



# Verkol

## Lubricantes

Current leader in the lubricant market, since 1923 our development is focused on sustained growth, enabling us to continue servicing our customers whilst following a total transparency policy.

In recent years we have specialised in finding solutions for right lubricant applications to optimise product quality and performance.

Each particular case is studied separately, from the first machine design stages, collaborating with manufacturers, engineers and universities in joint projects where we are committed to finding the most suitable product for each application, whilst bearing in mind environmental and human health issues.

As far as environment is concerned VERKOL is ISO 14001 certified. We are also a founding member of SIGAUS (Used Oils Integrated Management System of Spain). Products are developed pursuant to an environmentally friendly objective: reducing waste – from total loss oils, where we are deeply committed to achieving the utmost biodegradability, to lifetime lubricants. Formulations are constantly reviewed at our R&D&I labs to make them less aggressive for the environment.

VERKOL is a strong supporter of knowledge as a first step prior to making recommendations on specific product applications. We are deeply committed to providing our technical and commercial staff, as well as that of our collaborators, with specialised training. We are aware that this reduces mechanical breakdowns to the bare minimum, and that this leads to an improved production rate for our customers – by avoiding unscheduled stoppages in production caused by defective lubrication.

Our company is ISO 9001 certified, providing products of the highest quality over an organisation with a strong expertise and knowledge of applications and willing to collaborate with customers to achieve maximum equipment performance.

The success of our company is based on constant innovation, a strong identification with our customers, a total transparency in our actions and our full compliance with ethical principles, which guide us to guarantee the reliability of your equipment and the satisfaction of our customers.



ISO 14001:2004



ISO 9001:2008

## GEARBOXES AND DIFFERENTIALS

### **COMPOUND E** ISO VG 68 / 100 / 150 / 220 / 320 / 460 / 680 / 1000 / 2200

Lubricating oils for industrial gearboxes, bearings, pump bearings and circulation systems requiring oils with extraordinary anti-wear power and extreme-pressure qualities. They have excellent water demulsibility properties (can be removed by purging), anti-corrosion, anti-rust and anti-foam qualities.

They meet the requirements of U.S. Steel-224 and DIN 51517 Part 3-CLP.

### **COMPOUND MP** ISO VG 150 / 220 / 320 / 460

Oils for industrial gearboxes, rolling contact bearings, pump bearings and circulation systems requiring oils with extraordinary anti-wear power and extreme-pressure qualities. Carefully and specially additivated to prevent micropitting (or gray-staining) phenomenon, passing brilliantly FLENDER's FVA 54/I-IV test.

They meet the requirements of DIN 51517 Part 3-CLP standard and U.S. Steel-224, AGMA 9005 E-02, David Brown S51.53.101 and Cincinnati Milacron-P specifications. Approvals: FLENDER GmbH.

### **COMPOUND FG** ISO VG 100 / 150 / 220 / 320 / 460

High-performance non-toxic lubricating oils with excellent anti-wear and extreme-pressure properties for industrial gearboxes, rolling contact bearings, pump bearings and circulation systems. Especially designed for gearboxes with spur, helical or worm gears in the adequate viscosity in the food industry working at normal temperatures, and where an incidental contact between the food or its packing and the lubricant may occur.

They satisfy the requirements of DIN 51517 Part 3-CLP standard.

Registered as H-1 by NSF: Registration nos. 145644, 145645, 145646, 145647 or 145648 (depending on viscosity grades).

### **VERKOL GT-7** ISO VG 150 / 220 / 320 / 460 / 680

Oils for industrial gears requiring extraordinary extreme pressure properties. Formulated with highly refined mineral oils and the latest additives, they yield excellent results especially in gearboxes with inverted directions. They possess excellent water separation properties and prevent foaming.

They satisfy widely the quality levels of the following specifications: U.S. Steel-224, DIN 51517 Part 3-CLP, AGMA 9005 E-02, David Brown S51.53.101 and Cincinnati Milacron-P.

### **CORVUS EP** ISO VG 150 / 220 / 320 / 460

Synthetic fluids for gears with a high natural viscosity index, an excellent friction coefficient, a low pour point and low volatility. CORVUS EP synthetic fluids are perfectly miscible with mineral oils, whose duration they triple. Especially recommended to increase relubrication times and to shorten maintenance times.

They meet the requirements of DIN 51517 Part 3-CLP-HC standard.

### **CORVUS FG** ISO VG 220 / 320 / 460

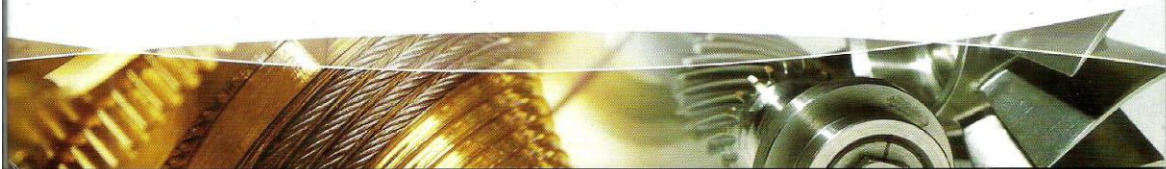
High-performance PAO type synthetic fluids with excellent extreme-pressure, anti-wear and fatigue prevention properties. Especially designed for gearboxes with spur, helical or worm gears in the adequate viscosity in the food industry working at medium and high temperatures, and where an incidental contact between the food or its packing and the lubricant may occur.

They satisfy the requirements of DIN 51517 Part 3-CLP-HC standard.

Registered as H-1 by NSF: Registration nos. 128124, 128125 or 128126 (depending on viscosity grades).

### **PATELA** ISO VG 100 / 150 / 220 / 320 / 460 / 680 / 1000

Synthetic fluids suitable for long-life lubrication of gears with a high natural viscosity index, an extraordinary friction coefficient, a low pour point and very low volatility. Especially suited for gearboxes with high temperature and load requirements where a low friction coefficient enhances machine performances and reduces energy consumption. PATELA synthetic fluids are not miscible with mineral oils hence a major clean up of the system needs to be done before filling it up. These products are compatible with most components used in the manufacture of joints and seals. They meet the requirements of DIN 51517 Part 3-CLP-PG standard.



