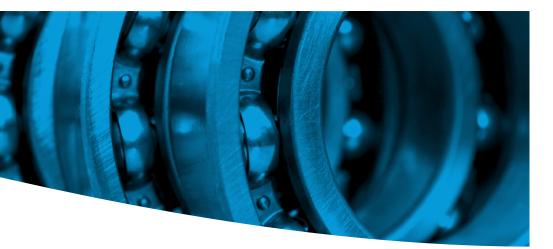


## Industry





## An Integrated Strategy – Our Commitment To The Industry

Since the 1930's, Quaker Houghton has been a major supplier of process fluids to the steel and aluminum industry. With every transition, we've been there: solving problems, reducing costs, and improving every step of the process - in plants around the world. And now, we're bringing even more to the field.

Through recent acquisitions Quaker Houghton has expanded its range of products to include specialty lubricants and greases. These investments demonstrate our dedication to our customers in realizing their challenges, and providing solutions from beginning to end.

#### **Optimizing Operations**

At Quaker Houghton, our chemists, engineers, and industry experts work closely with our customers to determine the right lubricant for the precise needs of each application. As a result, the following are achieved:

- Greater efficiency
- · Improved working conditions
- · Reduced total cost of ownership

Quaker Houghton offers a broad range of mineral oil and synthetic greases under the QUAKERTEK™ Specialty brand. Quaker Houghton also offers QUINTOPLEX™ fire-resistant greases as part of their product line.

#### **Markets Served**



#### **AEROSPACE**

- Synthetic, multi-purpose greases
- · Extreme speeds, loads and pressures
- · Withstand temps, and harsh chemicals



#### **FOOD & BEVERAGE**

- Kosher and Halal
- All products are NSF H-1 registered
- · Food grade oils produced as well
- ISO 22100 and ISO 21469 certified



#### HEAVY INDUSTRIAL

- · Lubricants for heavy factory equipment
- Withstand high speed and heavy loads
- Ensure minimal downtime
- Biodegradable options available



### **MILITARY**

- · Sole source, twenty year relationship
- · Technology advanced grease
- Wide range of applications
- · Recently introduced biodegradable option



#### **STEEL**

- · Grease designed for a longer life span
- · Outstanding oxidative and mechanical stability
- Coincide with scheduled oil changes
- · Extreme climate formulations



#### **TRANSPORTATION**

- Grease designed for a longer life span
- · Outstanding oxidative and mechanical stability
- · Heavy duty, off road equipment
- Coincide with scheduled oil changes
- · Extreme climate formulations

#### Gears and Gearboxes

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

Range of lubricating oils that depending on their viscosity grade, can be recommended for industrial gearboxes, rolling contact bearings, pump bearings, circulating systems, worm gears, pinion and girth gear systems, geared coupling, rolling bearings and plain bearings operating at moderate speed, requiring fluids 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.

Meet the requirements of U.S. Steel-224 and DIN 51517 Part 3-CLP, for the different viscosity grades.

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

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

They meet the requirements of the DIN 51517 Part 3-CLP standard and U.S. Steel-224, AGMA 9005 E-02, David Brown \$1.53.101 and Cincinnati Milacron P-77, 74, 59 & 35 specifications, depending on the viscosity grade.

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

Range of high performance non-toxic lubricating oils with excellent anti-wear and extreme pressure properties for industrial gearboxes, rolling contact bearings, pump bearings and circulating systems.

Specially designed for gearboxes with spur, helical or worm gears in the food industry, working at normal temperatures and where an incidental food contact may occur.

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

H1 Category Code, NSF Registration No. 145644, 145645, 145646, 145647 and 145648.

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

Range of oils for industrial gears that require an extraordinary extreme pressure power. Formulated with highly refined paraffinic mineral oil and the most modern additives, obtain excellent results in industrial gears, specially in gearboxes with inverted direction. They possess excellent water separation and anti-foam properties.

Meet the requirements of DIN 51517 Part 3-CLP standard and U.S. Steel-224 and AGMA 9005-E02 specifications.

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

Range of PAO type synthetic fluids for gearboxes with high natural viscosity index, excellent friction coefficient, low pour point, very low volatility, good compatibility with elastomers and exceptional resistance to ageing. They are formulated with ultimate additive technology to provide the highest performance in gearboxes. They are perfectly miscible with mineral oils, whose duration it triples. Specially recommended to extend lubrication intervals and shorten maintenance time.

Wind turbines: GEARMOTORS (yaw system and blade orientation).

Paper industry: GEARS AND HIGH TEMPERATURE BEARINGS (rolls drive, yankee, etc. by splash lubrication or centralized systems).

They comply with DIN 51517 Part 3-CLP for the different viscosity grades.

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

Range of high performance PAO type synthetic and non-toxic fluids with excellent anti-wear and extreme pressure properties. Due to the synthetic nature these are long life fluids specially designed for gearboxes with spur or helical gears in the food industry, working at medium and high temperatures and where an incidental food contact may occur.

Meet the requirements of DIN 51517 Part 3-CLP.

H1 Category Code. NSF Registration No. 128124, 128125 & 128126.

#### CORVUS MP ISO VG 320

PAO type synthetic fluid for industrial gearboxes, rolling contact bearings, pump bearings and circulating systems, requiring fluids with extraordinary anti-wear power and extreme pressure properties. Carefully and specially additivated to prevent micropitting (or gray-staining) phenomenon, passing brilliantly FVA 54/I-IV test. Due to its synthetic nature it is very thermally stable and can operate at temperatures between -40 and 140°C. It offers high performance and energy savings. Passes compatibility tests with 72 NBR 902, 75 FKM 585 elastomers and Loctite 128068 sealing compound.

Wind turbines: MAIN GEARBOX.

Meets the requirements of DIN 51517 Part 3-CLP-320 standard and U.S. Steel-224, AGMA 9005 E-02, David Brown S1.53.101 and Cincinnati Milacron P-59 specifications.

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

Range of PAG type synthetic fluids suitable for long-life lubrication of gears. They have a very high natural viscosity index (>1.75), extraordinary friction coefficient, low pour point and very high thermal stability. Specially recommended for gearboxes with high load and temperature 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.

#### **Gears and Gearboxes**

#### VERKOL OC

Synthetic fluid of high viscosity and excellent adhesivity.

Paper industry: OPEN GEARS (transmission girth gears).

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

Special fluids developed for service lubrication of open gears (girth gear and pinion drives), plain bearings and chains in sugar cane mills and sugar cane alcohol factories. Also recommended for large gear drives of mills and rotary kilns in the cement and mining industry that may require a lubricant of very high viscosity.

#### **VERKOL WG NLGI 00**

Semi-synthetic lubricant gel, transparent, shiny and very thready. This product is specially formulated for the lubrication of gearboxes, including worm gears, located in places with difficult access and / or where there could be leakage problems and excessive noise, Ideal for use in bridge cranes, Classification according to DIN 51.502: GP 00G-10.

#### BIOCOMPOUND ISO VG 220/320

Biodegradable synthetic lubricant fluids for industrial gearboxes, worm gears, pinion and girth gear systems, elastic couplings, rolling contact bearings and pump bearings operating at moderate velocities and circulating systems requiring medium viscosity fluids with extraordinary anti-wear power and extreme pressure properties. BIOCOMPOUND synthetic fluids are non-toxic products with a biodegradability rate of over 65% according to OECD 301B tests.

