

MINING

LUBRICATION GUIDE

BEL-RAY® LEGACY

For over 75 years, Bel-Ray® has been a leader in lubrication technology. Our products are engineered to protect equipment, reduce downtime and maximize operational efficiency to deliver superior business value across a wide variety of applications, including automotive, motorcycle and powersports, mining, oil and gas pipeline operations, food processing, heavy equipment and other industries.

Bel-Ray products have achieved the highest standards of quality and performance, while operating under harsh conditions and the toughest environments, earning the trust of industrial maintenance, reliability and engineering professionals across the globe.

CALUMET

Calumet (NASDAQ: CLMT) is a leading independent producer of high-quality, specialty hydrocarbon products and serves customers around the world. Calumet processes crude oil and other feedstocks into customized lubricating oils, solvents and waxes used in consumer, industrial and automotive products; produces fuels including renewable diesel, renewable gasoline and is a leading producer of Sustainable Aviation Fuel (SAF) in North America; and provides oilfield services and products to customers throughout the United States.

Headquartered in Indianapolis, Indiana, over 1,600 team members operate at 12 specialty product manufacturing and production facilities across North America, producing 1,900+ unique products, which are available in more than 90 countries across the world, serving 2,400+ customers globally.

Calumet acquired Bel-Ray in December 2013, which is a part of the Performance Brands portfolio.



TABLE OF CONTENTS

VISCOSITY CHART	2	TYPE 1 OGL TECH PAGE	22
NLGI CHART	3	TYPE 2 OGL TECH PAGE	23
GREASE	4	OPEN GEARS TYPE 1	24
ANTI-SEIZE	10	OPEN GEARS TYPE 2	26
CHAINS	12	MULTIPURPOSE	28
COMPRESSORS	12	SPECIALTY FLUID	29
ENGINE OIL	14	SPECIALTY GREASE	30
HYDRAULICS	16	WIRE ROPES	32
ENCLOSED GEARS	18	PRODUCT INDEX	34

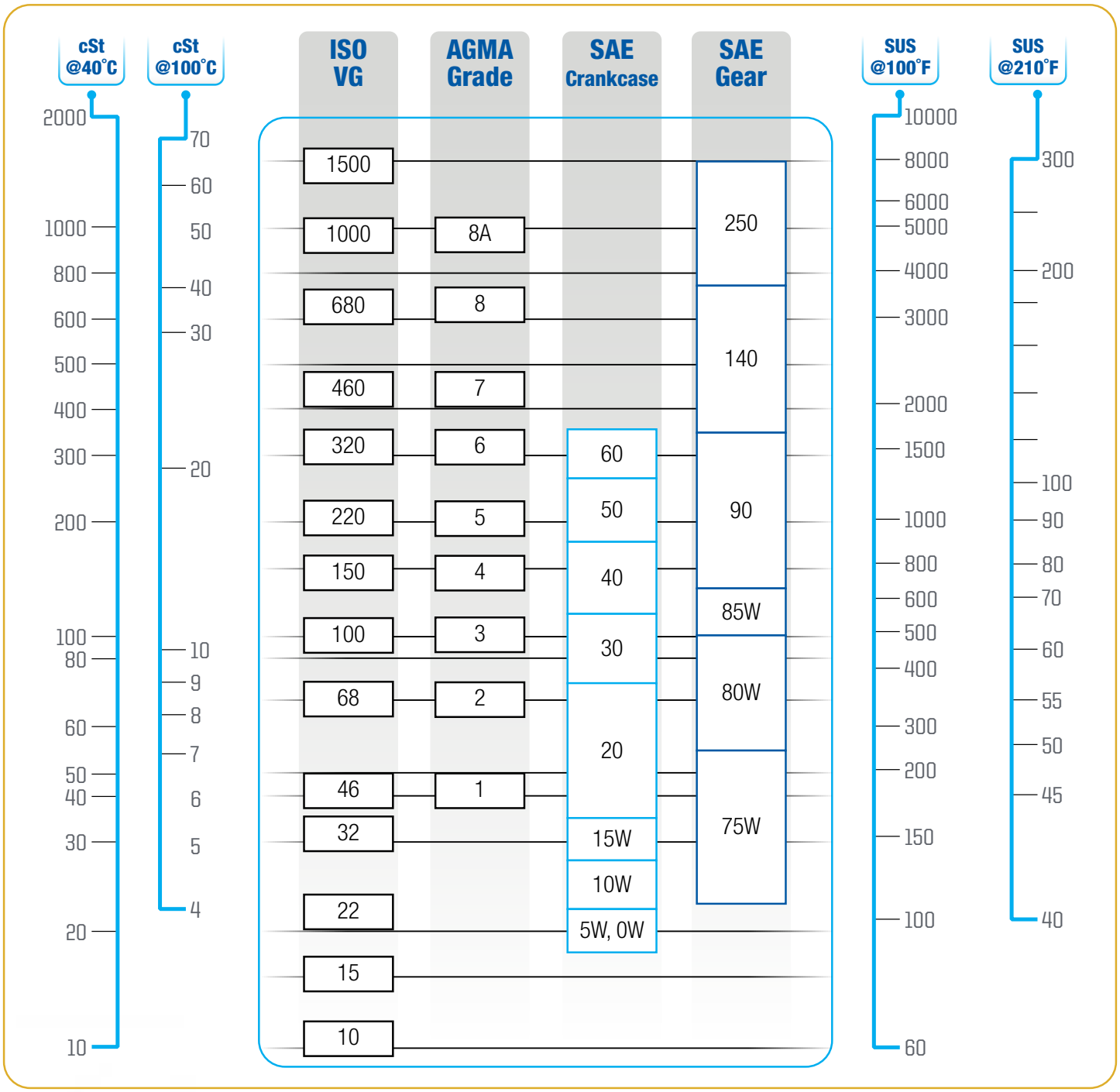


VISCOSITY CHART

KINEMATIC VISCOSITIES

VISCOSITY CLASSIFICATION EQUIVALENTS

SAYBOLT VISCOSITIES



Many petroleum products are graded according to the ISO Viscosity Classification System, approved by the International Organization for Standardization (ISO). Each ISO viscosity grade number corresponds to the mid-point of a viscosity range expressed in centistokes (cSt) at 40°C. For example, a lubricant with an ISO grade of 32 has a viscosity within the range of 28.8 – 35.2, the midpoint of which is 32.

Rule of Thumb: The comparable ISO grade of a given product whose viscosity in SUS at 100°F is known can be determined by using the following conversion formula: SUS @ 100°F +5 =~ cSt @ 40°C.

REFERENCE CHARTS

NLGI CHART

NLGI CONSISTENCY (GRADE NUMBER)	ASTM WORKED PENETRATION AT 25°C (PENETRATION IN 0.1MM)	APPARENT CONSISTENCY	CONSISTENCY FOOD ANALOG
000	445 - 475	FLUID	COOKING OIL
00	400 - 430	SEMI-FLUID	APPLE SAUCE
0	355 - 385	VERY SOFT	MUSTARD
1	310 - 340	SOFT	TOMATO PASTE
2	265 - 295	"TYPICAL" GREASE	PEANUT BUTTER
3	220 - 250	FIRM	VEGETABLE SHORTENING
4	175 - 205	VERY FIRM	FROZEN YOGURT
5	130 - 160	HARD	SMOOTH PÂTÉ
6	86 - 115	VERY HARD	CHEDDAR CHEESE

BEARING SPEED ICON REFERENCE CHART

CHART ICON	SPEED	SPEED FACTOR (NDm)	BASE OIL VISCOSITY GRADE AT 40°C
L	**Low**	<100,000	ISO VG 460 - 1500
M	**Medium**	100,000 – 200,000	ISO VG 150 - 220
H	**High**	200,000 – 400,000	ISO VG 100
N/A	**Very High**	>400,000	ISO VG 22

Please consult equipment and/or bearing manufacturers for specific requirements.
The source for the above table is:
Page 149 in NLGI Lubricating Grease Guide, Seventh Edition.



GREASE

		SAP Product Number	Product Grade	Base Oil ISO VG	Speed	Thickener Type	Contains Solid Lubricant	Product Type	Color
1	MOLYLUBE® 3% MOLY EXTREME PRESSURE GREASE LC	301084 300885 301613	NLGI 0 NLGI 1 NLGI 2	150 220 220	M	Lithium Complex		M	Gray
2	MOLYLUBE 5% MOLY EXTREME PRESSURE GREASE AC	301750 301753 300886 300936	NLGI 0 NLGI 0 NLGI 1 NLGI 2	46 150 220 220	M H	Aluminum Complex		M	Gray
3	MOLYLUBE 5% MOLY EXTREME PRESSURE GREASE LC	301612	NLGI 1	220	L M	Lithium Complex		M	Gray
4	MOLYLUBE 87M EXTREME PRESSURE GREASE	301187	NLGI 0	150	M	Aluminum Complex		M	Gray
5	MOLYLUBE EXTREME PRESSURE GREASE AC	301201 301696	NLGI 1 NLGI 2	220 220	M	Aluminum Complex		M	Black

SPEED

L LOW M MEDIUM H HIGH

PRODUCT TYPE

M MINERAL SS SEMI-SYNTHETIC S SYNTHETIC BB BIO-BASED B READILY BIODEGRADABLE

1 MOLYLUBE® 3% MOLY EXTREME PRESSURE GREASE LC

A high-performance, lithium complex grease containing 3% molybdenum disulfide, as required by many off-highway equipment OEMs. Exceptional anti-wear and Extreme Pressure properties, excellent mechanical and thermal stability, rust and corrosion protection and resistance to water washout. Exceeds all of the multipurpose grease requirements of walking draglines, electric rope shovels, hydraulic excavators, haul trucks and rolling stock. Meets the requirements of the major OEMs for multipurpose Extreme Pressure greases. Useful temperature range -18ºC to 177ºC (0ºF to 350ºF). **THICKENER:** Lithium Complex

2 MOLYLUBE 5% MOLY EXTREME PRESSURE GREASE AC

A high-performance, aluminum complex grease containing 5% molybdenum disulfide, as required by many off-highway equipment OEMs. Exceptional mechanical and thermal stability, excellent anti-wear and Extreme Pressure properties, unsurpassed rust and corrosion protection and resistance to water. Exceeds all of the multipurpose grease requirements of walking draglines, electric rope shovels, hydraulic excavators, haul trucks and rolling stock. Meets the requirements of all major OEMs for multipurpose Extreme Pressure greases. Exceeds the requirements of Komatsu America AA00212 grease specification for haul trucks. Useful temperature range -18ºC to 177ºC (0ºF to 350ºF). **THICKENER:** Aluminum Complex

3 MOLYLUBE 5% MOLY EXTREME PRESSURE GREASE LC

A high-performance, lithium complex grease containing 5% molybdenum disulfide, as required by many off-highway equipment OEMs. Exceptional mechanical and thermal stability, excellent anti-wear and Extreme Pressure properties, unsurpassed rust and corrosion protection and resistance to water. Exceeds all of the multipurpose grease requirements of walking draglines, electric rope shovels, hydraulic excavators, haul trucks and rolling stock. Meets the requirements of all major OEMs for multipurpose Extreme Pressure greases. Useful temperature range -18ºC to 177ºC (0ºF to 350ºF). **THICKENER:** Lithium Complex

4 MOLYLUBE 87M EXTREME PRESSURE GREASE

Molylube® 87M EP Grease is an aluminum complex multi-purpose Extreme Pressure grease. It contains Molylube Solids, a Bel-Ray proprietary blend of molybdenum disulfide and select graphite. Exceeds the requirements of most OEMs for multi-purpose grease. Useful temperature range -18ºC to 177ºC (0ºF to 350ºF). **THICKENER:** Aluminum Complex

5 MOLYLUBE EXTREME PRESSURE GREASE AC

A high-performance aluminum complex grease fortified with molybdenum disulfide. Excellent Extreme Pressure capabilities, outstanding mechanical and thermal stability. Exceptional water washout resistance, rust and corrosion protection. Exceeds the multipurpose grease requirements of walking draglines, electric rope shovels and hydraulic excavators. Useful temperature range -12°C to 177°C (10°F to 350°F). **THICKENER:** Aluminum Complex



Technical Questions? Visit belray.com and contact our Technical Services department.