## GEARBOXES AND DIFFERENTIALS

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### **VERKOL OC 20 / 40**

Special fluids for service lubrication of open gear drives (crown-pinion type drives), plain bearings and chains in sugar cane mills and sugar cane alcohol factories. Also recommended for gear drives in mills and kilns in the cement and mining industry requiring very high viscosity lubricants.

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### **VERKOL WG**

Semi-synthetic, transparent, shiny, thready lubricating gel. Strongly adherent and highly resistant to oxidation. Very resistant to mechanical work and with good anti-wear and extreme-pressure properties. This product is especially formulated for the lubrication of gears, including worm gears located in places with difficult access and/or where there could be leakage or noise problems. Ideal for bridge cranes.

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### **BIOCOMPOUND ISO VG 220 / 320**

Biodegradable synthetic lubricating fluids for industrial gearboxes, worm gear, crown-pinion gears, flexible couplings and bearings operating at moderate speeds, circulation systems, etc. requiring medium viscosity fluids with extraordinary anti-wear and extreme-pressure properties. BIOCOMPOUND synthetic fluids are non-toxic and have a biodegradability rate above 65% according to OECD-301 B tests.

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## CIRCULATION OILS

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### **RODAKOL PM ISO VG 150 / 220**

Mineral oils for circulating lubrication of bearings, formulated with specific corrosion protection additives against steel and copper, as well as anti-wear properties, as certified under FAG FE8 tests. Their anti-wear properties make them suitable for the lubrication of gears being therefore apt for the lubrication of machines with drives simultaneous lubrication systems. Their remarkable demulsibility and air-separation capacities guarantee the good running of the system and an excellent protection of bearings.

They meet VOITH VN 108 specification and DIN 51517 Part 2-CL standard.

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### **CIRCULACION ISO VG 100 / 150 / 220**

Highly refined optimally additivated mineral oils. Especially designed for circulation systems, they have excellent protective properties against oxidation at high temperatures (even in the presence of steam) and against corrosion. They also have excellent demulsibility and anti-foam properties, being inert to yellow metals and sealing materials.

They meet the requirements of DIN 51517 Part 3-CLP standard.

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### **HM CIRCULACION 90 / 220**

Mineral oils especially designed for circulation systems used in the steel and paper industries. They have excellent protective properties against oxidation at high temperatures (even in the presence of steam) and against corrosion. They also have excellent demulsibility and anti-foam properties, being inert to yellow metals and sealing materials.

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### **CIRCULACION SPD ISO VG 220**

PAO type synthetic fluid for circulation systems. Highly resistant to oxidation at high temperatures and strongly protective against corrosion. Low residue formation. Low volatility, excellent anti-friction and hydrolytic stability properties.

It is classified according to the DIN 51502 standard as CL-HC-220 and meets the DIN 51517 Part 2-CL-HC-220 standard.

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### **COMPOUND ST ISO VG 320**

Synthetic fluid for circulation systems with low residue formation. Highly resistant to oxidation at high temperatures (even in the presence of steam) and strongly protective against corrosion. Low volatility, excellent anti-friction and hydrolytic stability properties.

It is classified according to the DIN 51502 standard as CL-E-320.

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## HIDRAULICS AND TRANSMISSIONS

### **VESTA HM** ISO VG 32 / 46 / 68 .

Anti-wear type hydraulic oils. They provide excellent results in vane and rotary pumps, passing easily the Vickers Pump antiwear tests.

They meet the requirements of DIN 51524 Part 2-HLP, AFNOR NFE 48603 L-HM and ISO 6743/4 L-HM standards and DENISON HF-0 and HF-2 specifications. They also meet filterability requirements of DENISON TP 02100, AFNOR NE 48690 and 48691.

### **VESTA HLP** ISO VG 10 / 15 / 22 / 32 / 46 / 68 / 100 / 150

Hydraulic oils with excellent thermal stability, good anti-wear properties, quick air and water separation and highly resistant to oxidation, corrosion, rust and foaming. They are ashless type hydraulic oils with good filterability. Recommended for most hydraulic systems in all type of industries.

They meet the requirements of DIN 51524 Part 2-HLP, AFNOR NFE 48603 L-HM and ISO 6743/4 L-HM standards.

Approvals: MANNESMANN REXROTH. Superfiltered products also available: VESTA HLP SF, guaranteeing a NAS 1638, Class 6 filtration grade.

### **VESTA HMV** ISO VG 46 / 68

Hydraulic oils with very high viscosity index, excellent thermal stability and a high additive level against oxidation, corrosion and rust. Recommended for all type of machinery in sectors such as agriculture, construction and quarries. They meet DIN 51524 Part 3-HVLP, ISO 6743/4 L-HV and AFNOR NFE 48603-HV standards.

### **VESTA HV** ISO VG 32 / 46 / 68

Hydraulic oils with very high viscosity index, excellent thermal stability, good anti-wear properties, quick air and water separation and highly resistant to oxidation, corrosion, rust and foaming. Recommended for most hydraulic systems in all type of industries where sudden temperature changes may occur within the same system.

They meet the following standards and specifications: DIN 51524 Part 3-HVLP, AFNOR NFE 48603 HV, ISO 6743/4 L-HV and DENISON HF-0 and HF-2. Approvals: MANNESMANN REXROTH.

### **VESTA FG** ISO VG 32 / 46 / 68

Hydraulic fluids formulated with white medicinal oils and corrosion protectors, anti-oxidant and anti-wear additives approved by the FDA. They are mainly employed as a hydraulic fluids and in oleo-dynamic drives in systems under risk of food contamination in case of leakage. They can also be used for general lubrication.

They meet DIN 51524 Part 2, AFNOR NFE 48603-HM and ISO 6743/L-HM standards. Registered as H-1 by NSF: Registration nos. 128127, 128128 or 128129 (depending on viscosity grades).

### **VESTA H-LPD** ISO VG 32 / 46

Anti-wear type hydraulic oils, based on highly refined paraffinic mineral oil, with excellent thermal stability as well as good anti-foam and air-separation properties. Extraordinarily resistant to oxidation, corrosion and rust. They are inert to sealing materials (joints, hoses, etc.).

They satisfy the MAN N-698 H-LPD specification and also DIN 51524 Part 2-HLP and ISO 6743/4 L-HM standards, with the obvious exception of the demulsibility tests of these two last ones.