### **Circulating Oils**

#### RODAKOL PM ISO VG 150/220

Products based on mineral oils and specific additives to meet the requirements of the most important manufacturers of high-technology paper machines. It has excellent chemical stability, as well as anti-wear properties, which ensures optimum performance under the special service conditions that are typical of these systems. The RODAKOL range of products are specifically suitable for the lubrication of the bearings at the wet section bearings and at the dry section, respectively, even when designed for simultaneous lubrication of drives.

They meet VOITH VN 108 specification and DIN 51517 Part 2-CL standard and the requirements of METSO and BELOIT.

#### CIRCULACION ISO VG 100/ 150/ 220/ 320

Range of highly refined optimally additivated mineral oils, specially designed for circulating systems with excellent resistance to oxidation at high temperatures (even under steam conditions) and protection against corrosion. They also have excellent water demulsibility and anti-foam properties, being inert to yellow metals and sealing materials.

Comply with DIN 51517 Part 3-CLP, for the different viscosity grades.

#### HM CIRCULACION - 90 /220

Oils specifically designed for circulating systems, especially those found in the steel industry (Morgoil, Mesta, Morgan rolling mills, Danieli, Demag, etc.) or in the paper industry (dryer rolls, etc.) where the fluid used must ensure optimum characteristics of oxidation resistance at high temperatures (even under steam conditions) and corrosion protection. They are based on highly refined mineral oils blended with selected additives that provide excellent water demulsibility and foam control. These oils are inert to yellow metals and sealing materials.

#### CIRCULACION SPD ISO VG 220

PAO type synthetic fluid for circulating systems with high resistance to oxidation at high temperatures (even under steam conditions), strong protection against corrosion and low residue formation. It has low volatility, excellent anti-friction and hydrolytic stability properties.

Paper industry: BEARINGS (dryer rolls oil circulation at very high temperature).

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

#### COMPOUND ST ISO VG 320

Synthetic fluid for circulating systems with low residue formation, high resistance to oxidation at high temperatures (even under steam conditions) and strong protection against corrosion. It has low volatility, excellent anti-friction and hydrolytic stability properties.

Paper industry: BEARINGS (dryer rolls oil circulation with low volume flows).

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

#### **Hydraulics 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 wear test. They meet DIN 51524 Part 2-HLP, AFNOR NFE 48603 HM and ISO 6743/4 L-HM standards and DENISON HF-0 and HF-2 specifications.

The ISO 46 also meets DENISON TP 02100, AFNOR NFE 48690 and AFNOR NFE 48691 filterability test.

#### 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. Ashless type hydraulic oil with good filterability.

Recommended for hydraulic systems with minimum tolerances and high precision of their elements.

Meet DIN 51524 Part 2-HLP, AFNOR NFE 48603 HM and ISO 6743/4 L-HM standards.

Approvals: MANNESMANN REXROTH

#### VESTA HLP - SF ISO VG 32/46/68

Hydraulic oils with excellent thermal stability, good anti-wear properties, quick air and water separation and highly resistant to oxidation, corrosion, rust and foaming. Ashless type hydraulic oil with a filtration grade according to ISO 4406 of 16/14/11 (ISO 32) and 17/15/12 (ISO 46 & 68) maximum. Recommended for hydraulic systems with minimum tolerances and high precision of their elements.

Meet DIN 51524 Part 2-HLP, AFNOR NFE 48603 HM and ISO 6743/4 L-HM standards.

#### 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.

Meet the requirements of DIN 51524 Part 3-HVLP, ISO 6743/4 L-HV and AFNOR NFE 48603 HV standards.

#### VESTA HV ISO VG 22/32/46/68

Range of hydraulic oils with 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 hydraulic systems of excavators, concrete pumps, rollers, pavers and in all types of industries where there might be sudden temperature changes and specifically for the following brands: SCHWING, PUTZMEISTER, YUMBO, POCLAIN, KUBOTA, DRESSER, ATLAS, MESSERSI, DERRUPE, EUCLID, LEBRERO, etc.

ISO 22 and ISO 32 are recommended for hydraulic systems of solar trackers (azimuthal rotation system by hydraulic system).

Meet the following standards and specifications: DIN 51524 Part 3-HVLP, ISO 6743/4 L-HV, AFNOR NFE 48603 HV and DENISON HF-0. Approvals: MANNESMANN REXROTH (for ISO VG 32/ 46/ 68).

#### VESTA HV - SF ISO VG 32/46

Hydraulic oils with high viscosity index, excellent thermal stability, good anti-wear properties, quick air and water separation and highly resistant to oxidation, corrosion, rust and foaming. Theses fluids are filtered to ensure a filtration grade according to ISO 4406 of 17/15/12 maximum. Recommended for hydraulic systems in all types of industries where there might be sudden temperature changes and where the tolerances are minimal to ensure accuracy of the elements.

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

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

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

Meet DIN 51524 Part 2-HLP, AFNOR NFE 48603-HM and ISO-HM 6743/4 L-HM standards. H1 Category Code. NSF Registration No. 128127, 128128 & 128129.

#### VESTA H-LPD ISO VG 32/46/68

Anti-wear type hydraulic fluids, based on highly refined paraffinic mineral oil, with excellent thermal stability, high capacity to separate from air and protective properties against oxidation, corrosion, rust and foam. They are inert to sealing materials (joints, hoses, etc.).

They satisfy MAN N-698 H-LPD specification and also DIN 51524 Part 2-HLP and ISO 6743/4 L-HM standards, with the exception of the emulsion test in the last two cases.

#### **VESTA HVS ISO VG 15**

Hydraulic fluid based on a mixture of synthetic fluids and highly refined paraffinic mineral oil, with highly shear stable polymers, that confers it a very high viscosity index, specially indicated for working conditions where there might foresee a wide range of temperatures in the same circuit.

Meets the requirements of the following standards and specifications: DIN 51524 Part 3-HVLP, ISO 6743/4 L-HV, AFNOR NFE 48603 HV, Denison HF-0 and HF-2, being compatible with any fluid complying with such standards.

#### VESTA 4C ISO VG 46

Hydraulic oil for power transmission, with very high viscosity index and extraordinary shear resistance, specially indicated for working conditions where a wide range of temperatures exists. It has excellent anti-wear properties (Vickers pump test), high air separation (avoiding cavitations) and quick demulsibility. It also has extraordinary properties against corrosion, as well as excellent foam collapsing characteristics.

Satisfies DIN 51524 Part 3-HVLP, ISO 6743/4 L-HV and AFNOR NFE 48603-HV standards.

Approvals: ORONA S. COOP.

#### **Hydraulics and Transmissions**

#### **VESTA 5B ISO VG 68**

Hydraulic oil for power transmission, with very high viscosity index and extraordinary shear resistance, specially indicated for working conditions where a wide range of temperatures exists. It has excellent anti-wear properties (Vickers pump test), high air separation (avoiding cavitations) and quick demulsibility. It also has extraordinary properties against corrosion, as well as excellent foam collapsing characteristics.

Satisfies DIN 51524 Part 3-HVLP, ISO 6743/4 L-HV and AFNOR NFE 48603-HV standards.

Approvals: ORONA S. COOP.

#### **VESTA TV ISO VG 46**

Transmission fluid of high stability to degradation, excellent resistance to oxidation and corrosion. It prevents the formation of deposits, even at very high temperatures. Specially recommended for automatic transmissions that require a GM DEXRON-II D quality level but with a higher viscosity.