GREASE

		SAP Product Number	Product Grade	Base Oil ISO VG	Speed	Thickener Type	Contains Solid Lubricant	Product Type	Color
1	MOLYLUBE EP GREASE CSC	500962	NLGI 1	220	M	Calcium Sulfonate Complex		M	Gray
2	MOLYLUBE EXTREME PRESSURE HIGH VISCOSITY GREASE	301679 301682	NLGI 1 NLGI 2	680 680	L M	Aluminum Complex		M	Gray
3	MOLYLUBE HIGH TEMPERATURE GREASE	301184	NLGI 1	188	L M	Sodium Complex		S	Gray
4	MOLYLUBE LOW TEMPERATURE MULTIPURPOSE GREASE	301042	NLGI 1	46	M H	Aluminum Complex		M	Gray
5	MOLYLUBE MULTIPURPOSE EXTREME PRESSURE GREASE WITH MOLY	301524 301209	NLGI 1 NLGI 2	220 220	M H	Aluminum Complex		M	Black

SPEED

L LOW M MEDIUM H HIGH

PRODUCT TYPE

M MINERAL SS SEMI-SYNTHETIC S SYNTHETIC BB BIO-BASED B READILY BIODEGRADABLE

1 MOLYLUBE EP GREASE CSC

A high-performance calcium sulfonate complex grease with 5% Molylube Solids, a Bel-Ray proprietary blend of molybdenum disulfide and select graphite. Excellent anti-wear and Extreme Pressure capabilities. Excellent mechanical and thermal stability, rust and corrosion protection. Water washout resistant. Exceeds all of the multipurpose grease requirements of walking draglines, electric rope shovels, hydraulic excavators, haul trucks and rolling stock. Meets the requirements of all major OEMs for multipurpose Extreme Pressure greases. Useful temperature range -30°C to 177°C (-22°F to 350°F). **THICKENER:** Calcium Sulfonate Complex

2 MOLYLUBE EXTREME PRESSURE HIGH VISCOSITY GREASE

A high viscosity base oil aluminum complex grease fortified with polymers and Molylube Solids, a Bel-Ray proprietary blend of molybdenum disulfide and select graphite. Excellent Extreme Pressure and anti-wear properties. Excellent mechanical and thermal stability. Water washout resistant. Grades 680-1 and 1000-1 are Komatsu Mining-Germany approved. Useful temperature range 0°C to 177°C (32°F to 350°F). **THICKENER:** Aluminum Complex

3 MOLYLUBE HIGH TEMPERATURE GREASE

A synthetic ester-based high-temperature grease with molybdenum disulfide and graphite. Designed for extended lubrication cycles in heavily loaded, high-temperature applications. Low residue base fluids and thickener allow for clean evaporation at high temperature leaving select solids to lubricate in a solid film form. Useful temperature range -18°C to 316°C (0°F to 600°F). **THICKENER:** Sodium Complex

4 MOLYLUBE LOW TEMPERATURE MULTIPURPOSE GREASE

An aluminum complex grease fortified with Molylube Solids, a Bel-Ray proprietary blend of molybdenum disulfide and select graphite. Excellent Extreme Pressure and anti-wear capabilities. Outstanding mechanical and thermal stability. Water washout resistant. Rust and corrosion protection. It has excellent pumpability characteristics for exceptionally cold ambient conditions. Useful temperature range -40°C to 149°C (-40°F to 300°F). **THICKENER:** Aluminum Complex

5 MOLYLUBE MULTIPURPOSE EXTREME PRESSURE GREASE WITH MOLY

An aluminum complex, multipurpose grease fortified with molybdenum disulfide for effective heavy-duty service. Excellent Extreme Pressure and anti-wear capabilities. Outstanding mechanical and thermal stability. Water washout resistant. Rust and corrosion protection. Exceeds most OEM requirements for a multipurpose grease. Useful temperature range -26°C to 177°C (-15°F to 350°F). **THICKENER:** Aluminum Complex



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GREASE

		SAP Product Number	Product Grade	Base Oil ISO VG	Speed	Thickener Type	Contains Solid Lubricant	Product Type	Color
1	TERMALENE® EXTREME PRESSURE GREASE LC	301087 301329	NLGI 1 NLGI 2	220	M	Lithium Complex		M	Red
2	TERMALENE HEAVY DUTY CONSTRUCTION GREASE	301338	NLGI 2	269	M	Aluminum Complex		M	Red
3	TERMALENE GREASE	301766	NLGI 2	180	M	Aluminum Complex		M	Blue/Green
4	TERMALENE MULTIPURPOSE EXTREME PRESSURE GREASE	301765 301091	NLGI 1 NLGI 2	220 180	M	Aluminum Complex		M	Red
5	WATERPROOF GREASE	301293	NLGI 2	170	M	Aluminum Complex		M	Green

SPEED

L LOW M MEDIUM H HIGH

PRODUCT TYPE

M MINERAL SS SEMI-SYNTHETIC S SYNTHETIC BB BIO-BASED B READILY BIODEGRADABLE

1 TERMALENE® EXTREME PRESSURE GREASE LC

A general purpose lithium complex grease. Mineral oil-based grease. Anti-wear and moderate Extreme Pressure properties. Water washout resistant. Rust, corrosion and oxidation inhibitors. Designed for a wide range of applications. Useful temperature range -40°C to 177°C (-40°F to 350°F). **THICKENER:** Lithium Complex

2 TERMALENE HEAVY DUTY CONSTRUCTION GREASE

A very tacky aluminum complex grease with exceptional retention properties. Extreme Pressure and anti-wear properties. Extremely adhesive and virtually waterproof. Rust, corrosion and oxidation inhibitors. Polymers make the grease very impact resistant. Useful temperature range -12°C to 177°C (10°F to 350°F). **THICKENER:** Aluminum Complex

3 TERMALENE GREASE

A general purpose aluminum complex grease. Mineral oil-based grease. Anti-wear and moderate Extreme Pressure properties. Water washout resistant. Rust, corrosion and oxidation inhibitors. Designed for a wide range of applications. C.I.D. 50433 compliant. Useful temperature range -40°C to 177°C (-40°F to 350°F). **THICKENER:** Aluminum Complex

4 TERMALENE MULTIPURPOSE EXTREME PRESSURE GREASE

A mineral oil-based aluminum complex grease with Extreme Pressure and anti-wear properties that is water washout resistant. Ideal for use in high load, high shear applications with excellent lubrication in the presence of water and protection against rust. Excellent for bushing and pin applications with useful temperature range -18°C to 177°C (0°F to 350°F). **THICKENER:** Aluminum Complex

5 WATERPROOF GREASE

A very tacky waterproof aluminum complex grease. Excellent sealing capabilities prevent water and dirt contamination. Useful temperature range -18°C to 177°C (0°F to 350°F). **THICKENER:** Aluminum Complex



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ANTI-SEIZE

		SAP Product Number	Product Grade	Base Oil ISO VG	Extreme Pressure	Rust Preventative	Thickener	Product Type	Color
1	HIGH TEMPERATURE ANTI-SEIZE COMPOUND	301526	NLGI 1	68			Aluminum Complex	M	Bronze
2	MOLYLUBE ANTI-SEIZE COMPOUND	301082	NLGI 2	482	●	●	Organoclay	M	Gray
3	MOLYLUBE ANTI-SEIZE SILICONE COMPOUND WITH MOLY	300988	NLGI 2	N/A			Molybdenum Disulfide-Lithium-Gel	S	Gray
4	MOLYLUBE COPPER TOOL JOINT COMPOUND	301190	NLGI 1	121		●	Aluminum Complex	M	Bronze

PRODUCT TYPE

M MINERAL | SS SEMI-SYNTHETIC | S SYNTHETIC | BB BIO-BASED | B READILY BIODEGRADABLE

1 HIGH TEMPERATURE ANTI-SEIZE COMPOUND

An aluminum complex based anti-seize and lubricating compound for threaded connections and static parts. Prevents galling, rust, fretting, galvanic pitting, and corrosion of threads. Low friction solids promote low breakout torque and disassembly. Its blend of graphite and copper lubricating solids allows for exceptional performance at both elevated and ambient temperatures. Useful temperature range -29°C to 1093ºC (-20°F to 2000ºF). **THICKENER:** Aluminum Complex

2 MOLYLUBE ANTI-SEIZE COMPOUND

An organoclay anti-seize with 40% of Molylube Solids. Designed to protect threaded connections. An excellent tool joint compound for OCTG applications. Extreme Pressure properties prevent galling, seizing and fretting. Water washout resistant. Rust and corrosion inhibitors. Maximum useful temperature 399ºC (750ºF). **THICKENER:** Organoclay

3 MOLYLUBE ANTI-SEIZE SILICONE COMPOUND WITH MOLY

A unique anti-seize compound based on silicone fluid. Silicone base fluid provides a wide useful temperature range. Oxidation resistant. Deposit-free. Very high molybdenum disulfide content. Useful temperature range -46°C to 204°C (-50°F to 400°F). **THICKENER:** Molybdenum Disulfide-Lithium-Gel

4 MOLYLUBE COPPER TOOL JOINT COMPOUND

An aluminum complex thread compound formulated based on the API RP 5A3 standard. Extreme Pressure properties. Lubricating solids blend that eliminates lead powder without compromising performance. Low oil separation. Hydrogen sulfide scavenger, rust and corrosion inhibitors. Formulated for OCTG products and performs well in borehole drill applications. **THICKENER:** Aluminum Complex



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CHAINS

		SAP Product Number	Product Grade	Temperature	Extreme Pressure	Penetrating	Anti-Wear, Anti-Rust, Anti-Corrosion	Product Type	Color
1	SYNTHETIC CHAIN LUBRICANT	301232	ISO 220	L, N, H	●	●	●	S	Green
2	WATERPROOF CHAIN LUBRICANT	300883	ISO 680 (Spray)	N	●	●	●	M	Amber

COMPRESSORS

		SAP Product Number	Product Grade	Temperature	Detergency	Wear, Rust, Corrosion & Water Resistant	Product Type	Color
1	SYNTHETIC ESTER COMPRESSOR OIL	301226 301227	ISO 46 ISO 68	L, N, H	●	●	S	Yellow

TEMPERATURE*

L LOW N NORMAL H HIGH

*Consult PDS and equipment OEM for specific requirements and guidelines.