### **RESFLUID HFDU** ISO VG 46 / 68

† Synthetic based hydraulic fluids with higher resistance to inflammation than mineral oils due to their natural characteristics. They have high viscosity index as well as extraordinary anti-friction and anti-wear properties and high corrosion and oxidation resistance. Non-toxic and biodegradable products. They do not contain water, mineral oils, metals or halogens and are compatible with most elastomers used in the manufacture of seals. Contact with butyric and ethylpropylenic rubber is not recommended. Considered as hardly flammable products they are suitable for use in installations where there might be a fire risk. Superfiltered products also available: RESFLUID HFDU-46 SF and RESFLUID HFDU-SF.

### **GLYNKOL HFC** ISO VG 46

Water-glycol type fluid with a maximum filtration grade of 15/12 according to ISO 4406 standard. It is highly suitable for power transmission systems where there might be a fire risk. Although it has a high viscosity index its working temperature must never exceed 60°C, since this would produce excessive water evaporation. It has good anti-wear, anti-corrosion and protective properties and prevents pumps wear.

It satisfies the ISO 6743 L-HFC standard and the Fifth Luxemburg Report Part 3 and National Board.

## HIDRAULICS AND TRANSMISSIONS

### VESTA HG ISO VG 46 / 68

Mixed oils for power transfer and slide lubrication systems based on very thermally stable highly refined paraffinic mineral oil. They satisfy Cincinnati Milacron thermal stability test. Highly resistant to oxidation, corrosion, rust and foaming. Good air separation properties. They are inert to sealing materials (joints, hoses, etc.).

They meet Cincinnati Milacron P, Creusot Loire BSG, Siderurgie Francaise FT-172/2 specifications and DIN 51517 Part 3-CLP standard.

### VESTA HS ISO VG 32 / 68

Synthetic based hydraulic fluids with a very high natural viscosity index, especially suited for working conditions where high temperatures, sudden weather changes or widely varying temperatures may occur within the same circuit.

They satisfy comfortably the requirements of DIN 51524 Part 3-HVLP and ISO 6743/4 L-HV standards, being compatible with any fluid complying with such standards.

## SLIDESWAYS

### GUIAS ISO VG 32 / 68 / 100 / 150 / 220

Special oils to lubricate machine tool horizontal slides. They are specifically formulated to bring down the friction coefficient, avoiding stick-slip phenomena. Their anti-wear properties and their content of polar, anti-oxidation and anti-corrosion additives make them suitable for circulation systems and for bearings lubrication.

### GUIAS LTF ISO VG 68 / 100 / 220

Oils especially suitable for the lubrication of slides, both horizontal and vertical, based on highly refined paraffinic mineral oil, with extraordinary adhesivity properties (to prevent dripping and splashing), excellent metal affinity and water repellency.

## TURBINES

### TURBINAS ISO VG 32 / 46 / 68

Oils formulated with top quality refined mineral base stocks and specific additives to comply with the requirements of the most important turbine manufacturers and to ultimately guarantee an excellent running of the system as well as extended periods of use. They have quick demulsification and deaeration properties, resistance to foaming, oxidation, rust and corrosion, as well as a very good filterability.

They meet the requirements of the following standards and specification: DIN 51524 Part-1-HL, DIN 51517 Part-2-CL, DIN 51515 Part-1-L-TD, MIL-L-17672 D, Cincinnati Milacron, AFNOR NF E 48-603 (HL), U.S. Steel 120, and the specifications of turbine manufactures such as Siemens TLV 9013 04/01, General Electric GEK-32568 A/C and GEK-32568f, Brown Boveri HTCD 90117, British Standard BS-489, CECB Standard 207001, Solar Turbines ES 9-224, etc (depending on viscosity grades). ISO VG 100 also available.



## COMPRESSORS

### **NAVAPAR ISO VG 32 / 46 / 68 / 100 / 150**

Lubricants especially designed for vane compressors operating at high temperatures, reciprocating compressor cylinders, screw compressors and vacuum pumps, available in different viscosity grades according to the specifications of machinery manufacturers. In general, recommended for compressors requiring mineral oil or where relubrication intervals are shorter due to harsh environmental conditions.

They satisfy the requirements of DIN 51506/VDL e ISO-6743-L-DAB standards and are recommended for most models of ATLAS COPCO, INGERSOLL-RAND, MACO, SAMUR and COMPAIR HOLMAN compressors requiring mineral oils.

### **NAVAPAR HM ISO VG 150 / 320**

Lubricants especially designed for vane compressors operating at high temperatures, reciprocating compressor cylinders and vacuum pumps where the manufacturer requires high viscosity fluids. Mainly recommended for hypercompressor gear casings and cylinders, such as from the following: BORSIG, HALBERG, SULZER-BURCKHARDT and NUEVO-PIGNONE.

Approvals: SULZER-BURCKHARDT.

### **NAVASYNT ISO VG 32 / 46 / 68**

Lubricants especially designed for screw compressors and vane compressors operating at high temperatures requiring the use of synthetic fluids. Their synthetic nature extends relubrication intervals, reducing maintenance costs and machine wear. Compatible with mineral oils and available in different viscosity grades according to the specifications of machinery manufacturers.

They meet the requirements of DIN 51506/VDL and ISO-6743-L-DAC/DAJ standards. Recommended for most compressors requiring synthetic fluids.

### **NAVASYNT LT ISO VG 68**

Synthetic fluid for refrigeration compressors using as coolant gas carbon dioxide, ammonia, methyl chloride or halogenated hydrocarbons (CFCs and HCFCs) such as: R-12, R-13, R-113, R-114, R-123, R-401 A, R-401 B, R-402 B, R-409 A, R-500, R-502 y R-503 in all their variants. Designed for lubricating industrial cooling rotary and reciprocating compressors and turbocompressors. Especially additivated to prevent corrosion, oxidation, wear and foaming.

### **NAVASYNT FG ISO VG 46 / 100**

Synthetic fluids for rotary screw air compressors. It provides very high equipment availability, technical and economical benefits and oil-free air. It saves costs in filter replacements and spare parts, specially in those parts where due to the high temperatures higher friction levels take place. It increases the lifetime of the compressed air installations, maintaining the airlines clean and without sealings.

Registered as H-1 by NSF: Registration no. 128140 or 147138 (depending on viscosity grades).

### **NAVA ISO VG 68 / 100**

Naphtenic based lubricants for reciprocating compressors, highly additivated to prevent oxidation, free from components that might leave residues or produce ash. Slightly detergent, they prevent carbon deposit formation in valves, keeping heat exchangers, drums and pulsation dampers clean. Their high ignition point improves fire safety and explosion hazards.