#### VESTA HG ISO VG 46/68

Mixed fluids for power transmission and slideways lubrication systems based on very thermally stable highly refined paraffinic mineral oil (satisfying Cincinnati Milacron thermal stability test). They are highly resistant to oxidation, corrosion, rust and foaming and has good air separation properties. They are inert to sealing materials (joints, hoses, etc.).

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

#### Slideways

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

Range of special oils to lubricate horizontal and vertical slideways of machine tools. Specifically formulated to reduce 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 use in circulating systems and for the lubrication of bearings.

They meet DIN CGLP requirements.

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

Range of oils specially suitable for the lubrication of both horizontal and vertical slideways, based on highly refined paraffinic mineral oil, with extraordinary adhesivity properties, which prevents dripping and splattering, and featuring an excellent metal affinity and water repellent properties.

#### **Turbines**

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

Range of oils formulated with top quality refined mineral base stocks and specific additives to comply with the requirements of the most important turbine manufacturers. They provide oxidation stability for long oil life and reduced maintenance with low formation of residues. They also have excellent anti-rust and anti-wear properties that ensure the proteotion of the lubricated parts.

Depending on the viscosity grade, these oils meet, amongst others, the requirements of the following standards and specifications: ISO 6743-67L-TSA, DIN 51524 Part 1-HL, DIN 51517 Part 2-CL, DIN 51515 Part 1-L TD, MIL-1-17672 D, CINCINNATI MILACRON P-38, P-54, AFNOR NFE 48603 HL, U.S. Steel 120, Siemens TLV 9013 04/01, General Electric GEK-32568 A/C and GEK-32568f, Brown Boveri HTGD 90117, British Standard BS-489, CEGB Standard 207001, Solar Turbines ES 9-224.

#### Compressors

#### NAVA ISO VG 68/100

Lubricants for air compressors based on naphthenic oil, highly additivated to resist oxidation and without components that can leave residues or produce ashes. Because of their mild detergency, they will not only prevent from carbon deposit formation on valves but also will keep heat exchangers, air-receivers and pulse absorbers clean. Their high autoignition point enhances the security against fire and explosions hazards.

They satisfy DIN 51506/VDL and ISO-6743-L-DAB standards.

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

Range of lubricants specially recommended for vane compressors with high operating temperatures, cylinders of reciprocating compressors, screw compressors and vacuum pumps. They are recommended for most models of ATLAS COPCO, INGERSOLL-RAND, MACO, SAMUR and COMPAIR HOLMAN compressors where required an ISO VG 100 mineral oil. They comply with DIN 51.506/VDL and ISO-6743-L-DAB standards.

#### NAVAPAR HM ISO VG 150/320

Lubricants specially recommended for vane compressors with high operating temperatures, cylinders of reciprocating compressors and vacuum pumps, where the manufacturers stipulate the use of high viscosity fluids, but mainly for hypercompressor gear casings and cylinders, such as the ones of BORSIG, HALBERG, SULZER-BURCKHARDT and NUOVO-PIGNONE. Approvals: SULZER-BURCKHARDT.

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

Range of synthetic fluids for screw and vane compressors with high operating temperatures. Due to their synthetic nature they extend lubrication intervals, reducing maintenance costs. Compatible with mineral oils. They are recommended for most SAMUR, WORTHINGTON, ATLAS COPCO, INGERSOLL-RAND and COMPAIR HOLMAN compressors where a synthetic fluid is required.

They comply with DIN 51506/VDL and ISO-6743-L-DAB/DAJ.

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

Synthetic fluid for refrigeration compressors using carbon dioxide, ammonia, methyl chloride or

halogenated hydrocarbons (CFC's and HCFC's) 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 and R-503 in all versions.

Designed for lubricating industrial refrigeration of rotary and reciprocating compressors and turbocompressors.

#### NAVASYNT FG ISO VG 46 / 100

Synthetic non toxic lubricants for rotary air compressors, highly additivated to resist wear, oxidation, corrosion, rust and foam.

The ISO VG 46 oil is recommended for vane rotary compressors and allows oil changes every 6000 hours, while in screw compressors (lubricated or immersed) oil is changed every 8000 hours.

The ISO VG 100 oil is recommended for gearboxes that need this viscosity grade, vacuum pumps, variable speed drives, oil immersed bearings in pumps and fans, blowers and, overall, every food industry related mechanism where a superior oxidation and aging resistant fluid is advisable.

Recommended both for automatic lubricating circuits for high speed drinking can seaming machines and for the most part of food industry related circulating systems. They increase the lifetime of compressed air installations, maintaining the airlines clean and sealing-free, plus reducing the sludge, varnish and carbon formation to a minimum. They save costs in filter replacements and spare parts under high friction levels, even under high temperature conditions.

They comply with DIN 51506 VD-L and ISO-6743-L-DAB/DAJ-100 standards. H1 Category Code. NSF Registration No. 147138 & 128140

#### **Heat Transfer Oils**

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

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

#### Insulating Oils

#### **VERKOVOLT - A ISO VG 10**

Light, non-coloured, transparent and shiny fluid specific for transformers, with excellent properties, which are maintained over many years of service. It is based on a naphthenic, non-inhibited and highly refined 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, low temperature properties and extraordinary oxidation stability. This product does not contain PCB's according to the current legislation.

Satisfies the following specification: IEC 60296 (03) General Specification.

#### **Chain Oils**

#### SYNKOL - 100 Mo ISO VG 100

Synthetic fluid with high thermal stability, containing emergency solid lubricants, suitable for conveyor chains operating at high temperatures. It can be easily applied by oil bath, drip lubrication or sprayed.

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

Range of synthetic fluids with high thermal stability, suitable for conveyor chains operating at high temperatures. They provide an excellent protection against oxidation and corrosion at high temperatures, and very good anti-wear and anti-friction properties. Depending on the viscosity, they can be applied manually by drip lubrication, with a brush or through certain automatic systems. Recommended for use in all types of chains and conveyor systems, in a wide variety of industries, such as steel and textile industries, wood and fiber board manufacturing industries, printing plants, dryers and, in general, for most types of ovens.

#### SYNKOL ISO VG 50

Synthetic fluid with high thermal stability, suitable for conveyor chains operating at very low, medium and high temperatures. It provides an excellent protection against oxidation and corrosion at high temperatures, and very good anti-wear and anti-friction properties. It can be applied manually by drip lubrication or through certain automatic systems. Recommended for use in all types of chains and conveyor systems, where a medium viscosity product is required.

Specially indicated for cleaning conveyor belts in wood panel industries where high temperatures and sawdust chips require this type of products to clean and clear air injectors.

#### Cogeneration

#### **VERKOGAS SAE 40**

Oil specially developed for use in naturally aspirated and turbocharged engines, powered by natural gas, biogas, methane, propane or carbon monoxide. Mostly recommended for engines whose service temperature conditions are not subject to dramatic fluctuations. May be used both in two-stroke and four-stroke engines. Inhibited against corrosion, oxidation and nitration, as well as the formation of foam, providing (considering its suitable detergency and dispersancy level), longer valve-life, avoiding stiffen of segments and pearly of the spark plug, therefore increasing the intervals between oil changes. Meets API CF/CF-2 specification.