PRODUCT TYPE

M MINERAL SS SEMI-SYNTHETIC S SYNTHETIC BB BIO-BASED B READILY BIODEGRADABLE

1 SYNTHETIC CHAIN LUBRICANT

A superb ester synthetic chain lubricant designed for high-temperature applications and formulated with Extreme Pressure for high load applications. It has proven performance in oven fan bearings and roller chain applications which operate well beyond the temperature range tolerable by conventional petroleum base products, and controls and prevents residue formation on chains. Useful temperature range -23°C (-10°F) to 204°C (400°F).

2 WATERPROOF CHAIN LUBRICANT

Waterproof Chain Lubricant contains anti-wear and adhesive properties to assure extended lubrication cycles and longer chain life. These outstanding properties are achieved with a viscous base fluid and additives that penetrate to the bearing surface. Waterproof Chain Lubricant will demonstrate excellent lubrication, even when applied to a wet surface. It is specifically designed to withstand the vigorous water washout problems regularly encountered in wet applications and is also available in an aerosol package.



1 SYNTHETIC ESTER COMPRESSOR OIL

Synthetic Ester Compressor Oil is a high-performance, heavy-duty, synthetic, diester-based compressor oil. Synthetic Ester Compressor Oil offers high deposit solvency and will eliminate deposits formed by conventional compressor oils. Synthetic Ester Compressor Oil will also prevent the formation of new deposits. The proprietary rust and oxidation inhibitors utilized in Synthetic Ester Compressor Oil allow for extended drain intervals and extended component life. In addition, Synthetic Ester Compressor Oil has excellent anti-wear properties, rust protection, exceptional water separability characteristics, and anti-foaming additives.

Technical Questions? Visit belray.com and contact our Technical Services department.

ENGINE OIL

		SAP Product Number	Product Grade	Type of Engine	API Service Class	Product Type	Color
1	GEO LA	302311 302313	SAE 40 SAE 15W-40	4-stroke natural gas engines	N/A	M	Amber
2	HEAVY DUTY DIESEL ENGINE OIL	301054	SAE 15W-40	High-speed 4-stroke diesel engines	CI-4	M	Amber
3	HYPERION® SYNTHETIC BLEND CK-4 ENGINE OIL	302559 302334	SAE 10W-30 SAE 15W-40	High-speed 4-stroke diesel engines	CK-4	SS	Amber
4	HYPERION ELITE SYNTHETIC CK-4/SN ENGINE OIL	302189	SAE 5W-40	High-speed 4-stroke diesel engines	CK-4	S	Amber

TEMPERATURE*

L LOW N NORMAL H HIGH

*Consult PDS and equipment OEM for specific requirements and guidelines.

PRODUCT TYPE

M MINERAL SS SEMI-SYNTHETIC S SYNTHETIC BB BIO-BASED B READILY BIODEGRADABLE

1 GEO LA

A premium low-ash, detergent, and dispersant engine oil. It is specially formulated for peak performance and ultimate protection in high-output 4-stroke cycle natural gas engines operating under heavy loads and extreme conditions.

2 HEAVY DUTY DIESEL ENGINE OIL

An exceptional motor oil formulated for use in diesel and gasoline engines where reduced consumption and extended oil drain intervals are desired. Provides superior lubrication performance in heavy-duty diesel or gasoline engine applications commonly found in the mining, transportation and marine industries. API SL/CI-4. An excellent oil for mixed fleet use. TBN 14 base level for extended change intervals.

3 HYPERION® SYNTHETIC BLEND CK-4 ENGINE OIL

Formulated for use in high-speed four-stroke cycle diesel engines designed to meet 2017 model year on-highway and Tier 4 off-highway exhaust emission standards as well as for previous model year diesel engines. Provides enhanced protection against oil oxidation, viscosity loss due to shear, and oil aeration as well as protection against catalyst poisoning, particulate filter blocking, engine wear, piston deposits, degradation of low and high-temperature properties, and soot-related viscosity increase.

4 HYPERION ELITE SYNTHETIC CK-4/SN ENGINE OIL

Formulated for use in high-speed four-cycle diesel engines designed to meet 2017 model year on-highway and Tier 4 off-highway exhaust emission standards, as well as for previous model year diesel engines. The full synthetic base oils provide outstanding lubricity and cold-flow, and excellent resistance to high-temperature degradation. The advanced additive package in this formulation reduces viscosity loss due to shear, and oil aeration. The state of the art, low-ash formulation provides protection against catalyst poisoning and particulate filter blocking, while preventing deposit formation.



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HYDRAULICS

		SAP Product Number	Product Grade	Temperature	Multi-Vis Grade	Ashless	Wear, Rust, Corrosion & Foam Resistant	Product Type	Color
1	CLEAR BLUE ASHLESS AW HYDRAULIC OIL	302258 302259 302260	ISO 32 ISO 46 ISO 68	N		●	●	M	Blue
2	MULTI-VIS AW HYDRAULIC FLUID	303405 303404 303403	ISO 32 ISO 46 ISO 68	L N H	●		●	M	Amber
3	PREMIUM AW HYDRAULIC FLUID	302122 302123 302124 302125 302126	ISO 22 ISO 32 ISO 46 ISO 68 ISO 100	L N H			●	M	Amber
4	RAYLENE™ ASHLESS MULTI-VISCOSITY HYDRAULIC OIL	300938	ISO 46	L N	●	●	●	M	Green

TEMPERATURE*

L LOW N NORMAL H HIGH

*Consult PDS and equipment OEM for specific requirements and guidelines.

PRODUCT TYPE

M MINERAL SS SEMI-SYNTHETIC S SYNTHETIC BB BIO-BASED B READILY BIODEGRADABLE

1 CLEAR BLUE ASHLESS AW HYDRAULIC OIL

Bel-Ray® Clear Blue Ashless AW Hydraulic Oils are special hydraulic fluids formulated from highly-refined base stocks and proprietary zinc-free additive technology to offer ultimate protection of operating equipment and the environment. The zinc-free (ashless, no ZDDP in composition) additive formulation was developed for service applications within environmentally sensitive areas such as parks, bodies of water, recreational areas, amusement parks, ski resorts, in-ground lifts and equipment operating in populated areas. Bel-Ray Clear Blue Ashless AW Hydraulic Oils are non-toxic to sea life and non-hazardous to surrounding inhabitants in case of an accidental leak, release or spill. Bel-Ray Clear Blue Ashless AW Hydraulic Oil exceeds ASTM D5864 standards for classification as Inherently Biodegradable. It also meets requirements for U.S. EPA 40 CFR Static Sheen Test (water sheen or slick) in ambient seawater and EPA LC50 Saltwater Test (Shrimp Kill).

2 MULTI-VIS AW HYDRAULIC FLUID

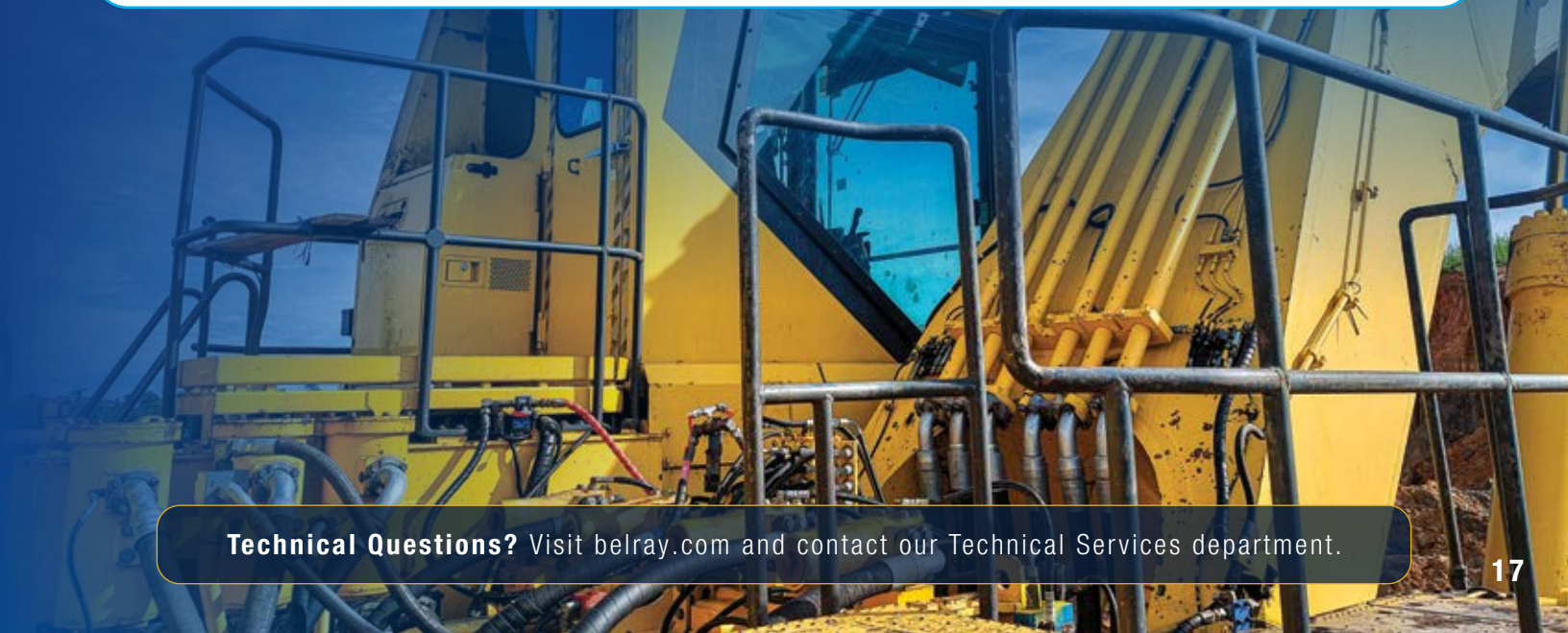
Bel-Ray Multi-Vis AW Hydraulic Fluids are high viscosity index (multi-viscosity) anti-wear lubricants formulated to deliver optimum performance in mobile and industrial equipment operating under wide temperature fluctuations for year-round service. The advanced anti-wear additives protect pumps and vital hydraulic components to reduce wear and extend equipment life. Outstanding rust and corrosion protection helps safeguard equipment operating in wet conditions, while the excellent water separation characteristics help maintain lubrication performance in the presence of water contamination. These lubricants are blended with thermally stable mineral base oils and fortified with additive technology to resist oxidation and thermal degradation. Oxidation byproducts such as sludge and varnish can plug valves and coat component surfaces, reducing hydraulic system efficiency. Bel-Ray Multi-Vis AW Hydraulic Fluids meet the performance requirements of major hydraulic pump manufacturers and are recommended for modern high-pressure, high-speed, high-power-density hydraulic systems. They provide efficient power transmission and responsive hydraulic system operation across a wide operating temperature range.