Amply satisfy the requirements of DIN 51506/VD-L and ISO-6743-L-DAB standards.

## HEAT TRANSFER OILS

### **TERMAL 320 ISO VG 32**

Oil formulated with highly refined paraffinic base oil strengthened by high-temperature-specific oxidation-delaying additives, which provide it a wide range of working temperatures (from -15 to 300°C). It can be used as a thermal fluid in closed heat transfer systems, or in up-and-down heating-cooling cycles.



## INSULATING OILS

### VERKOVOLT-A

Light, non-coloured, transparent and shiny oil specific for transformers, with excellent anti-ageing properties. Based on a naphthenic, non-inhibited and highly refined and hidrotreated mineral oil, it has been adequately treated and later on dehumidified, in order to assure the perfect insulation and refrigeration of systems during long periods, due to its resistance to dielectric impulses, good properties at low temperature and extraordinary oxidation stability. This product does not contain PCB's according to the current legislation.

Satisfies, among others, the IEC 60296 (03) General Specification.

## CHAIN OILS

### SYNKOL ISO VG 50 / 150 / 250 / 4000

Very thermally stable synthetic fluids for conveyor chains operating at very high temperatures. They have excellent protective properties against oxidation and corrosion at high temperatures, as well as excellent anti-wear and anti-friction qualities. They may be hand-applied by brush or using certain automatic systems. Recommended for all types of chains and conveyor systems in industries such as: graphic arts, plaster drying, wood board factories, steel industry, textile industry and, in general, any type of furnace.

### SYNKOL 100-MO ISO VG 100

Very thermally stable synthetic fluid, containing emergency solid lubricants, suitable for conveyor chains operating at high temperatures. Easy to apply by bath, drip or spray lubrication.

## GAS ENGINES POWER GENERATION

### VERKOGAS D-40 SAE 40

Oil especially developed for natural aspiration or turbocharged engines powered by gases with high sulphur content, such as sour gas, sewage gas or landfill gas, consisting mainly of methane but also containing large amounts of corrosive acids, mostly hydrogen sulphide. Strongly inhibited against corrosion (CRL L-38 test), oxidation and nitration, as well as against foaming, thus extending the valves life, preventing wear, deposit build-up and stiffen of segments and remarkably extending oil change intervals.

Satisfies the quality levels of MIL-L-2104 C and API CD, being specifically suited for gas engines without catalyst.

## ELECTROEROSION

### ELECTROKOL-2

Fluid for removing materials by spark erosion in finishing, superfinishing or polishing operations of pieces requiring high precision machining. The fluid stabilises the quick and continuing succession of electrical discharges produced by the electrode on the metal surface being machined to attain utmost efficiency. Totally free from polycyclic aromatic compounds (PCAs), being completely harmless.



# GREASE CHART

## ANHYDROUS CALCIUM GREASES

Product	NLGI Class	Dropping Point (°C)	Thickener Type	Base Fluid Type	Colour	Base Fluid (mm <sup>2</sup> /s at 40°C)	Operating Temperature (°C)	Antiwear/Extreme Pressure Characteristics	Corrosion Protection	Water Resistance	Solid Lubricants	DIN 51.502 Designation	Application
ALDEBA-2	2	150	Anhydrous calcium	Mineral	Light yellow	68	-20 to +100	+ /	+	++	NO	K 2G -20	Easy to inject or pump. Especially suitable for mechanisms in outdoor machinery, construction, motor vehicles, farm machinery.
ALDEBA GT-6/00	00	145	Anhydrous calcium	Mineral + Polymer	Light yellow	1.000	-20 to +90	++ / ++	++	++	NO	GP 00E -20	For main gearboxes and close gear boxes under high load and heavy pressure conditions: mining, paper industry, railway industry.
ALDEBA GT-6	2	150	Anhydrous calcium	Mineral + Polymer	Light yellow	1.000	-20 to +100	++ / ++	++	+++	NO	KP 2G -20	For all types of ball and roller bearings operating at medium and low speeds and temperatures of up to 100°C. Ideally suited for mechanisms operating in water and under heavy load and pressure conditions.

## MULTIPURPOSE LITHIUM GREASES

Product	NLGI Class	Dropping Point (°C)	Thickener Type	Base Fluid Type	Colour	Base Fluid (mm <sup>2</sup> /s at 40°C)	Operating Temperature (°C)	Antiwear/Extreme Pressure Characteristics	Corrosion Protection	Water Resistance	Solid Lubricants	DIN 51.502 Designation	Application
ASTURUS-2	2	190	Lithium	Mineral	Light yellow	100	-35 to +120	++ /	++	++	NO	K 2K -30	For all types of bearings, especially in electric motors, pumps and flat bearings.
ASTURUS-3	3	190	Lithium	Mineral	Light yellow	100	-20 to +130	++ /	++	++	NO	K 3K -20	For all types of bearings, especially in electric motors, pumps and flat bearings.
ESPECIAL-BA	2	190	Lithium	Mineral	Light yellow	115	-15 to +110	+ /	+	++	NO	K 2G -10	Suited for lubricating Bambury mixers.
LITICA BB-1	1	190	Lithium	Mineral	Greenish	150	-15 to +110	+ /	+	+	NO	K 1G -10	For general greasing purposes and bearings.
LITICA BB-2	2	190	Lithium	Mineral	Greenish	150	-15 to +110	+ /	+	++	NO	K 2G -10	For general greasing purposes and bearings.
LITICA BB-3	3	200	Lithium	Mineral	Greenish	150	-15 to +110	+ /	+	++	NO	K 3G -10	For general greasing purposes and bearings.