#### VERKOGAS D - 40 SAE 40

Oil specially developed for use in naturally aspirated and turbocharged engines, powered by gases of high content in sulphur, like sour gas, sewage or landfill gas, that contains mainly methane but also a big amount of corrosive acids, specially hydrogen sulphide. Is highly inhibited against corrosion, rust, oxidation and nitration as well as the formation of foam, providing a longer valve-life, avoiding wear, deposit formation and stiffen of the segments, therefore increasing the intervals between oil changes.

Recommended for use in WAUKESHA, JENBACHER and CATERPILLAR gas engines, which work in severe duty applications including cogeneration engines with ebullient cooling.

#### **Electrical Discharge Machining (EDM)**

#### **ELECTROKOL ISO VG 2**

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

## Forging & Extrusion Oils

#### GRAFKOL GA - 20

Water soluble fluid specially developed for the warm forging of steel. Request product information.

#### **VERKOL - ESM**

Oil-based highly concentrated and stabilized suspension of solids for the warm forging of steel. Request product information.

#### **Anhydrous Calcium Greases**

PRODUCT	NLGI GRADE	DROPPING POINT (°C)	THICKENER TYPE	BASE FLUID TYPE	BASE FLUID (MM²/S AT 40°C)	OPERATING TEMPERATURE (°C)	ANTIWEAR / EXTREME PRESSURE CHARACTERISTICS	CORROSION PROTECTION	WATER RESISTANCE
QUAKERTEK™ ALDEBA-2	2	150	Anhydrous calcium	Mineral	68	-20 to +100	+/	+	++
QUAKERTEK™ ALDEBA GT- 6/00	00	145	Anhydrous calcium	Mineral + polymer	1000	-20 to +90	++ / ++	++	++
QUAKERTEK™ ALDEBA GT-6	2	150	Anhydrous calcium	Mineral + polymer	1000	-20 to +100	** / **	**	***

PRODUCT	COLOUR	SOLID LUBRICANTS	DIN 51.502 DESIGNATION	APPLICATION
QUAKERTEK™ ALDEBA-2	Light yellow	NO	K 2G -20	Easy to inject or pump. Especially suitable for mechanisms in outdoor machinery: construction, motor vehicles, farm machinery.
QUAKERTEK™ ALDEBA GT-6/00	Light yellow	NO	GP 00E -20	For main gearboxes and close gear boxes under high load and heavy pressure conditions: mining, paper industry, railway industry.
QUAKERTEK™ ALDEBA GT-6	Light yellow	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 GRADE	DROPPING POINT (°C)	THICKENER TYPE	BASE FLUID TYPE	BASE FLUID (MM²/S AT 40°C)	OPERATING TEMPERATURE (°C)	ANTIWEAR / EXTREME PRESSURE CHARACTERISTICS	CORROSION PROTECTION	WATER RESISTANCE
QUAKERTEK™ ASTURUS-2	2	190	Lithium	Mineral	100	-35 to +120	++ /	**	**
QUAKERTEK™ ASTURUS-3	3	190	Lithium	Mineral	100	-20 to +130	++ /	**	**
QUAKERTEK™ ESPECIAL-BA	2	190	Lithium	Mineral	115	-15 to +110	+/	+	++
QUAKERTEK™ BB-1	1	190	Lithium	Mineral	175	-35 to +110	+/	+	+
QUAKERTEK™ BB-2	2	190	Lithium	Mineral	175	-35 to +110	+/	+	**
QUAKERTEK™ BB-3	3	200	Lithium	Mineral	175	-15 to +110	+/	+	++

PRODUCT	COLOUR	SOLID LUBRICANTS	DIN 51.502 DESIGNATION	APPLICATION
QUAKERTEK™ ASTURUS-2	Light yellow	NO	K 2K -30	For all types of bearings, especially in electric motors, pumps and flat bearings.
QUAKERTEK™ ASTURUS-3	Light yellow	NO	K 3K -20	For all types of bearings, especially in electric motors, pumps and flat bearings.
QUAKERTEK™ ESPECIAL-BA	Light yellow	NO	K 2G -10	Suited for lubricating Banbury mixers.
QUAKERTEK™ BB-1	Greenish	NO	K 1G -30	For general greasing purposes and bearings.
QUAKERTEK™ BB-2	Greenish	NO	K 2G -30	For general greasing purposes and bearings.
QUAKERTEK™ BB-3	Greenish	NO	K 3G -10	For general greasing purposes and bearings.

#### E.p. Lithium Greases

PRODUCT	NLGI GRADE	DROPPING POINT (°C)	THICKENER TYPE	BASE FLUID TYPE	BASE FLUID (MM²/S AT 40°C)	OPERATING TEMPERATURE (°C)	ANTIWEAR / EXTREME PRESSURE CHARACTERISTICS	CORROSION PROTECTION	WATER RESISTANCE
QUAKERTEK™ VERKOFARM	2/3	200	Lithium	Mineral	100	-20 to +130	++ /++	++	**
QUAKERTEK™ RF-2 EP	2	197	Lithium	Mineral	110	-20 to +120	++ /++	**	++
QUAKERTEK™ EPX-00	00	185	Lithium	Mineral	175	-30 to +90	++ /++		+
QUAKERTEK™ EPX-0	0	190	Lithium	Mineral	175	-30 to +100	++ /++	٠	+
QUAKERTEK™ EPX-1	1	196	Lithium	Mineral	175	-30 to +120	++/++	++	++
QUAKERTEK™ EPX-2	2	200	Lithium	Mineral	175	-30 to +130	++/++	**	++

## E.p. Lithium Greases

PRODUCT	COLOUR	SOLID LUBRICANTS	DIN 51.502 DESIGNATION	APPLICATION
QUAKERTEK™ VERKOFARM	Dark brown	NO	KP 2/3K -20	Suited for farm and construction machinery and motor vehicles.
QUAKERTEK™ RF-2 EP	Beige	NO	KP 2K -20	For all types of mechanisms and bearings operating under heavy load conditions: steel industry, rolling industry, mining, construction machinery.
QUAKERTEK™ EPX-00	Dark brown	NO	GP 00E -30	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.
QUAKERTEK™ EPX-0	Dark brown	NO	GP 0G -30	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.
QUAKERTEK™ EPX-1	Dark brown	NO	KP 1K -30	For all types of mechanisms and bearings operating under heavy load conditions: steel industry, rolling industry, mining, construction machinery.
QUAKERTEK™ EPX-2	Dark brown	NO	KP 2K -30	For all types of mechanisms and bearings operating under heavy load conditions: steel industry, rolling industry, mining, construction machinery.