3 PREMIUM AW HYDRAULIC FLUID

Bel-Ray Premium AW Hydraulic Fluid is a special hydraulic fluid formulated from highly-refined base stocks and an advanced additive system to deliver ultimate equipment protection with extended service intervals. Bel-Ray Premium AW Hydraulic Fluid delivers optimum fluid performance over a wide-range of operating temperatures and conditions and exhibits excellent demulsification (water separation) properties, even at high operating temperatures and operating pressures.

4 RAYLENE™ ASHLESS MULTI-VISCOSITY HYDRAULIC OIL

Raylene™ Ashless Multi-Viscosity Hydraulic Oil is a high-performance, zinc-free hydraulic oil. The product's high Viscosity Index promotes excellent low temperature fluidity as well as high temperature viscosity stability. The exceptional anti-wear property of Raylene Ashless Multi-Viscosity Hydraulic Oil reduces component wear, and its ashless formula eliminates metallic additive deposits for clean and trouble-free operation. The excellent demulsibility characteristic of Raylene Ashless Multi-Viscosity Hydraulic Oil promotes rapid and complete water separation for easy drainage. Raylene Ashless Multi-Viscosity Hydraulic Oil meets the requirements of most major OEMs for zinc-free hydraulic oils as well as Denison HF-0, DIN 51524 Part 3 (HVLP) and ISO 6743-4 (L-HV) specifications.



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ENCLOSED GEARS

		SAP Product Number	Product Grade	Temperature	Extreme Pressure	Wear, Rust & Corrosion Resistant	Product Type	Color
1	100 EXTREME PRESSURE GEAR OIL	301692 301195 301196 301197 301198 301693	ISO 150 ISO 220 ISO 320 ISO 460 ISO 680 ISO 1000	N H			M	Red
2	INDUSTRIAL GEAR OIL	302182 302184 302185 302186 302191 303380	ISO 100 ISO 150 ISO 220 ISO 320 ISO 460 ISO 680	N H			M	Amber
3	SYNTHETIC GEAR OIL	301321 301605 301606 301607 301608	ISO 220 ISO 320 ISO 460 ISO 680 ISO 1000	L N H			S	Yellow
4	SEMI-FLUID GREASE	301212	NLGI 000	N			M	Amber

TEMPERATURE*

L LOW N NORMAL H HIGH

*Consult PDS and equipment OEM for specific requirements and guidelines.

PRODUCT TYPE

M MINERAL SS SEMI-SYNTHETIC S SYNTHETIC BB BIO-BASED B READILY BIODEGRADABLE

1 100 EXTREME PRESSURE GEAR OIL

An exceptional heavy-duty gear oil formulated for demanding gear applications. It provides exceptional Extreme Pressure and anti-wear properties and has a long legacy of extending component life. It boasts 100 pound Timken OK Load and it exceeds all of the enclosed gear oil requirements for walking draglines, electric rope shovels and hydraulic excavators.

2 INDUSTRIAL GEAR OIL

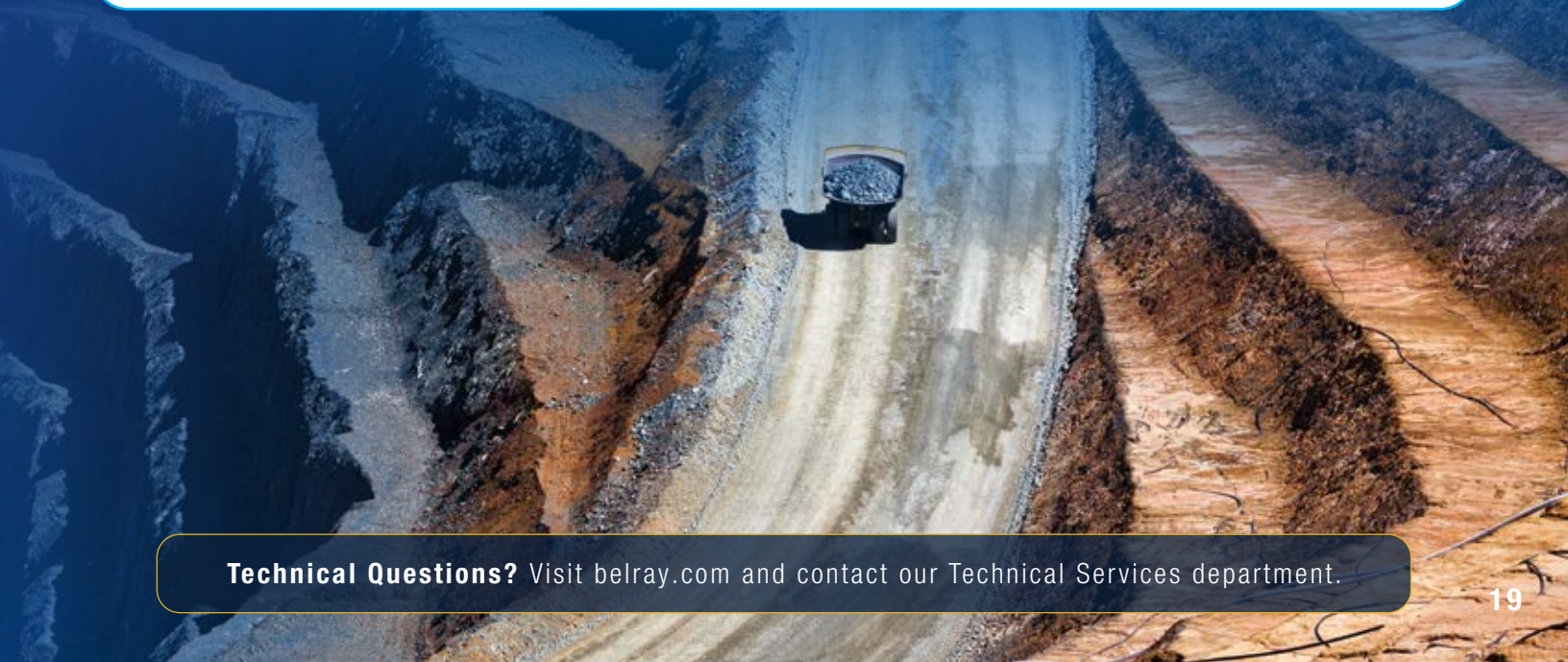
Bel-Ray Industrial Gear Oils are a series of premium gear lubricants formulated to provide optimum performance and protection in all types of enclosed gear sets. They are blended with selected grades and thermally stable paraffinic base stocks and fortified with an advanced additive system designed to deliver ultimate protection against gear and bearing wear, rust, oxidation, and hydrolytic decomposition.

3 SYNTHETIC GEAR OIL

A full synthetic hydrocarbon and ester combination gear lubricant. Outstanding Extreme Pressure and anti-wear properties, as well as excellent viscosity-temperature properties. Extremely low coefficients of friction and traction. Compatible with mineral oils. Exceeds all of the enclosed gear oil requirements of walking draglines, electric rope shovels and hydraulic excavators and meets the requirements of Caterpillar (Bucyrus International) SD4720, SD4721 and Joy Global P&H 497. Grades ISO VG 220 thru ISO VG 680 are approved by Flender. Grade ISO VG 460 is approved by Le Tourneau for electric drivers. Grades ISO VG 150 thru ISO VG 460 are approved by Bosch Rexroth. ISO VG 680 is approved by General Electric and Komatsu for wheel motor applications. Grade ISO VG 320 is approved against the Caterpillar SD4720 standard for electric rope shovel enclosed gear cases.

4 SEMI-FLUID GREASE

A semi-fluid aluminum complex grease with Extreme Pressure properties and rust, corrosion and oxidation inhibitors. Remains stable with heat resistance to protect against severe shock loads. Shear thickening for use in semi-enclosed or leaky gear cases. Semi-Fluid Grease is extremely effective in general purpose lubrication of bearings or sliding surfaces where a higher degree of retention is desired. Unlike most gear lubricants, Semi-Fluid Grease will increase in viscosity during use, maximizing retention in hard-to-lubricate bearings and minimizing leakage from gear cases with faulty seals. The Extreme Pressure and anti-corrosion properties of Semi-Fluid Grease will continue to provide the protection needed in the harshest working conditions. **THICKENER: Aluminum Complex**



Technical Questions? Visit belray.com and contact our Technical Services department.

ENCLOSED GEARS

		SAP Product Number	Product Grade	Temperature	Extreme Pressure	Wear, Rust & Corrosion Resistant	Product Type	Color
1	GL-5 GEAR OIL	302241 302230	SAE 80W-90 SAE 85W-140	L N H	●	●	M	Amber
2	SYNTHETIC GL-5 GEAR OIL	302242 302243	SAE 75W-90 SAE 75W-140	L N H	●	●	S	Amber
3	TRANSMISSION FLUID TO-4	302302 302303 302304	SAE 10W SAE 30 SAE 50	N		●	M	Amber
4	FINAL DRIVE FLUID	303378	SAE 60	N	●	●	M	Amber

TEMPERATURE*

L LOW N NORMAL H HIGH

*Consult PDS and equipment OEM for specific requirements and guidelines.

PRODUCT TYPE

M MINERAL SS SEMI-SYNTHETIC S SYNTHETIC BB BIO-BASED B READILY BIODEGRADABLE

1 GL-5 GEAR OIL

Designed to provide superb performance for light and heavy duty trucks and various pieces of industrial equipment when API Service Classification GL-5 and MT-1 are specified. This product is formulated with quality mineral base stocks that have outstanding thermal oxidation stability. The additive system provides extreme pressure characteristics, anti-wear performance, rust and corrosion prevention and anti-foaming tendencies.