## E.P. LITHIUM GREASES

Product	NLGI Class	Dropping Point (°C)	Thickener Type	Base Fluid Type	Colour	Base Fluid (mm <sup>2</sup> /s at 40°C)	Operating Temperature (°C)	Antiwear/Extreme Pressure Characteristics	Corrosion Protection	Water Resistance	Solid Lubricants	DIN 51.502 Designation	Application
VERKOFARM	2/3	200	Lithium	Mineral	Dark Brown	100	-20 to +130	++ / ++	++	++	NO	KP 2/3K -20	Suited for farm and construction machinery and motor vehicles.
RF-2 EP	2	197	Lithium	Mineral	Beige	110	-20 to +120	++ / ++	++	++	NO	KP 2K -20	For all types of mechanisms and bearings operating under heavy load conditions: steel industry, rolling industry, mining, construction machinery.
EPX-00	00	185	Lithium	Mineral	Dark Brown	150	-20 to +90	++ / ++	+	+	NO	GP 00E -20	For main gearboxes and close gear boxes under high load conditions. For certain centralized grease lubrication systems under high load conditions: mining, iron steel and paper industries.
EPX-0	0	190	Lithium	Mineral	Dark Brown	150	-20 to +100	++ / ++	+	+	NO	GP 0G -20	For main gearboxes and close gear boxes under high load conditions. For certain centralized grease lubrication systems under high load conditions: mining, iron steel and paper industries.
EPX-1	1	196	Lithium	Mineral	Dark Brown	150	-20 to +120	++ / ++	++	++	NO	KP 1K -20	For all types of mechanisms and bearings operating under heavy load conditions: steel industry, rolling industry, mining, construction machinery.



## GREASE CHART

### E.P. LITHIUM GREASES (continuation)

Product	NLGI Class	Dropping Point (°C)	Thickener Type	Base Fluid Type	Colour	Base Fluid (mm <sup>2</sup> /s at 40°C)	Operating Temperature (°C)	Antiwear/Extreme Pressure Characteristics	Corrosion Protection	Water Resistance	Solid Lubricants	DIN 51.502 Designation	Application
EPX-2	2	200	Lithium	Mineral	Dark brown	150	-20 to +130	++ / ++	++	++	NO	KP 2K -20	For all types of mechanisms and bearings operating under heavy load conditions: steel industry, rolling industry, mining, construction machinery.
EPX-3	3	200	Lithium	Mineral	Dark brown	150	-20 to +130	++ / ++	++	++	NO	KP 3K -20	For all types of mechanisms and bearings operating under heavy load conditions: steel industry, rolling industry, mining, construction machinery.
KIRUNA-1 EP	1	185	Lithium	Mineral	Brown	160	-20 to +120	++ / ++	++	++	YES	KPF 1K -20	For bearings and mechanisms in general operating under heavy load conditions: steel industry, rolling industry, mining, construction, paper industry.
KIRUNA-2 EP	2	203	Lithium	Mineral	Brown	160	-20 to +120	++ / ++	++	++	YES	KPF 2K -20	For bearings and mechanisms in general operating under heavy load conditions: steel industry, rolling industry, mining, construction, paper industry.
VL-2R	2	188	Lithium	Mineral	Brown	165	-20 to +140	+++ / ++	++	++	NO	KP 2N -20	Railway-specific grease for axle boxes in wagons, locomotives and electric railcars.
VERKOL-TXP	2/3	200	Lithium	Mineral	Brown	320	-20 to +130	++ / ++	++	++	NO	KP 2/3K -20	Ideally suited for bearings operating under heavy load and low ratio conditions.
VERKOL-CC	2	187	Lithium	Mineral	Dark brown	500	-20 to +130	++ / ++	++	++	NO	KP 2K -20	Suited for efficiently-refrigerated continuous casting machines, rolling mills and all types of bearings.
MOLYVERKOL-2	2	195	Lithium	Mineral	Metallic black	150	-20 to +130	++ / +++	+	++	YES	KPF 2K -20	Extreme pressure multipurpose grease with MoS <sub>2</sub> . Most suitable for difficult-to-relubricate points operating under harsh load and vibratory conditions.
FOK-2/E	2	193	Lithium	Mineral	Black	100	-20 to +120	++ / ++	+	++	YES	KPF 2K -20	Especially recommended for running gears and heavy loaded sliding gears, automotive springs, bolts, farm and construction machinery.
MOLYBDAL-2	2	190	Lithium	Mineral	Black	150	-20 to +130	++ / ++	+	++	YES	KPF 2K -20	Especially recommended for sliding gears under heavy loads and multipurpose applications in all types of machinery.

### COMPLEX GREASES

Product	NLGI Class	Dropping Point (°C)	Thickener Type	Base Fluid Type	Colour	Base Fluid (mm <sup>2</sup> /s at 40°C)	Operating Temperature (°C)	Antiwear/Extreme Pressure Characteristics	Corrosion Protection	Water Resistance	Solid Lubricants	DIN 51.502 Designation	Application
THT-2	2	267	Special sodium	Mineral	Beige	320	-10 to +140	+ / +	+	++	NO	K 2N -10	For all types of mechanisms operating under very high temperatures such as furnaces, conveyor chains in drying kilns and rolling elements in continuous casting machines.
ALC-00 HV	00		Aluminium complex	Mineral + polymer	Black	1.500	-10 to +120	++ / +++	++	++	YES	OGPF 00K -10	High-performance sprayable grease suited for in-service lubrication of large gearings in furnaces and rotary ovens in cement industry, mining and ceramics.
VERKOL 320-A	2	287	Lithium complex	Mineral	Light brown	120	-20 to +140	+ / +	+	++	NO	K 2N -20	Suitable for wheel bearings and electrical brakes in current trucks and coaches as well as for industrial applications.
VERKOL 320-I GR.1	1	285	Lithium complex	Mineral	Brown	460	-20 to +150	+ / +	++	++	NO	K 1N -20	Suited for centralized lubrication systems in mechanisms under high temperature and heavy pressure conditions.