PRODUCT	NLGI GRADE	DROPPING POINT (°C)	THICKENER TYPE	BASE FLUID TYPE	BASE FLUID (MM²/S AT 40°C)	OPERATING TEMPERATURE (°C)	ANTIWEAR / EXTREME PRESSURE CHARACTERISTICS	CORROSION PROTECTION	WATER RESISTANCE
QUAKERTEK™ EPX-3	3	200	Lithium	Mineral	175	-20 to +130	++/++	++	++
QUAKERTEK™ KIRUNA-1 EP	1	185	Lithium	Mineral	220	-30 to +120	++/++	++	++
QUAKERTEK™ KIRUNA-2 EP	2	203	Lithium	Mineral	220	-30 to +120	++/++	++	++
QUAKERTEK™ VL-2R	2	188	Lithium	Mineral	165	-20 to +140	+++/++	++	**
QUAKERTEK™ TXP	2/3	200	Lithium	Mineral	320	-20 to +130	++/++	++	++
QUAKERTEK™ CC	2	187	Lithium	Mineral	500	-20 to +130	++/++	++	++
QUAKERTEK™ MOLYVERKOL-2	2	195	Lithium	Mineral	150	-20 to +130	++/+++	+	**
QUAKERTEK™ FOK-2/E	2	193	Lithium	Mineral	100	-20 to +120	++/++	+	++
QUAKERTEK™ MOLYBDAL-2	2	190	Lithium	Mineral	175	-20 to +130	++/++	+	++

PRODUCT	COLOUR	SOLID LUBRICANTS	DIN 51.502 DESIGNATION	APPLICATION
QUAKERTEK™ EPX-3	Dark brown	NO	KP 3K -20	For all types of mechanisms and bearings operating under heavy load conditions: steel industry, rolling industry, mining, construction machinery.
QUAKERTEK™ KIRUNA-1 EP	Brown	YES	KPF 1K -30	For bearings and mechanisms in general operating under heavy load conditions: steel industry, rolling industry, mining, construction, paper industry.
QUAKERTEK™ KIRUNA-2 EP	Brown	YES	KPF 2K -30	For bearings and mechanisms in general operating under heavy load conditions: steel industry, rolling industry, mining, construction, paper industry.
QUAKERTEK™ VL-2R	Brown	NO	KP 2N -20	Railway-specific grease for axle boxes in wagons, locomotives and electric railcars.
QUAKERTEK™ TXP	Brown	NO	KP 2/3K -20	Ideally suited for bearings operating under heavy load and low speed conditions.
QUAKERTEK™ CC	Dark brown	NO	KP 2K -20	Suited for efficiently-refrigerated continuous casting machines, rolling mills and all types of bearings.
QUAKERTEK™ MOLYVERKOL-2	Metallic black	YES	KPF 2K -20	Extreme pressure multipurpose grease with MoS2. Most suitable for difficult-to-relubricate points operating under harsh load and vibratory conditions.
QUAKERTEK™ FOK-2/E	Black	YES	KPF 2K -20	Especially recommended for running gears and heavy loaded sliding gears, automotive springs, bolts, farm and construction machinery.
QUAKERTEK™ MOLYBDAL-2	Black	YES	KPF 2K -20	Especially recommended for sliding gears under heavy loads and multipurpose applications in all types of machinery.

## **Inorganic Greases**

PRODUCT	NLGI GRADE	DROPPING POINT (°C)	THICKENER TYPE	BASE FLUID TYPE	BASE FLUID (MM²/S AT 40°C)	OPERATING TEMPERATURE (°C)	ANTIWEAR / EXTREME PRESSURE CHARACTERISTICS	CORROSION PROTECTION	WATER RESISTANCE
QUAKERTEK™ GVA -2	2	Infusible	Inorganic	Mineral	115	-20 to +140	+/	+	++
QUAKERTEK™ -GVA MO	2	Infusible	Inorganic	Mineral	115	-30 to +140	++/+	*	++

PRODUCT	COLOUR	SOLID LUBRICANTS	DIN 51.502 DESIGNATION	APPLICATION
QUAKERTEK™ GVA -2	Light yellow	NO	K 2N -20	Most suitable for lubricating bearings operating at medium and high speeds and high temperatures.
QUAKERTEK™ -GVA MO	Metallic black	YES	KPF 2N -20	Most suitable for lubricating bearings operating at medium and high speeds and sliding gears under load.

## Complex Greases

PRODUCT	NLGI GRADE	DROPPING POINT (°C)	THICKENER TYPE	BASE FLUID TYPE	BASE FLUID (MM²/S AT 40°C)	OPERATING TEMPERATURE (°C)	ANTIWEAR / EXTREME PRESSURE CHARACTERISTICS	CORROSION PROTECTION	WATER RESISTANCE
QUAKERTEK™ THT-2	2	267	Special sodium	Mineral	320	-10 to +140	+/+	+	++
QUAKERTEK™ ALC- 00 HV	00		Aluminium complex	Mineral + polymer	1500	-10 to +120	++ / +++	**	++
QUAKERTEK™ 320-A	2	287	Lithium complex	Mineral	120	-20 to +140	+/+	+	++
QUAKERTEK™ 320-I GR.1	1	285	Lithium complex	Mineral	460	-20 to +150	+/+	**	++
QUAKERTEK™ 320-I	2/1	288	Lithium complex	Mineral	460	-20 to +150	+/+	**	++
QUAKERTEK™ VITALIA BF	3/2	280	Lithium complex	Mineral	135	-20 to +140	*** / **	**	++
QUAKERTEK™ TERMOPLEX 220 EP	2/3	285	Lithium complex	Mineral	220	-20 to +150	*** / ***	**	**
QUAKERTEK™ VERKOPLEX XP-12	1/2	275	Lithium complex	Mineral	220	-20 to +140	++ / ++	**	++
QUAKERTEK™ VERKOPLEX XP-2	2	280	Lithium complex	Mineral	220	-20 to +140	++ / ++	**	**

COLOUR	SOLID LUBRICANTS	DIN 51.502 DESIGNATION	APPLICATION
Beige	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.
Black	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.
Light brown	NO	K 2N -20	Suitable for wheel bearings and electrical brakes in current trucks and coaches as well as for industrial applications.
Brown	NO	K 1N -20	Suited for centralized lubrication systems in mechanisms under high temperature and heavy pressure conditions.
Brown	NO	K 2/1N -20	Suited for the steel industry and heavy industry in general. Suitable for papermaking machines and construction machinery.
Yellow	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.
Yellow	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, soreens, rolling mill cylinders.
Dark brown	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.
Dark brown	NO	KP 2N -20	Suited for application in bearings and mechanisms in general under heavy load and high temperature conditions.
	Beige Black Light brown Brown Brown Yellow Yellow Dark brown Dark	Beige NO  Black YES  Light brown NO  Brown NO  Prown NO  Yellow NO  Yellow YES  Dark NO  Dark NO	Beige         NO         K 2N - 10           Black         YES         OGPF 00K - 10           Light brown         NO         K 2N - 20           Brown         NO         K 1N - 20           Brown         NO         K 2/1N - 20           Yellow         NO         KP 3/2N - 20           Yellow         YES         KPF 2/3N - 20           Dark brown         NO         KP 1/2N - 20

## **Complex Greases**

PRODUCT	NLGI GRADE	DROPPING POINT (°C)	THICKENER TYPE	BASE FLUID TYPE	BASE FLUID (MM²/S AT 40°C)	OPERATING TEMPERATURE (°C)	ANTIWEAR / EXTREME PRESSURE CHARACTERISTICS	CORROSION PROTECTION	WATER RESISTANCE
QUAKERTEK™ VERKOPLEX ST-1	1	272	Lithium complex	Mineral	320	-15 to +140	++ / ++	++	++
QUAKERTEK™ VERKOPLEX EP-2	2	286	Lithium complex	Mineral	460	-15 to +140	++ / ++	++	++
QUAKERTEK™ RODAPLEX PM-1	1	240	Lithium- calcium complex	Mineral	400	-20 to +140	** / ***	***	***
QUAKERTEK™ RODAPLEX PM-2	2	261	Lithium- calcium complex	Mineral	400	-20 to +140	** / ***	+++	***
QUAKERTEK™ VERKOTAC-350	0/1	265	Lithium complex	Mineral + polymer	500	-10 to +140	+++ / +++	++	++
QUAKERTEK™ ATLANTA	2	>280	Lithium complex	Mineral + polymer	1000	-10 to +160	+++ / +++	+++	+++
QUAKERTEK™ COBERTONE-1	1	272	Lithium complex	Mineral + polymer	250	-20 to +140	++ / +++	+	**
QUAKERTEK™ VERKOMAX SG-1	1	275	Calcium sulphonate complex	Mineral	220	-15 to +140	++ / +++	+++	+++
QUAKERTEK™ VERKOMAX SG-2	2	280	Calcium sulphonate complex	Mineral	220	-15 to +150	++ / +++	+++	+++
QUAKERTEK™ VERKOMAX EP-12	1/2	283	Calcium sulphonate complex	Mineral	400	-20 to +150	++ / +++	+++	+++