2 SYNTHETIC GL-5 GEAR OIL

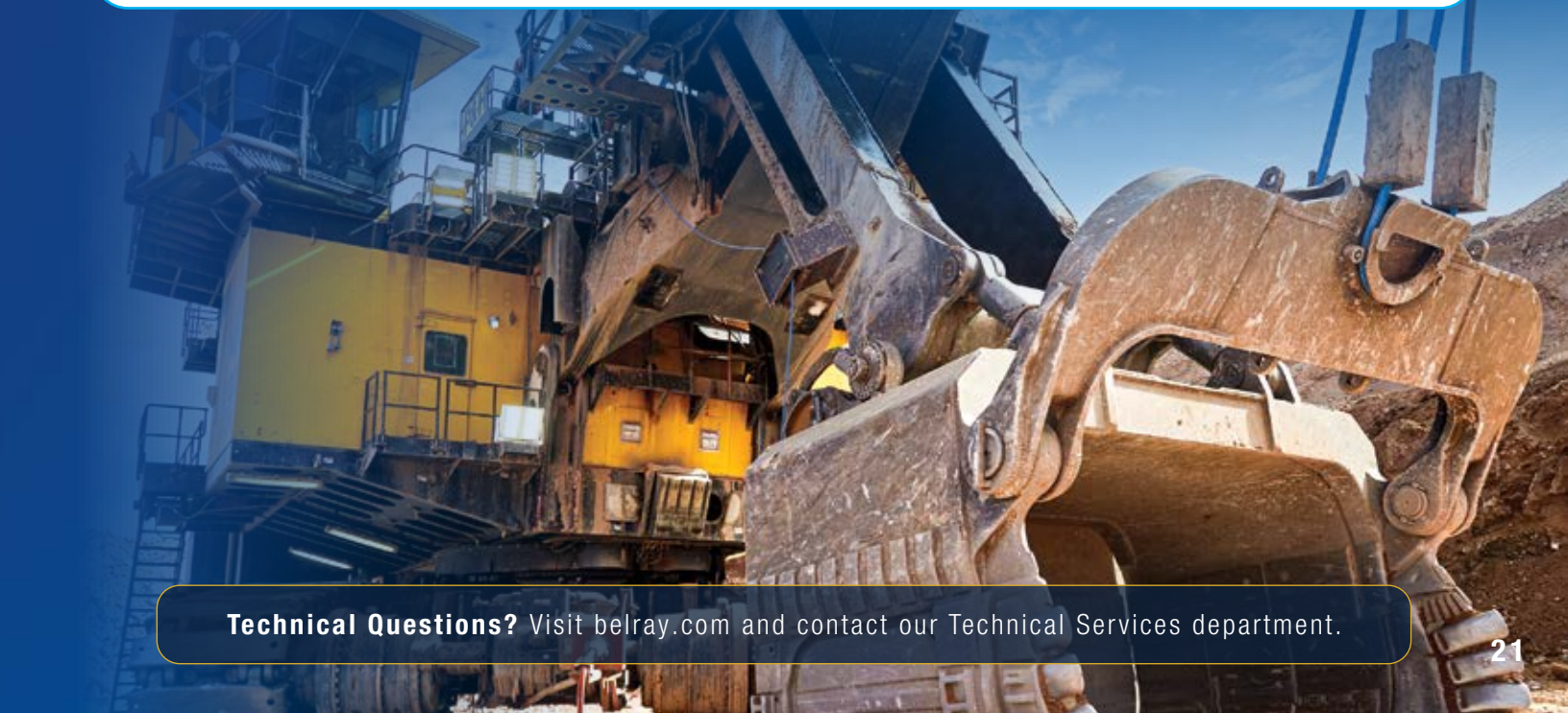
Designed to provide superb performance for light and heavy duty trucks and various industrial equipment when API Service Classification GL-5 and/or MT-1 is specified. This product is formulated with synthetic base stocks that have outstanding thermal oxidation stability. The additive system provides extreme pressure characteristics, anti-wear performance, rust and corrosion prevention and anti-foaming tendencies.

3 TRANSMISSION FLUID TO-4

Bel-Ray TO-4 heavy duty transmission and drive train multi-functional lubricants are specifically formulated to meet Caterpillar's TO-4 and Caterpillar TO-4M requirements. Coupled with select base oils, Bel-Ray's balanced additive technology stands up to the rigorous and severe operating conditions in off-highway industries including: mining, construction, quarrying, and agriculture. Bel-Ray TO-4 heavy duty transmission and drive train multi-functional lubricants contain balanced additive technology that provides the friction control, low gear wear, good elastomer compatibility and oxidation stability performances, required to meet the specifications for power shift transmissions, final drive and hydraulic systems. TO-4 supersedes and replaces Caterpillar TO-2.

4 FINAL DRIVE FLUID

Bel-Ray® Final Drive Fluid is formulated with technology to meet Caterpillar FD-1 requirements for final drive and axle oil (FDAO) used in Caterpillar final drives, axles, and differentials. Designed for mining, construction, and quarrying equipment, it delivers wear protection for highly loaded gears and bearings operating in rigorous and severe conditions. Final Drive Fluid provides superior oxidation control and corrosion protection to components to enable extending drain intervals.



Technical Questions? Visit belray.com and contact our Technical Services department.

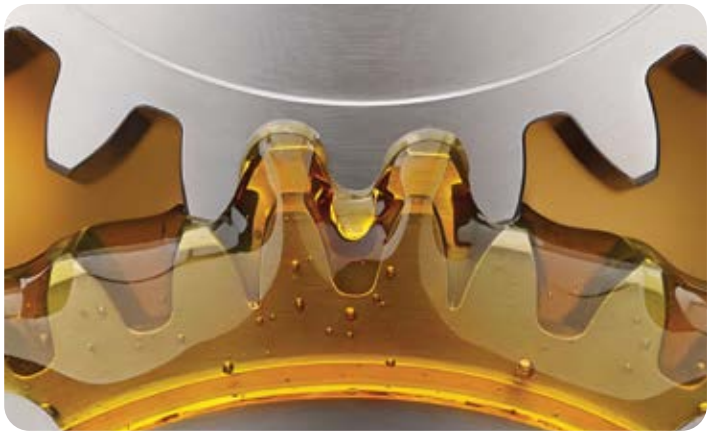
TYPE 1 OPEN GEAR LUBRICANTS

Mobile machinery with dynamic load reversals, bi-directional operation, and frequent starts/stops.

(SHOVELS AND MOBILE EQUIPMENT)

Lubrication Regime:

- Bi-directional low speed operation with frequent starts/stops.
- Frequent boundary and mixed lubrication conditions.
- Intermittent fluid-film lubrication during equipment operation.



Key Lubricant Function:

- Extreme Pressure (EP) and Anti-Wear (AW) protection.
- Protects during low-speed operation, load reversals, and startup/shutdown.
- Provides protection when a full fluid film cannot be maintained.



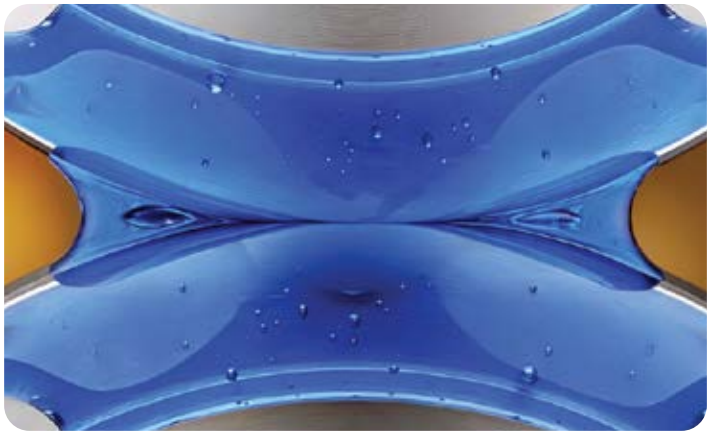
TYPE 2 OPEN GEAR LUBRICANTS

Heavy stationary machinery operating continuously in unidirectional service.

(MILLS, SHIFTERS, AND STATIONARY EQUIPMENT)

Lubrication Regime:

- Continuous operation at medium-to-high speeds.
- Hydrodynamic or EHD fluid films fully separate moving surfaces.
- Stable fluid-film lubrication under normal operating conditions.



Key Lubricant Function:

- Correct viscosity for operating temperature and speed.
- Anti-wear protection during startup and low-speed operation.
- Maintains fluid-film separation for reliable equipment operation.



OPEN GEARS TYPE 1

		SAP Product Number	Product Grade	Consistency	BOV at 40 °C (cSt)	Temperature	Extreme Pressure	Worm Gears	Wear, Rust & Corrosion Resistant	Product Type	Color
1	MOLYLUBE GEAR TAC TACKY OPEN GEAR LUBRICANT	301746	Medium Light	Residual-Type Lubricant	40,000	L, N	●	●	●	SS	Black
2	MOLYLUBE SHOVEL & DRAGLINE LUBRICANT	301755 301088	Medium Heavy	Semi-Fluid Grease	700 1,900	N	●	●	●	M	Black
3	MOLYLUBE SF 100 SEMI-SYNTHETIC OPEN GEAR LUBRICANT	301345 301773 301772 301344 300939 301774	Sub-Arctic Arctic Light Medium Heavy Ultra Heavy	Semi-Fluid Grease	700 700 1,900 1,900 3,700 3,700	L, N	●	●	●	M	Amber
4	MOLYLUBE ULTRA OPEN GEAR LUBRICANT	301094 301777 500908	Medium Light Medium High Dust	Residual-Type Lubricant	50,000	N	●	●	●	M	Black

TEMPERATURE*

L LOW N NORMAL H HIGH

*Consult PDS and equipment OEM for specific requirements and guidelines.

PRODUCT TYPE

M MINERAL SS SEMI-SYNTHETIC S SYNTHETIC BB BIO-BASED B READILY BIODEGRADABLE

1 MOLYLUBE GEAR TAC TACKY OPEN GEAR LUBRICANT

A high viscosity mineral oil and polymer open gear lubricant formulated for dragline, electric rope shovel and hydraulic excavator applications where an open gear lubricant is specified. Fortified with Molylube Solids. Extreme Pressure and anti-wear properties. Excellent retention properties, minimizing consumption and housekeeping. Maintains lube film in wet conditions. Included in the Caterpillar SD4713 Certified Lubricants List (6-27-12)

2 MOLYLUBE SHOVEL & DRAGLINE LUBRICANT

A mineral oil-based, aluminum complex, multi-service lubricant for temperate climates. Perfect for the climates of Africa, Australia, parts of the United States and South America. Contains Molylube Solids. Provides excellent anti-wear and Extreme Pressure properties. Exceeds all of the open gear lubricant requirements of walking draglines, electric rope shovels and hydraulic excavators and meets the requirements of the Joy Global P&H 464 standard for open gear lubricants. Can be applied through a centralized system to temperatures as low as -5°C (-23°F).