# GREASE CHART

## COMPLEX GREASES (continuation)

Product	NLGI Class	Dropping Point (°C)	Thickener Type	Base Fluid Type	Colour	Base Fluid (mm <sup>2</sup> /s at 40°C)	Operating Temperature (°C)	Antiwear/Extreme Pressure Characteristics	Corrosion Protection	Water Resistance	Solid Lubricants	DIN 51502 Designation	Application
VERKOL 320-1	2/1	288	Lithium complex	Mineral	Brown	460	-20 to +150	+ / +	++	++	NO	K 2/1N -20	Suited for the steel industry and heavy industry in general. Suitable for papermaking machines and construction machinery.
VITALIA BF	3/2	280	Lithium complex	Mineral	Yellow	135	-20 to +140	+++ / ++	++	++	NO	KP 3/2N -20	Grease for all types of bearings under medium-high temperatures. Suited for wheel hubs and electrical brakes in heavy-duty vehicles.
TERMOFLEX 210 EP	2/3	285	Lithium complex	Mineral	Yellow	220	-20 to +150	+++ / +++	++	++	YES	KPF 2/3N -20	Especially designed for lubricating bearings and flat bearings under extreme vibratory load conditions: mill and rotary oven bearings, grinding mills, screens, rolling mill cylinders.
VERKOPLEX KP-12	1/2	275	Lithium complex	Mineral	Dark brown	220	-20 to +140	++ / ++	++	++	NO	KP 1/2N -20	For all types of mechanisms and bearings under high temperatures. Recommended for: steel industry, mining, rolling industry and construction machinery. Suitable for centralized lubrication systems.
VERKOPLEX KP-2	2	280	Lithium complex	Mineral	Dark brown	220	-20 to +140	++ / ++	++	++	NO	KP 2N -20	Suited for application in bearings and mechanisms in general under heavy load and high temperature conditions.
VERKOPLEX SP-1	1	272	Lithium complex	Mineral	Dark brown	320	-15 to +140	++ / ++	++	++	NO	KP 1N -10	For mechanisms and bearings under high temperatures and heavy load. Most suitable for steel industry especially for centralized lubrication systems.
VERKOPLEX EP-2	2	286	Lithium complex	Mineral	Dark brown	460	-15 to +140	++ / ++	++	++	NO	KP 2N -10	For bearings operating under high temperature and heavy pressure conditions. Most suitable for the steel industry.
RODAFLEX PM-1	1	240	Lithium-calcium complex	Mineral	Beige	450	-20 to +140	++ / +++	+++	+++	YES	KPF 1N -20	Designed for lubricating bearings in papermaking machines, both in the wet and the dry sections, using centralized lubrication systems.
RODAFLEX PM-2	2	261	Lithium-calcium complex	Mineral	Beige	450	-20 to +140	++ / +++	+++	+++	YES	KPF 2N -20	Designed for lubricating bearings in papermaking machines, both in the wet and the dry sections.
VERKOTAC 330	0/1	265	Lithium complex	Mineral + polymer	Beige	500	-10 to +140	+++ / +++	++	++	YES	OGPF 0/1N -10	Especially developed for open gears. Suitable for mining and construction machinery.
ATLANTA	2	>280	Lithium complex	Mineral + polymer	Metallic black	1.000	-10 to +160	+++ / +++	+++	+++	YES	KPF 2P -10	Recommended for lubricating bearings, gears and mechanisms in general under heavy loads and slow and oscillating speeds: public works machinery, mining, quarries, farm machinery. Ideal for lubricating bolts and shanks in hydraulic concrete breakers.
COBERTONE-1	1	272	Lithium complex	Mineral + polymer	Black	250	-20 to +140	++ / +++	+	++	YES	OGPF 1N -20	Recommended as priming grease in open gears of rotary equipments in the cement and mining industry.
VERKOMAX SG-1	1	275	Overbased calcium sulphionate complex	Mineral	Greenish brown	220	-15 to +140	++ / +++	+++	+++	NO	KP 1N -10	Most suitable for lubricating rolling mill bearings in the steel industry. Also ideal for the paper industry. Suitable for automatic lubrication systems.
VERKOMAX SG-2	2	280	Overbased calcium sulphionate complex	Mineral	Dark brown	220	-15 to +150	++ / +++	+++	+++	NO	KP 2N -10	Most suitable for lubricating rolling mill bearings in the steel industry. Also ideal for the paper industry.

# GREASE CHART

## COMPLEX GREASES (continuation)

Product	NLGI Class	Dropping Point (°C)	Thickener Type	Base Fluid Type	Colour	Base Fluid (mm <sup>2</sup> /s at 40°C)	Operating Temperature (°C)	Antiwear/Extreme Pressure Characteristics	Corrosion Protection	Water Resistance	Solid Lubricants	DIN 51.502 Designation	Application
VERKOMAX EP-12	1/2	283	Overbased calcium sulphionate complex	Mineral	Greenish brown	400	-20 to +150	++ / +++	+++	+++	NO	KP 1/2N -20	Most suited for lubricating rolling mill bearings in the steel industry. Suitable for automatic lubrication systems.
VERKOMAX EP-2	2	280	Overbased calcium sulphionate complex	Mineral	Greenish brown	400	-20 to +150	++ / +++	+++	+++	NO	KP 2N -20	Most suited for lubricating rolling mill bearings in the steel industry.
VERKOMAX R-1000	2	260	Calcium sulphionate	Mineral	Red	1.000	-20 to +140	+++ / +++	+++	+++	YES	KPF 2N -20	Recommended to lubricate plain and rolling contact bearings, gears and in general mechanisms working under very high pressures and low and oscillating speeds: off-road, mining and agricultural machinery. Likewise, due to its resistance to salt water and its very high tenacity, it is especially indicated for lubricating plain and rolling contact bearings, guides, tracks, floodgates and pitch wheels in maritime and port machinery since its exceptionally high resistance to water flows allows it to stay at the lubrication point.

## INORGANIC GREASES

Product	NLGI Class	Punto de Gota (°C)	Thickener Type	Base Fluid Type	Colour	Base Fluid (mm <sup>2</sup> /s at 40°C)	Operating Temperature (°C)	Antiwear/Extreme Pressure Characteristics	Corrosion Protection	Water Resistance	Solid Lubricants	DIN 51.502 Designation	Application
GVA-2	2	No melting	Inorganic	Mineral	Brown	115	-20 to +140	+ /	+	++	NO	K 2N -20	Most suitable for lubricating bearings operating at medium and high speeds and high temperatures.
GVA MO	2	No melting	Inorganic	Mineral	Metallic black	115	-20 to +140	++ / +	+	++	YES	KPF 2N -20	Most suitable for lubricating bearings operating at medium and high speeds and sliding gears under load.