PRODUCT	COLOUR	SOLID LUBRICANTS	DIN 51.502 DESIGNATION	APPLICATION
QUAKERTEK™ VERKOPLEX ST-1	Dark brown	NO	KP 1N -10	For mechanisms and bearings under high temperatures and heavy load. Most suitable for steel industry especially for centralized lubrication systems.
QUAKERTEK™ VERKOPLEX EP-2	Dark brown	NO	KP 2N -10	For bearings operating under high temperature and heavy pressure conditions. Most suitable for the steel industry.
QUAKERTEK™ RODAPLEX PM-1	Beige	YES	KPF 1N -20	Designed for lubricating bearings in papermaking machines, both in the wet and the dry sections, using centralized lubrication systems.
QUAKERTEK™ RODAPLEX PM-2	Beige	YES	KPF 2N -20	Designed for lubricating bearings in papermaking machines, both in the wet and the dry sections.
QUAKERTEK™ VERKOTAC-350	Beige	YES	OGPF 0/1N -10	Especially developed for open gears. Suitable for mining and construction machinery.
QUAKERTEK™ ATLANTA	Metallic black	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 hydraulia conorted breakers.
QUAKERTEK™ COBERTONE-1	Black	YES	OGPF 1N -20	Recommended as priming grease in open gears of rotary equipments in the cement and mining industry.
QUAKERTEK™ VERKOMAX SG-1	Greenish brown	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.
QUAKERTEK™ VERKOMAX SG-2	Greenish brown	NO	KP 2N -10	Most suitable for lubricating rolling mill bearings in the steel industry. Also ideal for the paper industry.
QUAKERTEK™ VERKOMAX EP-12	Greenish brown	NO	KP 1/2N -20	Most suited for lubricating rolling mill bearings in the steel industry. Suitable for automatic lubrication systems.

## **Complex Greases**

PRODUCT	NLGI GRADE	DROPPING POINT (°C)	THICKENER TYPE	BASE FLUID TYPE	BASE FLUID (MM²/S AT 40°C)	OPERATING TEMPERATURE (°C)	ANTIWEAR / EXTREME PRESSURE CHARACTERISTICS	CORROSION PROTECTION	WATER RESISTANCE
QUAKERTEK™ VERKOMAX RS-12	1/2	285	Calcium sulphonate complex	Mineral	400	-20 to +150	++ / +++	***	+++
QUAKERTEK™ VERKOMAX EP-2	2	280	Calcium sulphonate complex	Mineral	400	-20 to +150	++ / +++	+++	+++
QUAKERTEK™ VERKOMAX R-250	2	260	Calcium sulphonate	Mineral	250	-35 to +130	+++ / +++	***	+++
QUAKERTEK™ VERKOMAX R - 1000	2	260	Calcium sulphonate	Mineral + Polymer	1000	-20 to +140	+++ / +++	***	+++

PRODUCT	COLOUR	SOLID LUBRICANTS	DIN 51.502 DESIGNATION	APPLICATION
QUAKERTEK™ VERKOMAX RS-12	Red	NO	KP 1/2N -20	Most suited for lubricating rolling mill bearings in the steel industry. Suitable for automatic lubrication systems.
QUAKERTEK™ VERKOMAX EP-2	Greenish brown	NO	KP 2N -20	Most suited for lubricating rolling mill bearings in the steel industry.
QUAKERTEK™ VERKOMAX R-250	Red	YES	KPF 2K -30	Specifically designed to lubricate most grease points in off-road, mining and agricultural machinery. Also recommended in the industry, in machinery contaminated with process or wash waters and under high loads and temperatures of up to 130°C, and in those mechanisms in the food industry not requiring a H1 quality grease. Suitable for use in centralized lubrication systems.
QUAKERTEK™ VERKOMAX R - 1000	Red	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. Due to its outstanding water resistance, it is especially indicated for lubricating plain and rolling contact bearings, guides, racks, floodgates and pitch wheels in maritime and port machinery.

## **Polymeric Greases**

PRODUCT	NLGI GRADE	DROPPING POINT (°C)	THICKENER TYPE	BASE FLUID TYPE	BASE FLUID (MM²/S AT 40°C)	OPERATING TEMPERATURE (°C)	ANTIWEAR / EXTREME PRESSURE CHARACTERISTICS	CORROSION PROTECTION	WATER RESISTANCE
QUAKERTEK™ WG	00		Polymeric	Mineral	475	-10 to +100	++ / +++	+	+
QUAKERTEK™ CADENAS-WT	00		Polymeric	Mineral	475	-10 to +100	+++ / +++	+	+
QUAKERTEK™ COBERTONE-0	0		Polymeric	Mineral	475	-10 to +100	** / ***	**	**

PRODUCT	COLOUR	SOLID LUBRICANTS	DIN 51.502 DESIGNATION	APPLICATION
QUAKERTEK™ WG	Yellow	NO	GP 00G -10	Lubricant gel especially suited for gears with leakage problems.
QUAKERTEK™ CADENAS-WT	Yellow	YES		Lubricant gel especially suited for lubricating wire ropes and gear, drive and conveyor chains operating at ambient temperature.
QUAKERTEK™ COBERTONE-0	Black	YES	OGPF 0G -10	Lubricant for open gears in rotary kilns, tube mills, blenders or wire ropes of cranes and crane bridges.

## **Synthetic Greases**

PRODUCT	NLGI GRADE	DROPPING POINT (°C)	THICKENER TYPE	BASE FLUID TYPE	BASE FLUID (MM²/S AT 40°C)	OPERATING TEMPERATURE (°C)	ANTIWEAR / EXTREME PRESSURE CHARACTERISTICS	CORROSION PROTECTION	WATER RESISTANCE
QUAKERTEK™ ANTARES 2 EP	2	185	Lithium	Synthetic	10	-73 to +125	+/	++	+
QUAKERTEK™ ALTHEA-2	2	255	Lithium complex	Synthetic	26	-30 to +130	** / *	**	++
QUAKERTEK™ CORALIA-2	2/3	288	Lithium complex	Synthetic	85	-50 to +150	++ / ++	+	**
QUAKERTEK™ ALHENA-1 EP	1/2	270	Lithium complex	Synthetic	460	-30 to +160	+++ / ++	+++	+++
QUAKERTEK™ ALHENA-2 EP	2/3	297	Lithium complex	Synthetic	460	-30 to +160	+++ / ++	+++	+++
QUAKERTEK™ CORVUS G-2 HT	2	Infusible	Inorganic	Synthetic	100	-40 to +160	++ / ++	+	++
QUAKERTEK™ PATELA G-00	00		Lithium	Synthetic	150	-40 to +130	++ / ++	*	+
QUAKERTEK™ VERKOSIL G-2	2	Infusible	Pyrogenic silica	Synthetic	680 (2200 a 25°C)	-40 to +180		+	++