3 MOLYLUBE SF 100 SEMI-SYNTHETIC OPEN GEAR LUBRICANT

A semi-synthetic aluminum complex open gear grease formulated for dragline, electric rope shovel and hydraulic excavator applications where an open gear lubricant is specified. Fortified with Molylube Solids. Extreme Pressure and anti-wear properties. Excellent retention properties. Diluted and undiluted grades available. Meets the Komatsu P&H 464 specification. **THICKENER: Aluminum Complex**

4 MOLYLUBE ULTRA OPEN GEAR LUBRICANT

Current state-of-technology for dragline and electric rope shovel open gear lubrication. Exceeds all current standards for Extreme Pressure and anti-wear with a 1000+ kg Four Ball EP Test Weld Load and a 220+ kg Load Wear Index. Excellent film formation and maintenance capabilities. Exceeds all of the open gear lubricant requirements of walking draglines, electric rope shovels and hydraulic excavators and meets the requirements of the Caterpillar and Joy Global P&H 464 standards for open gear lubricants.



Technical Questions? Visit belray.com and contact our Technical Services department.

OPEN GEARS TYPE 2

		SAP Product Number	Product Grade	Consistency	BOV at 40 °C (cSt)	Temperature	Extreme Pressure	Worm Gears	Wear, Rust & Corrosion Resistant	Product Type	Color
1	CLEAR GEAR™ LUBRICANT	301688 301193 301689	Medium Standard Heavy	High Viscosity Oil	10,900 16,100 28,200	N	●	●	●	S	Yellow
2	MOLYLUBE MILL GEAR COMPOUND	301771	N/A	Residual-Type Lubricant	12,800	N	●		●	M	Black
3	MOLYLUBE MILL GEAR GREASE	301343	Heavy	Semi-Fluid Grease	6,400	N	●	●	●	M	Gray

TEMPERATURE*

L LOW N NORMAL H HIGH

*Consult PDS and equipment OEM for specific requirements and guidelines.

PRODUCT TYPE

M MINERAL SS SEMI-SYNTHETIC S SYNTHETIC BB BIO-BASED B READILY BIODEGRADABLE

1 CLEAR GEAR™ LUBRICANT

A high viscosity synthetic open gear lubricant formulated for grinding mills, kilns and other process open gear systems. Provides full fluid film or hydrodynamic lubrication. Progressively cleans residual lubricant from gear teeth and shroud allowing for visual gear tooth inspections. Metso Mineral and Outotec approved.

2 MOLYLUBE MILL GEAR COMPOUND

A high-viscosity open gear lubricant designed for mill and process open gears. This product forms a strong tenacious paste-like film, providing maximum protection in the load zone greatly reducing consumption. Contains a volatile solvent that ensures fluidity during application. Contains Molylube Solids. Meets ANSI/AGMA 9005-E02 specification for minimum viscosity recommendations for open gearing intermittent lubricant application and for gravity feed or forced drip lubrication of open gears. Approved by Metso Minerals.

3 MOLYLUBE MILL GEAR GREASE

An NLGI 00 aluminum complex open gear grease formulated for grinding mill girth gears and pinions. Fortified with Molylube Solids. Extreme Pressure and anti-wear properties. Excellent retention characteristics. Spent lubricant freely drains to waste. Heavy Grade - Metso Minerals approved.
THICKENER: **Aluminum Complex**



Technical Questions? Visit belray.com and contact our Technical Services department.

MULTIPURPOSE

		SAP Product Number	Product Grade	Temperature	Anti-Wear	Penetrating Fluid	Rust & Corrosion Resistant	Product Type	Color
1	6 IN 1® MULTIPURPOSE LUBRICANT	301179 300873 (Spray)	ISO 3	L N	●	●	●	M	Amber
2	TURBINE OIL	302152 302154 302171 302172 302173 303083	ISO 32 ISO 68 ISO 100 ISO 150 ISO 220 ISO 460	N H			●	M	Amber

1 6 IN 1® MULTIPURPOSE LUBRICANT

6 IN 1® contains anti-wear additives that provide high film strength to this exceptional penetrating and lubricating fluid. It cleans as it lubricates, protects against rust and corrosion, displaces water and reduces friction. 6 IN 1 will not harm electrical contacts, vinyl, wood or paint. 6 IN 1 is not a solvent but a high-performance lubricant. The exceptional penetrating properties make removal of frozen fasteners and fittings much easier. The special anti-wear additives will protect and lubricate all metal surfaces. It provides superior corrosion protection from moisture and leaves an impervious coating for long lasting protection.

2 TURBINE OIL

A rust and oxidation inhibited industrial oil for an array of applications and is engineered for the demanding heavy-duty, high-temperature gas, steam, and hydraulic turbine systems. Offers superior protection from water contamination and is formulated to prevent sludge and deposits from oil oxidation. Protects against wear of critical components in severe operating conditions.

TEMPERATURE*

L LOW N NORMAL H HIGH

*Consult PDS and equipment OEM for specific requirements and guidelines.

PRODUCT TYPE

M MINERAL SS SEMI-SYNTHETIC S SYNTHETIC BB BIO-BASED B READILY BIODEGRADABLE

SPECIALTY FLUID

		SAP Product Number	Product Grade	Extreme Pressure	Rust Preventative	Anti-Wear	Product Type	Color
1	ROCK DRILL OIL 100	302273	ISO 100	●	●		M	Tan
2	RUST PREVENTATIVE	302774	ISO 68		●		M	Dark Red

1 ROCK DRILL OIL 100

Bel-Ray Rock Drill Oils are an adhesive, extreme-pressure (EP) lubricant specially developed for the lubrication of air-powered tools such as rock drills, jackhammers, pavement breakers and drifters. It also is recommended for the lubrication of mining and industrial equipment operating in wet environments. Bel-Ray Rock Drill Oils are formulated with high-quality paraffinic base oils and a specially tailored additive package to provide excellent protection for pneumatic percussion tools. It has high load-carrying capacity to protect against wear and seizure of sliding metal surfaces under heavy or shock-load conditions. It has good adhesion to metal surfaces in the presence of moisture, and provides protection against rust and corrosion. It also has good oxidation resistance and thermal stability at high temperatures for long service life.

2 RUST PREVENTATIVE

Bel-Ray Rust Preventative is a premium performance product which provides effective rust preventative films on the internal surfaces of machinery. It is particularly suitable as lubricants for diesel and gasoline engines. The oils displace water from metal surfaces and form strong water-resistant films on the metal surfaces to prevent rust and corrosion. Bel-Ray Rust Preventative absorbs the water in systems into a water-in-oil emulsion so that the contact surfaces of the machinery still get satisfactory lubrication. Their high level of chemical stability and their anti-wear and detergent properties make them suitable as high quality short-term lubricants.

Technical Questions? Visit belray.com and contact our Technical Services department.

SPECIALTY GREASE

		SAP Product Number	Product Grade	Base Oil ISO VG	Extreme Pressure	Rust Preventative	Anti-Wear	Product Type	Color
1	ELECTRIC SWITCH CONTACT BLACK GREASE	301216	NLGI 2	100				M	Black
2	ELECTRIC SWITCH CONTACT WHITE GREASE	301532	NLGI 2	275				M	Cream
3	KILN CAR GREASE	300994	NLGI 1	32				S	Black
4	MOLD RELEASE COMPOUND	301763	NLGI 2	100				M	Tan
5	MOLYLUBE CAM COMPOUND L-56	301611	NLGI 2	280	●	●		M	Black
6	MOLYLUBE SYNTHETIC TRACK ROLLER LUBRICANT	301748	NLGI 0	46	●	●		S	Dark Gray
7	SLIDE & CAM LUBRICANT	301596 301595	Light Medium	N/A	●	●	●	M	Tan

PRODUCT TYPE

M MINERAL | SS SEMI-SYNTHETIC | S SYNTHETIC | BB BIO-BASED | B READILY BIODEGRADABLE

1 ELECTRIC SWITCH CONTACT BLACK GREASE

A non-melting organoclay grease formulated for electric switch contacts. Mineral oil based. Low friction solids make the grease suitable for most sliding surfaces. Thermal stability minimizes high temperature deposits. Suitable for use on sliding surfaces and as a thread lubricant. Useful temperature range -29°C to 260°C (-20°F to 500°F). **THICKENER:** Organoclay

2 ELECTRIC SWITCH CONTACT WHITE GREASE

A non-melting organoclay grease formulated for electric switch contacts. Mineral oil based. Low friction solids make the grease suitable for most sliding surfaces. Thermal stability minimizes high temperature deposits. Suitable for use on sliding surfaces and as a thread lubricant. Useful temperature range -15°C to 260°C (5°F to 500°F). **THICKENER:** Organoclay

3 KILN CAR GREASE

A no deposit synthetic carrier fluid with an inorganic thickener and graphite. At temperatures above 149ºC (300ºF), the fluid evaporates, leaving the graphite to lubricate the bearing surface. Application at temperatures below 149ºC (300ºF) is not recommended because the carrier fluid will thicken rather than evaporate causing drag on the bearing and eventual carbonization. Contact with any petroleum-derived product is to be avoided. Useful temperature range 149°C to 538°C (300°F to 1000°F). **THICKENER:** Inorganic

4 MOLD RELEASE COMPOUND

An organoclay mold release grease. Mineral oil based. Excellent heat stability: Does not slump or sag at temperatures up to 177ºC (350ºF). Consistency can be reduced with hydrocarbon solvents for application by brush, spray or roller. Maximum useful temperature 177°C (350°F). **THICKENER:** Organoclay

5 MOLYLUBE CAM COMPOUND L-56

A product formulated to exceed the lubrication requirements of the rolling cam walking system commonly seen on Caterpillar (Bucyrus) walking draglines. A proprietary blend of lubricating solids, EP and anti-wear additive ensure excellent film formation, cam and rail separation and temperature reduction. Low friction properties eliminates vibration and stick-slip. Can be pumped to temperatures as low as -34°C (-30°F) without heat.