## SYNTHETIC GREASES

Product	NLGI Class	Dropping Point (°C)	Thickener Type	Base Fluid Type	Colour	Base Fluid (mm <sup>2</sup> /s at 40°C)	Operating Temperature (°C)	Antiwear/Extreme Pressure Characteristics	Corrosion Protection	Water Resistance	Solid Lubricants	DIN 51.502 Designation	Application
ANTARES-2 EP	2	185	Lithium	Synthetic	Fuchsia	10	-73 to +125	+ /	++	+	NO	KE 2H -70	Special grease for high-speed screws in machine tools and for lubricating gears and operating spindles in aircrafts.
ALTHEA-2	2	255	Lithium complex	Synthetic	Beige	26	-30 to +130	++ / +	++	++	NO	KE 2K -30	For high-speed screws in machine tool heads, spinning mill spindles and as long-term grease for precision bearings.
CORALIA-2	2	288	Lithium complex	Synthetic	Yellow	100	-50 to +150	++ / ++	+	++	NO	KPEHC 2N -50	Most suited for lubricating bearings in electrical motors and fans at medium and medium-high speeds and high temperatures. Suitable for long-life lubrication.
ALHENA-1 EP	1	270	Lithium complex	Synthetic	Beige	460	-30 to +180	+++ / ++	+++	+++	NO	KPEHC 1P -30	Designed for lubricating large bearings operating at slow or medium speeds and high vibratory loads. Most recommended for water-cooled bearings or bearings operating under saturated steam: papermaking machines, continuous casting, roller tracks, chills and rolling mills. Suitable for centralized lubrication systems.
ALHENA-2 EP	2	297	Lithium complex	Synthetic	Beige	460	-30 to +180	+++ / ++	+++	+++	NO	KPEHC 2P -30	Designed for lubricating large bearings operating at slow or medium speeds and high vibratory loads. Most recommended for water-cooled bearings or bearings operating under saturated steam: papermaking machines, continuous casting, roller tracks, chills and rolling mills. Suitable for centralized lubrication systems.

# GREASE CHART

## SYNTHETIC GREASES (continuation)

Product	NLGI Class	Dropping Point (°C)	Thickener Type	Base Fluid Type	Colour	Base Fluid (mm <sup>2</sup> /s at 40°C)	Operating Temperature (°C)	Antiwear/Extreme Pressure Characteristics	Corrosion Protection	Water Resistance	Solid Lubricants	DIN 51.502 Designation	Application
CORVUS G-2 HT	2	No melting	Inorganic	Synthetic	Greenish yellow	100	-40 to +160	++ / ++	+	++	YES	KPFHC 2P -40	For lubricating bearings operating at medium and high speeds.
PATELA G-00	00		Lithium	Synthetic	Blue	150	-40 to +130	++ / ++	+	+	NO	GPPG 00K -40	Especially recommended for crown-worm wheel units and for centralized greasing systems requiring a high-quality fluid grease.
VERKOSIL G-2	2	No melting	Pyrogenica silica	Synthetic	White	680 (2.200 at 25°C)	-40 to +180		+	++	NO	MSI 2R -40	Fitting agent for joints and elastomers in hydraulic systems. Sealing agent for bearings and joints. Excellent dielectric properties.

## POLYMERIC GREASES

Product	NLGI Class	Dropping Point (°C)	Thickener Type	Base Fluid Type	Colour	Base Fluid (mm <sup>2</sup> /s at 40°C)	Operating Temperature (°C)	Antiwear/Extreme Pressure Characteristics	Corrosion Protection	Water Resistance	Solid Lubricants	DIN 51.502 Designation	Application
VERKOL WG	00		Polymeric	Mineral	Yellow	475	-10 to +100	++ / +++	+	+	NO	GP 00G -10	Lubricant gel especially suited for gears with leakage problems.
GADENAS-WT	00		Polymeric	Mineral	Yellow	475	-10 to +100	+++ / +++	+	+	YES		Lubricant gel especially suited for lubricating wire ropes and gear, drive and conveyor chains operating at ambient temperature.
COBERTONE-0	0		Polymeric	Mineral	Black	475	-10 to +100	++ / +++	++	++	YES	OGPF OG -10	Lubricant for open gears, rollers, mining, cables and roller bridges.

## PASTES

Product	NLGI Class	Dropping Point (°C)	Thickener Type	Base Fluid Type	Colour	Base Fluid (mm <sup>2</sup> /s at 40°C)	Operating Temperature (°C)	Antiwear/Extreme Pressure Characteristics	Corrosion Protection	Water Resistance	Solid Lubricants	DIN 51.502 Designation	Application
MOLYWHITE SUPER	2			Mineral+ polymer	Yellow		-20 to +200	+++ / +++	+	++	YES		Fitting and primer agent for all types of mechanisms.
GB-100 ZN	1			Mineral	Metallic gray		Up to 400°C	/ +++	+	++	YES		Suited for pneumatic drilling machinery operating in harsh environments and pump lubrication of end threads in sounding units.
GB-200 ZN	2			Mineral	Metallic gray		Up to 400°C	/ +++	+	++	YES		Suited for pneumatic drilling machinery operating in harsh environments and pump lubrication of end threads in sounding units.
GRASA DE COBRE-SC	0			Mineral	Copper red		-20 to +1.000	/ +++	+	+	YES		Recommended for centralized lubrication systems of concrete breaker shafts.
PASTA DE COBRE G-1	1			Mineral	Copper red		-20 to +1.000	/ +++	+	+	YES		Recommended for drilling machinery operating in harsh environments and lubricating end threads of sounding units, facilitating the assembling and disassembling of drilling rigs.
PASTA DE COBRE G-2	2			Mineral	Copper red		-20 to +1.000	/ +++	+	+	YES		Recommended for drilling machinery operating in harsh environments and lubricating end threads of sounding units, facilitating the assembling and disassembling of drilling rigs.
VERKOPICK-2	2			Mineral	Copper black		-20 to +250	++ / +++	+	+++	YES		Suited for continuing lubrication of drilling hammers with centralized greasing systems.
ATLANTA PICK	2			Mineral+ polymer	Reddish gray		-20 to +250	+ / +++	+	+++	YES		Designed for lubricating picks and chisels of hydraulic hammers.

## GREASE CHART

### PASTES (continuation)

Product	NLGI Class	Dropping Point (°C)	Thickener Type	Base Fluid Type	Colour	Base Fluid (mm <sup>2</sup> /s at 40°C)	Operating Temperature (°C)	Antiwear/ Extreme Pressure Characteristics	Corrosion Protection	Water Resistance	Solid Lubricants	DIN 51.502 Designation	Application
ATLANTA AG	000/00			Mineral+ polymer	Reddish gray		-20 to +450	+ / + + +	+	++	YES		Specifically designed to facilitate the sliding and to prevent the jamming of relative movement sliding surfaces at low speeds and high temperatures.