PRODUCT	COLOUR	SOLID LUBRICANTS	DIN 51.502 DESIGNATION	APPLICATION
QUAKERTEK™ ANTARES 2 EP	Fuchsia	NO	KE 2H -70	Special grease for high-speed screws in machine tools and for lubricating gears and operating spindles in aircrafts.
QUAKERTEK™ ALTHEA-2	Beige	NO	KE 2K -30	For high-speed screws in machine tool heads, spinning mill spindles and as long-term grease for precision bearings.
QUAKERTEK™ CORALIA-2	Yellow	NO	KPEHC 2/3N -40	Most suited for lubricating bearings in electrical motors and fans at medium and medium-high speeds and high temperatures. Suitable for long-life lubrication.
QUAKERTEK™ ALHENA-1 EP	Beige	NO	KPEHC 1/2P -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.
QUAKERTEK™ ALHENA-2 EP	Beige	NO	KPEHC 2/3P -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.
QUAKERTEK™ CORVUS G-2 HT	Yellow	YES	KPFHC 2P -40	For lubricating bearings operating at medium and high speeds.
QUAKERTEK™ PATELA G-00	Blue	NO	GPPG 00K -40	Especially recommended for crown-worm wheel units and for centralized greasing systems requiring a high-quality fluid grease.
QUAKERTEK™ VERKOSIL G-2	White	NO	MSI 2R -40	Fitting agent for joints and elastomers in hydraulic systems. Sealing agent for bearings and joints. Excellent dielectric properties.

## Fluorinated Greases

PRODUCT	NLGI GRADE	DROPPING POINT (°C)	THICKENER TYPE	BASE FLUID TYPE	BASE FLUID (MM²/S AT 40°C)	OPERATING TEMPERATURE (°C)	ANTIWEAR / EXTREME PRESSURE CHARACTERISTICS	CORROSION PROTECTION	WATER RESISTANCE
QUAKERTEK™ VERKOFLUOR 862	1/2		PTFE	PFPE	290	-35 to +250	++ / +++	++	++
QUAKERTEK™ VERKOFLUOR RT-2	2		PTFE	PFPE	420	-20 to +250	++ / +++	**	++

## Fluorinated Greases

PRODUCT	COLOUR	SOLID LUBRICANTS	DIN 51.502 DESIGNATION	APPLICATION
QUAKERTEK™ VERKOFLUOR 862	White	NO		Perticularly resistant to oxidation and ohemical agents and compatible with all types of materials: glass, metal, elastomers, ceramias, etc., whose properties remain unaltered even under wide temperature ranges. Its physico-chemical and tribological properties make it an excellent and resistant grease for many industries: corrugated fibreboard, bakeries, chemistry, ceramic, automobile, electronics, aerospace, steel and paper, among others. Grease totally inert, except in the presence of chemical agents with high fluorine content, and innocuous, which makes it perfectly recommendable for applications with food contact.
QUAKERTEK™ VERKOFLUOR RT-2	White	NO		Recommended for use in applications such as overhead conveyors in paint ovens, roll supports in the dry section of paper machines, bearings in all types of tunnel furmaces, plain bearings in glass furnaces, chain bearings in textile stenters, railicar wheels in ceramic kilns and valves for hydrocarbons, goess and strongly oxidising inorganic fluids in the chemical and petrochemical sectors. This grease may be used in applications requiring a lifetime or long-life lubrication grease, such as azimuth turning bearings in wind turbines, and in applications with lower load and temperature requirements but where the longest possible performance over time is intended. Grease totally inert, except in the presence of chemical agents with high fluorine content, and innocuous, which makes it perfectly recommendable for applications with food contact.

#### **Pastes**

PRODUCT	NLGI GRADE	DROPPING POINT (°C)	THICKENER TYPE	BASE FLUID TYPE	BASE FLUID (MM²/S AT 40°C)	OPERATING TEMPERATURE (°C)	ANTIWEAR / EXTREME PRESSURE CHARACTERISTICS	CORROSION PROTECTION	WATER RESISTANCE
QUAKERPASTE™ MOLYWHITE SUPER	2			Mineral + polymer		-20 to +200	+++ / +++	+	**
QUAKERPASTE™ GB-100 ZN	1			Mineral		Up to 400°C	/ +++	+	**
QUAKERPASTE™ GB-200 ZN	2			Mineral		Up to 400°C	/ +++	+	**
QUAKERPASTE™ SC	0			Mineral		-20 to +1000	/ +++	+	+
QUAKERPASTE™ GX-12	1/2			Mineral		-20 to +1000	/ +++	+	*
QUAKERPASTE™ VERKOPICK-2	2			Mineral		-20 to +250	++ / +++	+	***
QUAKERPASTE™ ATLANTA PICK	2			Mineral + polymer		-20 to +250	+ / +++	+	***
QUAKERPASTE™ ATLANTA AG	000/00			Mineral + polymer		-20 to +450	+ / +++	+	**

PRODUCT	COLOUR	SOLID LUBRICANTS	DIN 51.502 DESIGNATION	APPLICATION
QUAKERPASTE™ MOLYWHITE SUPER	Yellow	YES		Fitting and primer agent for all types of mechanisms.
QUAKERPASTE™ GB-100 ZN	Metallic gray	YES		Suited for pneumatic drilling machinery operating in harsh environments and pump lubrication of end threads in sounding units.
QUAKERPASTE™ GB-200 ZN	Metallic gray	YES		Suited for pneumatic drilling machinery operating in harsh environments and pump lubrication of end threads in sounding units.
QUAKERPASTE™ SC	Copper red	YES		Recommended for centralized lubrication systems of concrete breaker shafts.
QUAKERPASTE™ GX-12	Copper red	YES		Especially recommended for pneumatic drilling machinery, for the lubrication of terminal threads in drilling outfits.
QUAKERPASTE™ VERKOPICK-2	Copper black	YES		Suited for continuing lubrication of drilling hammers with centralized greasing systems.
QUAKERPASTE™ ATLANTA PICK	Reddish gray	YES		Designed for lubricating picks and chisels of hydraulic hammers.
QUAKERPASTE™ ATLANTA AG	Reddish gray	YES		Specifically designed to facilitate the sliding and to prevent the jamming of sliding surfaces with relative movement at low speeds and high temperatures.