6 MOLYLUBE SYNTHETIC TRACK ROLLER LUBRICANT

Molylube Synthetic Track Roller Lubricant, commonly known as Molylube PA TP Lubricant, is a synthetic base, aluminum complex semifluid grease fortified with molybdenum disulfide (moly), extreme pressure and anti-wear additives, and rust and corrosion inhibitors. Molylube Synthetic Track Roller Lubricant is intended for use in all tracked equipment such as dozers, track loaders, and other mining and construction heavy equipment. Because of its synthetic hydrocarbon base fluid, Molylube Synthetic Track Roller Lubricant has excellent flow properties at very low temperatures and outstanding thermal stability at high temperatures. The unique blend of moly, extreme pressure and anti-wear additives reduces friction and wear, virtually eliminating internal pin and bushing wear, resulting in an increase in bushing and system life.

7 SLIDE & CAM LUBRICANT

A product specifically formulated to exceed the requirements of Bucyrus 2500W Series dragline cam and slide propel mechanism. Its exceptional Extreme Pressure and low friction properties provide protection for plain bearings and sliding surfaces while reducing metal-to-metal contact and minimizing component wear under the most severe operating conditions, thereby extending component life. Its unique mechanical stability maintains the necessary viscosity even under high-load and high-shear conditions.

Technical Questions? Visit belray.com and contact our Technical Services department.

WIRE ROPES

		SAP Product Number	Product Grade	Temperature	Viscosity Base	Penetrating Fluid	Extreme Pressure	Wear, Rust & Corrosion Resistant	Product Type	Color
1	BIODEGRADABLE WIRE ROPE LUBRICANT	301221	N/A	N	L	●	●	●	B	Yellow
2	NON-MELT WIRE ROPE COATING GREASE	301206	NLGI 3	N	H			●	M	Amber
3	WIRE ROPE LUBRICANT	301603 301602	Low Viscosity High Viscosity	L N	L H	●	●	●	M	Brown

VISCOSITY

L LOW H HIGH

TEMPERATURE*

L LOW N NORMAL H HIGH

*Consult PDS and equipment OEM for specific requirements and guidelines.

PRODUCT TYPE

M MINERAL SS SEMI-SYNTHETIC S SYNTHETIC BB BIO-BASED B READILY BIODEGRADABLE

1 BIODEGRADABLE WIRE ROPE LUBRICANT

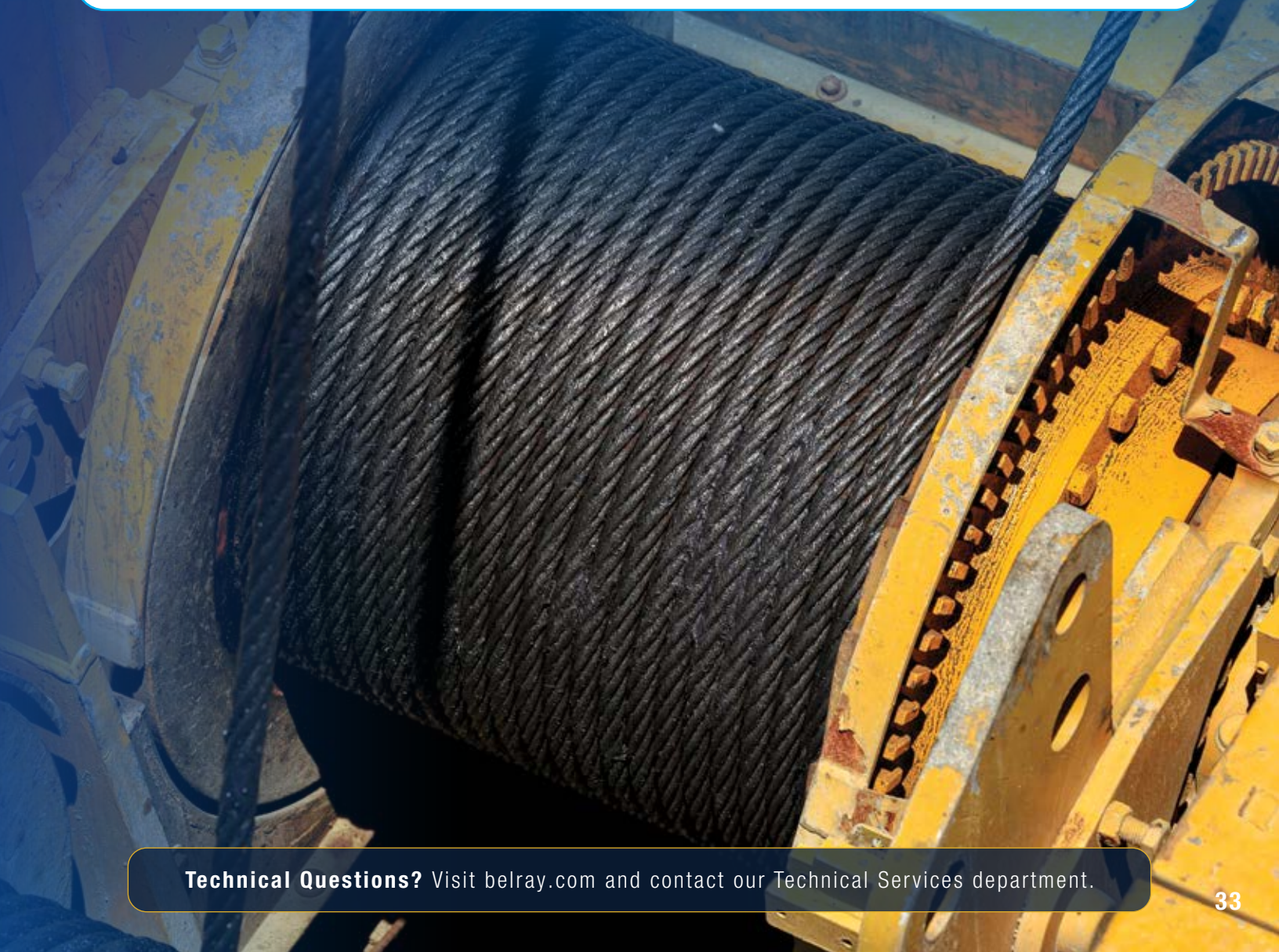
A readily biodegradable rope lubricant that maximizes rope, sheave and drum life without harming the environment. Excellent for sensitive environments including marine areas.

2 NON-MELT WIRE ROPE COATING GREASE

An organoclay grease formulated to protect against running and stationary wire ropes. Water washout resistant. Adhesive. Rust, corrosion and oxidation inhibitors. Suitable for dockside applications, mooring lines, bridge strands and similar applications. Best applied with clamp type wire rope lubricator systems. Useful temperature range -15°C to 204°C (5°F to 400°F). **THICKENER:** Organoclay

3 WIRE ROPE LUBRICANT

A specially formulated penetrating lubricant for wire ropes. Can be applied directly onto wet ropes while providing excellent adhesive properties, reducing consumption. Prevents inner strand corrosion and rubbing wear. It is an all-season product that does not require change of grades as temperatures fluctuate. Applicable manually or through most automatic lube systems. Useful temperature range -46°C to 60°C (-50°F to 140°F).



Technical Questions? Visit belray.com and contact our Technical Services department.

PRODUCT/PACKAGING INDEX

VISCOSITY GRADE / NLGI CONSISTENCY	PRODUCT NUMBER	PAGE #	AEROSOL	SMALL PAIL	PAIL	LINED DRUM	DRUM	TOTE	FLUID BAG	FLEX-BAG TOTE	BULK	KEG	LINED KEG	CARTRIDGE	CAULKING CARTRIDGE	BRUSH TOP	6-GALLON BAG IN BOX	4 LITER	16 OZ TUB	GALLON	QUART
PACKAGING KEY			A	SP	P	LD	D	T	FB	FBT	B	K	LK	C	CC	BT	BB	4L	16	G	Q
100 EP Gear Oil							D	T													
ISO 150	301692150007	19					•														
ISO 220	301195150340	19						•													
	301195150007	19					•														
ISO 320	301196150007	19					•														
ISO 460	301197150007	19					•														
ISO 680	301198150340	19						•													
	301198150007	19					•														
ISO 1000	301693150007	19					•														
6 in 1 Multipurpose Lubricant			A				D														
ISO 3	301179150007	28					•														
	300873150285	28	•																		
Biodegradable Wire Rope Lubricant					P																
N/A	301221150025	33			•																
Clear Blue Ashless AW Hydraulic Oil							D	T			B										
ISO 32	302258150316	17						•													
ISO 46	302259150000	17									•										
	302259150316	17						•													
	302259150007	17					•														
ISO 68	302260150000	17									•										
	302260150316	17						•													
	302260150007	17					•														
Clear Gear Lubricant							D														
Medium	301688150002	27					•														
Standard	301193150002	27					•														
Heavy	301689150002	27					•														
Electric Switch Contact Black Grease					P																
NLGI 2	301216150025	31			•																
Electric Switch Contact White Grease					P							K									
NLGI 2	301532150013	31										•									
	301532150025	31			•																
Final Drive Fluid							D	T			B										
SAE 60	303378150000	21									•										
	303378150316	21						•													
	303378150007	21					•														
GEO LA								T			B										
SAE 40	302311150316	15						•													
	302311150000	15									•										
SAE 15W-40	302313150000	15									•										

VISCOSITY GRADE / NLGI CONSISTENCY	PRODUCT NUMBER	PAGE #	AEROSOL	SMALL PAIL	PAIL	LINED DRUM	DRUM	TOTE	FLUID BAG	FLEX-BAG TOTE	BULK	KEG	LINED KEG	CARTRIDGE	CAULKING CARTRIDGE	BRUSH TOP	6-GALLON BAG IN BOX	4 LITER	16 OZ TUB	GALLON	QUART
PACKAGING KEY			A	SP	P	LD	D	T	FB	FBT	B	K	LK	C	CC	BT	BB	4L	16	G	Q
GL-5 Gear Oil					P		D				B	K									Q
SAE 80W-90	302241150125	21																			•
	302241150019	21			•																
	302241150012	21										•									
	302241150003	21					•														
	302241150000	21									•										
SAE 85W-140	302230150125	21																			•
	302230150019	21			•																
	302230150003	21					•														
	302230150000	21									•										
Heavy Duty Diesel Engine Oil							D														
SAE 15W-40	301054150007	15					•														
High Temperature Anti-Seize Compound					P																
NLGI 1	301526150025	11			•																
Hyperion Elite Synthetic CK-4/SN Motor Oil							D				B										
SAE 5W-40	302189150007	15					•														
	302189150000	15									•										
Hyperion Elite Synthetic Blend CK-4 Engine Oil					P		D	T			B						BB			G	
SAE 10W-30 CK-4	302559150007	15					•														
	302559150000	15									•										
SAE 15W-40 API CK-4/SN	302334150195	15																		•	
	302334150033	15															•				
	302334150017	15			•																
	302334150007	15					•														
	302334150316	15						•													
	302334150000	15									•										
Industrial Gear Oil							D	T			B										
ISO 100	302182150000	19									•										
	302182150003	19					•														
ISO 150	302184150000	19									•										
	302184150316	19						•													
	302184150003	19					•														
ISO 220	302185150000	19									•										
	302185150003	19					•														
ISO 320	302186150000	19									•										
	302186150003	19					•														
ISO 460	302191150000	19									•										
	302191150003	19					•														
ISO 680	303380150000	19									•										