### BIODEGRADABLE GREASES

Product	NLGI Class	Dropping Point (°C)	Thickener Type	Base Fluid Type	Colour	Base Fluid (mm <sup>2</sup> /s at 40°C)	Operating Temperature (°C)	Antiwear/ Extreme Pressure Characteristics	Corrosion Protection	Water Resistance	Solid Lubricants	DIN 51.502 Designation	Application
BIOVERROL CR-1	1	150	Anhydrous calcium	Natural ester	Ivory white	200	-20 to +90	+ / +	+	++	YES	KPFE 1E-20	Suited for application in mechanisms operating in harsh and/or humid environments under medium load conditions, such as in farming, mining, quarries, construction and papermaking companies.
BIOVERROL CR-2	2	150	Anhydrous calcium	Natural ester	Ivory white	200	-20 to +90	+ / +	+	++	YES	KPFE 2E-20	Suited for application in mechanisms operating in harsh and/or humid environments under medium load conditions, such as in farming, mining, quarries, construction and papermaking companies.
BIO-RAIL 430	00	140	Anhydrous calcium	Synthetic ester	Black	68	-30 to +70	++ / ++	+	+	YES		Designed for lubricating flange lubricators in locomotives and wagons to maintain railways and wheel profiles.
BIO-CABLES	0/00	144	Anhydrous calcium	Natural ester + synthetic ester	Black	100	-20 to +70	+ / ++	+	++	YES		For lubricating cables and chains in harbour cranes and any other installations operating in contact with sea water or water intended for human consumption.
BIO-RAIL G.C.G.	1/2	147	Anhydrous calcium	Natural ester + synthetic ester	Black	100	-20 to +70	+ / ++	+	++	YES		Suited for lubricating railway maintenance lubricators.

### H1 FOOD PROCESING GREASES

Product	NLGI Class	Dropping Point (°C)	Thickener Type	Base Fluid Type	Colour	Base Fluid (mm <sup>2</sup> /s at 40°C)	Operating Temperature (°C)	Antiwear/ Extreme Pressure Characteristics	Corrosion Protection	Water Resistance	Solid Lubricants	DIN 51.502 Designation	Application
VERKOFOOD FG-2	2	150	Anhydrous calcium	Mineral + polymer	White	46	-30 to +100	+ /	+	++	NO	K 2G-30	Suited for the food and ancillary industry to prevent toxicity risk in case of accidental contact. Especially designed for all types of bearings operating at medium/high speeds.
VERKOFOOD LF-2	2	150	Anhydrous calcium	Synthetic	White	38	-60 to +100	+ /	+	++	NO	KHC 2G-60	Suited for the food and ancillary industry to prevent toxicity risk in case of accidental contact. Especially designed for application in all types of moving or rolling mechanisms operating at very low temperatures.
VERKOFOOD-COMPLEX 0	0	250	Anhydrous calcium	Mineral + polymer	White	150	-20 to +130	+ / ++	+	+	YES	KPF 0K-20	Suited for the food and ancillary industry to prevent toxicity risk in case of accidental contact. Its anti-wear and extreme-pressure properties make it suitable for centralized greasing systems.

# GREASE CHART

## H1 FOOD PROCESING GREASES (continuation)

Product	NLGI Class	Dropping Point (°C)	Thickener Type	Base Fluid Type	Colour	Base Fluid (mm <sup>2</sup> /s at 40°C)	Operating Temperature (°C)	Antwear/Extreme Pressure Characteristics	Corrosion Protection	Water Resistance	Solid Lubricants	DIN 51.508 Designation	Application
VERKFOOD-COMPLEX 2	2	270	Aluminium complex	Mineral + polymer	White	150	-20 to +130	+ / ++	++	++	YES	KPF 2K -20	Suited for the food and ancillary industry to prevent toxicity risk in case of accidental contact. Its anti-wear and extreme-pressure properties make it suitable for all types of bearings operating at medium/high speeds.
VERKFOOD WR-2	2	270	Aluminium complex	Synthetic	White	88	-40 to +130	+ / ++	++	++	YES	KPFHC 2K -40	Suited for the food and ancillary industry to prevent toxicity risk in case of accidental contact. Its anti-wear and extreme-pressure properties make it suitable for lubricating knuckles and bearings operating at medium/high temperatures.
VERKFOOD SC-1	1	245	Aluminium complex	Synthetic	White	150	-40 to +120	+ / ++	+++	++	YES	KPFHC 1K -40	Recommended for lubricating bearings, knuckles and sliders where an eventual contact between the lubricant and the foodstuff may not be excluded. Specifically designed for lubricating pelletizer presses and animal feed granulators.

## VASELINE BASED GREASES

Product	NLGI Class	Dropping Point (°C)	Thickener Type	Base Fluid Type	Colour	Base Fluid (mm <sup>2</sup> /s at 40°C)	Operating Temperature (°C)	Antwear/Extreme Pressure Characteristics	Corrosion Protection	Water Resistance	Solid Lubricants	DIN 51.508 Designation	Application
VASELINA MERKUR-SS	4	65		Vaseline	White		0 to +60				NO		Solid paraffin with medicinal qualities for use in cosmetics, pharmaceuticals, food processing, textile, veterinary and packaging industries.

## AEROSOLS

Product	NLGI Class	Dropping Point (°C)	Thickener Type	Base Fluid Type	Colour	Base Fluid (mm <sup>2</sup> /s at 40°C)	Operating Temperature (°C)	Antwear/Extreme Pressure Characteristics	Corrosion Protection	Water Resistance	Solid Lubricants	DIN 51.508 Designation	Application
CADENAS-WT			Polymeric	Mineral	Yellow	475	-10 to +100	+++ / ++++	+	+	YES		Lubricant gel especially suited for lubricating wire ropes and gear, drive and conveyor chains operating at ambient temperature.
VERKFOOD-WRT			Aluminium complex	Synthetic	White	86	-40 to +140	++ / +++	++	++	YES		Suited for inaccessible lubrication points or bare surfaces. Can be applied in drying and sterilizing mechanisms operating at medium-high temperatures. H1-rated product designed for the food and ancillary industry to prevent toxicity risk in case of accidental contact.
COBERTONE			Aluminium complex	Mineral	Black	1.500	-10 to +120	++ / +++	++	++	YES		Lubricant for open gears, rollers, mining, cables and roller bridges.
MOLYBLACK					Graysh black		-180 to +450	+ / +	+	+	YES		Especially designed for lubricating sliding tracks and gates, bearings, chains, threads, valves, axles, screws, etc. allowing for diverse applications in the steel, papermaking, cement, power and textile industries.