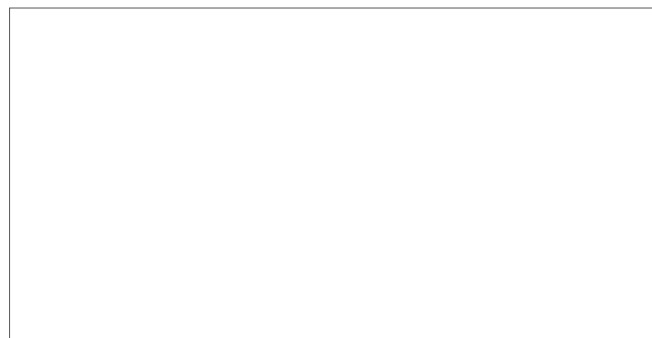
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We therefore recommend that you consult a FUCHS LUBRITECH GmbH application engineer to discuss application conditions and the performance

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.

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