## Biodegradable Greases

PRODUCT	NLGI GRADE	DROPPING POINT (°C)	THICKENER TYPE	BASE FLUID TYPE	BASE FLUID (MM²/S AT 40°C)	OPERATING TEMPERATURE (°C)	ANTIWEAR / EXTREME PRESSURE CHARACTERISTICS	CORROSION PROTECTION	WATER RESISTANCE
QUAKERTEK™ BIOVERKOLCR-1	1	150	Anhydrous calcium	Natural ester	200	-20 to +90	+/+	+	++
QUAKERTEK™ BIOVERKOL CR-2	2	150	Anhydrous calcium	Natural ester	200	-20 to +90	+/+	+	++
QUAKERTEK™ BIO 430	00	140	Anhydrous calcium	Synthetic ester	68	-30 to +70	++ / ++	+	+
QUAKERTEK™ BIO-CABLES	0/00	144	Anhydrous calcium	Natural ester + Synthetio ester	100	-20 to +70	+ / ++	+	++
QUAKERTEK™ BIO G.C.G.	1/2	147	Anhydrous calcium	Natural ester + Synthetic ester	100	-20 to +70	+ / ++	+	++

PRODUCT	COLOUR	SOLID LUBRICANTS	DIN 51.502 DESIGNATION	APPLICATION
QUAKERTEK™ BIOVERKOL CR-1	Ivory white	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.
QUAKERTEK™ BIOVERKOL CR-2	Ivory white	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.
QUAKERTEK™ BIO 430	Black	YES		Designed for the lubrication of wheel flanges by means of on-board lubricators (locomotives and wagons) to protect railways and wheel flanges.
QUAKERTEK™ BIO-CABLES	Black	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.
QUAKERTEK™ BIO G.C.G.	Black	YES		Suited for lubricating railway maintenance lubricators.

## **H1** Food Processing Greases

PRODUCT	NLGI GRADE	DROPPING POINT (°C)	THICKENER TYPE	BASE FLUID TYPE	BASE FLUID (MM²/S AT 40°C)	OPERATING TEMPERATURE (°C)	ANTIWEAR / EXTREME PRESSURE CHARACTERISTICS	CORROSION PROTECTION	WATER RESISTANCE
QUAKERTEK™ VERKOFOOD FG-2	2	150	Anhydrous calcium	Mineral + polymer	46	-30 to +100	+/	+	**
QUAKERTEK™ VERKOFOOD LT-2	2	150	Anhydrous calcium	Synthetic	38	-60 to +100	+/	+	**
QUAKERTEK™ VERKOFOOD- COMPLEX 00	00		Aluminium complex	Mineral + polymer	150	-20 to +130	+ / ++	÷	+
QUAKERTEK™ VERKOFOOD- COMPLEX 0	0	250	Aluminium complex	Mineral + polymer	150	-20 to +130	+ / ++	+	٠
QUAKERTEK™ VERKOFOOD- COMPLEX 1	1	260	Aluminium complex	Mineral + polymer	150	-20 to +130	+/++	++	**
QUAKERTEK™ VERKOFOOD- COMPLEX 2	2	270	Aluminium complex	Mineral + polymer	150	-20 to +130	+/++	++	**
QUAKERTEK™ VERKOFOOD WR-2	2	270	Aluminium complex	Synthetic	86	-40 to +130	+/++	++	**
QUAKERTEK™ VERKOFOOD SC-1	1	245	Aluminium complex	Synthetic	150	-40 to +120	+/++	***	**
QUAKERTEK™ VERKOMAX FGM-2	2	300	Calcium sulphonate	Mineral + polymer	150	-30 to +140	++ / +++	***	***

## **H1** Food Processing Greases

PRODUCT	COLOUR	SOLID LUBRICANTS	DIN 51.502 DESIGNATION	APPLICATION
QUAKERTEK™ VERKOFOOD FG-2	White	NO	K 2G -30	Suited for food processing and packaging industries, in order to prevent the risk of toxicity in case of incidental contact between the grease and the food or its packing. Especially designed for all types of bearings operating at medium/high speeds.
QUAKERTEK™ VERKOFOOD LT-2	White	NO	KHC 2G -60	Suited for food processing and packaging industries, in order to prevent the risk of toxicity in case of incidental contact between the grease and the food or its packing. Especially designed for application in all types of moving or rolling mechanisms operating at very low temperatures.
QUAKERTEK™ VERKOFOOD-COMPLEX 00	White	YES	GPF 00K-20	Suited for food processing and packaging industries, in order to prevent the risk of toxicity in oase of incidental contact between the grease and the food or its packing. Owing to its good pumpability, it is specially indicated to lubricate via centralized systems all types of rolling and slide bearings, gears and other mechanisms.
QUAKERTEK™ VERKOFOOD-COMPLEX 0	White	YES	GPF 0K -20	Suited for food processing and packaging industries, in order to prevent the risk of toxicity in case of incidental contact between the grease and the food or its packing. Suitable for centralized greasing systems.
QUAKERTEK™ VERKOFOOD-COMPLEX 1	White	YES	KPF 1K -20	Suited for food processing and packaging industries, in order to prevent the risk of toxicity in case of incidental contact between the grease and the food or its packing. Suitable for automatic lubricating systems.
QUAKERTEK™ VERKOFOOD-COMPLEX 2	White	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.
QUAKERTEK™ VERKOFOOD WR-2	White	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.
QUAKERTEK™ VERKOFOOD SC-1	White	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 fee
QUAKERTEK™ VERKOMAX FGM-2	Beige	NO	KP 2N -30	Especially developed to lubricate ball and roller bearings, guides, sliding surfaces, ball joints, gaskets and retainers of food and beverages processing mochinery. Recommended to lubricate pelletizers, dryers, digesters and any machines whose operation combines the presence of aggressive fluids, whether liquid or gaseous, high temperature and strong loads.

## Vaseline Based Greases

PRODUCT	NLGI GRADE	DROPPING POINT (°C)	THICKENER TYPE	BASE FLUID TYPE	BASE FLUID (MM²/S AT 40°C)	OPERATING TEMPERATURE (°C)	ANTIWEAR / EXTREME PRESSURE CHARACTERISTICS	CORROSION PROTECTION	WATER RESISTANCE
VASELINA MERKUR-55	4	65		Vaseline		0 to +60			

PRODUCT	COLOUR	SOLID LUBRICANTS	DIN 51.502 DESIGNATION	APPLICATION
VASELINA MERKUR-55	White	NO		Solid paraffin with medicinal qualities for use in cosmetics, pharmaceuticals, food processing, textile, veterinary and packaging industries.

#### Aerosols

PRODUCT	NLGI GRADE	DROPPING POINT (°C)	THICKENER TYPE	BASE FLUID TYPE	BASE FLUID (MM²/S AT 40°C)	OPERATING TEMPERATURE (°C)	ANTIWEAR / EXTREME PRESSURE CHARACTERISTICS	CORROSION PROTECTION	WATER RESISTANCE
QUAKERTEK™ CADENAS-WT			Polymeric	Mineral	475	-10 to +100	+++ / +++	+	+
QUAKERTEK™ VERKOFOOD- WRT			Aluminium complex	Synthetic	86	-40 to +140	++ / ++	++	++
QUAKERTEK™ COBERTONE			Aluminium complex	Mineral	1500	-10 to +120	++ / +++	++	++
QUAKERTEK™ MOLYBLACK						-180 to +450	+/+	+	+

PRODUCT	COLOUR	SOLID LUBRICANTS	DIN 51.502 DESIGNATION	APPLICATION
QUAKERTEK™ CADENAS-WT	Yellow	YES		Lubricant gel especially suited for lubricating wire ropes and gear, drive and conveyor chains operating at ambient temperature.
QUAKERTEK™ VERKOFOOD-WRT	White	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 ancillarly industry to prevent toxicity risk in case of accidental contact.
QUAKERTEK™ COBERTONE	Black	YES		Lubricant for open gears, rollers, mining, cables and roller bridges.
QUAKERTEK™ MOLYBLACK	Grayish black	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.

## Notes

#### Notes

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