VISCOSITY GRADE / NLGI CONSISTENCY	PRODUCT NUMBER	PAGE #	AEROSOL	SMALL PAIL	PAIL	LINED DRUM	DRUM	TOTE	FLUID BAG	FLEX-BAG TOTE	BULK	KEG	LINED KEG	CARTRIDGE	CAULKING CARTRIDGE	BRUSH TOP	6-GALLON BAG IN BOX	4 LITER	16 OZ TUB	GALLON	QUART
PACKAGING KEY			A	SP	P	LD	D	T	FB	FBT	B	K	LK	C	CC	BT	BB	4L	16	G	Q
Kiln Car Grease							D														
NLGI 1	300994150002	31					•														
Mold Release Compound							D														
NLGI 2	301763150002	31					•														
Molylube 3% Moly Extreme Pressure Grease LC						LD				FBT											
NLGI 0	301084150526	5								•											
	301084150004	5				•															
NLGI 1	300885150526	5								•											
	300885150004	5				•															
NLGI 2	301613150526	5								•											
	301613150004	5				•															
Molylube 5% Moly Extreme Pressure Grease AC						LD				FBT											
NLGI 0 - (46 Base)	301750150526	5								•											
(150 Base)	301753150526	5								•											
	301753150004	5				•															
NLGI 1	300886150526	5								•											
	300886150004	5				•															
NLGI 2	300936150004	5				•															
Molylube 5% Moly Extreme Pressure Grease LC									FB												
NLGI 1	301612150526	5							•												
Molylube 87M Extreme Pressure Grease						LD															
NLGI 0	301187150004	5				•															
Molylube Anti-Seize Compound					P										CC						
NLGI 2	301082150025	11			•																
	301082150255	11													•						
Molylube Anti-Seize Silicone Compound With Moly																BT					
NLGI 2	300988150260	11														•					
Molylube Cam Compound L-56							D														
NLGI 2	301611150002	31					•														
Molylube Copper Tool Joint Compound					P																
NLGI 1	301190150025	11			•																
Molylube EP Grease CSC						LD						K									
NLGI 1	500962150013	7										•									
	500962150004	7				•															
Molylube Extreme Pressure Grease AC						LD	D							C							
NLGI 1	301201150004	5				•															
NLGI 2	301696150002	5					•														
	301696150235	5												•							
Molylube Extreme Pressure High Viscosity Grease						LD															
NLGI 1	301679150004	7				•															
NLGI 2	301682150004	7				•															

VISCOSITY GRADE / NLGI CONSISTENCY	PRODUCT NUMBER	PAGE #	AEROSOL	SMALL PAIL	PAIL	LINED DRUM	DRUM	TOTE	FLUID BAG	FLEX-BAG TOTE	BULK	KEG	LINED KEG	CARTRIDGE	CAULKING CARTRIDGE	BRUSH TOP	6-GALLON BAG IN BOX	4 LITER	16 OZ TUB	GALLON	QUART
PACKAGING KEY			A	SP	P	LD	D	T	FB	FBT	B	K	LK	C	CC	BT	BB	4L	16	G	Q
Molylube Gear Tac Tacky Open Gear Lubricant						LD															
Medium Light	301746150004	25				•															
Molylube High Temperature Grease														C							
NLGI 1	301184150235	7												•							
Molylube Low Temperature Multipurpose Grease						LD			FB												
NLGI 1	301042150526	7							•												
	301042150004	7				•															
Molylube Mill Gear Compound						LD															
N/A	301771150004	27				•															
Molylube Mill Gear Grease							D														
Heavy	301343150002	27					•														
Molylube Multipurpose Extreme Pressure Grease With Moly						LD	D														
NLGI 1	301524150004	7				•															
	301524150002	7					•														
NLGI 2	301209150004	7				•															
Molylube SF 100 Semi-Synthetic Open Gear Lubricant						LD	D			FBT					CC						
Sub-Arctic	301345150526	25								•											
Arctic	301773150526	25								•											
	301773150002	25					•														
Light	301772150526	25								•											
	301772150002	25					•														
	301772150004	25				•															
Medium	301344150004	25				•															
	301344150255	25													•						
Heavy	300939150526	25								•											
	300939150002	25					•														
Ultra Heavy	301774150526	25								•											
	301774150002	25					•														
Molylube Shovel & Dragline Lubricant							D			FBT											
Medium	301755150002	25					•														
Heavy	301088150526	25								•											
Molylube Synthetic Track Roller Lubricant					P																
N/A	301748150025	31			•																
Molylube Ultra Open Gear Lubricant						LD				FBT											
Medium Light	301094150526	25								•											
	301094150004	25				•															
Medium	301777150004	25				•															
High Dust	500908150004	25				•															

VISCOSITY GRADE / NLGI CONSISTENCY	PRODUCT NUMBER	PAGE #	AEROSOL	SMALL PAIL	PAIL	LINED DRUM	DRUM	TOTE	FLUID BAG	FLEX-BAG TOTE	BULK	KEG	LINED KEG	CARTRIDGE	CAULKING CARTRIDGE	BRUSH TOP	6-GALLON BAG IN BOX	4 LITER	16 OZ TUB	GALLON	QUART
PACKAGING KEY			A	SP	P	LD	D	T	FB	FBT	B	K	LK	C	CC	BT	BB	4L	16	G	Q
Multi-Vis AW Hydraulic Fluid							D				B										
ISO 32	303405150000	17									•										
	303405150007	17					•														
ISO 46	303404150000	17									•										
	303404150007	17					•														
ISO 68	303403150000	17									•										
	303403150007	17					•														
Non-Melt Wire Rope Coating Grease					P																
NLGI 3	301206150025	33			•																
Premium AW Hydraulic Fluid					P		D	T			B										
ISO 22	302122150000	17									•										
ISO 32	302123150017	17			•																
	302123150007	17					•														
	302123150316	17						•													
	302123150000	17									•										
ISO 46	302124150017	17			•																
	302124150007	17					•														
	302124150316	17						•													
	302124150000	17									•										
ISO 68	302125150017	17			•																
	302125150007	17					•														
	302125150316	17						•													
	302125150000	17									•										
ISO 100	302126150000	17									•										
	302126150007	17					•														
Raylene Ashless Multi-Viscosity Hydraulic Oil							D	T													
ISO 46	300938150340	17						•													
	300938150007	17					•														
Rock Drill Oil 100								T			B										
ISO 100	302273150000	29									•										
	302273150316	29						•													
Rust Preventative											B										
N/A	302774150000	29									•										
Semi-Fluid Grease					P																
N/A	301212150025	19			•																
Slide & Cam Lubricant										FBT											
Light	301596150526	31								•											
Medium	301595150526	31								•											
Synthetic Chain Lubricant							D														
ISO 220	301232150007	13					•														

VISCOSITY GRADE / NLGI CONSISTENCY	PRODUCT NUMBER	PAGE #	AEROSOL	SMALL PAIL	PAIL	LINED DRUM	DRUM	TOTE	FLUID BAG	FLEX-BAG TOTE	BULK	KEG	LINED KEG	CARTRIDGE	CAULKING CARTRIDGE	BRUSH TOP	6-GALLON BAG IN BOX	4 LITER	16 OZ TUB	GALLON	QUART
PACKAGING KEY			A	SP	P	LD	D	T	FB	FBT	B	K	LK	C	CC	BT	BB	4L	16	G	Q
Synthetic Ester Compressor Oil					P		D														
ISO 46	301226150025	13			•																
ISO 68	301227150007	13					•														
Synthetic Gear Oil							D	T													
ISO 220	301321150007	19					•														
ISO 320	301605150007	19					•														
ISO 460	301606150007	19					•														
ISO 680	301607150340	19						•													
	301607150007	19					•														
ISO 1000	301608150007	19					•														
Synthetic GL-5 Gear Oil					P			T			B										
SAE 75W-90	302242150019	21			•																
	302242150000	21									•										
	302242150316	21						•													
SAE 75W-140	302243150019	21			•																
	302243150000	21									•										
Termalene Extreme Pressure Grease LC					P		D						LK	C							
NLGI 1	301087150235	9												•							
	301087150014	9											•								
	301087150025	9			•																
	301087150002	9					•														
NLGI 2	301329150235	9												•							
	301329150025	9			•																
	301329150002	9					•														
Termalene Grease					P																
NLGI 2	301766150021	9			•																
Termalene Heavy Duty Construction Grease							D						LK	C							
NLGI 2	301338150014	9											•								
	301338150002	9					•														
	301338150235	9												•							
Termalene Multipurpose Extreme Pressure Grease						LD								C							
NLGI 1	301765150004	9				•															
NLGI 2	301091150004	9				•															
	301091150235	9												•							

VISCOSITY GRADE / NLGI CONSISTENCY	PRODUCT NUMBER	PAGE #	AEROSOL	SMALL PAIL	PAIL	LINED DRUM	DRUM	TOTE	FLUID BAG	FLEX-BAG TOTE	BULK	KEG	LINED KEG	CARTRIDGE	CAULKING CARTRIDGE	BRUSH TOP	6-GALLON BAG IN BOX	4 LITER	16 OZ TUB	GALLON	QUART
PACKAGING KEY			A	SP	P	LD	D	T	FB	FBT	B	K	LK	C	CC	BT	BB	4L	16	G	Q
Transmission Fluid TO-4					P		D				B										
SAE 10W	302302150000	21									•										
	302302150007	21					•														
	302302150017	21			•																
SAE 30	302303150000	21									•										
	302303150007	21					•														
	302303150017	21			•																
SAE 50	302304150000	21									•										
	302304150007	21					•														
	302304150017	21			•																
Turbine Oil							D				B										
ISO 32	302152150000	28									•										
	302152150007	28					•														
ISO 68	302154150000	28									•										
	302154150007	28					•														
ISO 100	302171150000	28									•										
	302171150007	28					•														
ISO 150	302172150000	28									•										
	302172150007	28					•														
ISO 220	302173150000	28									•										
ISO 460	303083150000	28									•										
Waterproof Chain Lubricant			A																		
ISO 680	300883150285	13	•																		
Waterproof Grease							D							C					16		
NLGI 2	301293150002	9					•														
	301293150235	9												•							
	301293150225	9																	•		
Wire Rope Lubricant					P		D	T													
High Viscosity	301602150340	33						•													
	301602150007	33					•														
Low Viscosity	301603150025	33			•																

NOTES



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