WHITMORE®

MINING PERFORMANCE LUBRICANTS

Whitmore has set the lubrication standard for industry's most demanding applications for more than 120 years.

The mining lubricant line maintains an excellent worldwide reputation for high-performance lubricants with mission-critical equipment.

LUBRICATION DESIGNED FOR THE EXTREMES

Whitmore offers many types of mining lubricants to meet the specific needs and applications of the mining industry. These include multi-service lubricants, extreme pressure greases, enclosed gear oils, propel machinery lubricants and wire rope lubricants.

Multi-Service Lubricants

GEARMATE® 1000 ICT - GEARMATE® 1000

Whitmore's toughest lubricant recommended for use on draglines and shovels. GearMate 1000 ICT can be used on open gears, sticks, circle rails and rollers, bushings and heavily loaded bearings. This lubricant contains a high molecular weight polymer that resists drying, oxidation and thermal decomposition. It does not emulsify in water, making it ideal for components exposed to rain, ice and snow, and in many areas, a single grade can be used year-round. GearMate 1000 ICT is enhanced with an improved coating technology that establishes a dark, non-transparent coating on metal so operators can easily identify the lubricant is in its correct place and quantity.

SURSTIK®

SurStik is a high-performance, extreme pressure lubricant formulated to lubricate open gears, dipper sticks and bushings on walking draglines, shovels and drills with outstanding results. It pumps well in cold temperatures, lubricates in the hottest climates, resists dirt contamination and stays on in wet and freezing conditions.

SURSTIK® 800

Designed using the latest technology in extreme pressure/antiwear chemistry, SurStik 800 is a high-performance, extreme pressure lubricant formulated for use on open gears. It works well in highly loaded components under the most punishing conditions and easily forms a protective film. SurStik 800 is highly resistant to being washed off by over-lubrication.

SURTAC® 2000

Surtac contains molybdenum disulfide and graphite solid lubricants which provide a durable protective coating without the use of asphalt, solvents or lead. It is suitable for use on dragline open gears, slow moving bearings and bushing. Surtac 2000 minimizes metal-to-metal contact and wear. When correctly applied, Surtac 2000 forms a matte, non-greasy film, this makes it particularly useful in very dusty environments.

	GearMate 1000 ICT (GearMate 1000)	SurStik	SurStik 800	Surtac 2000
Major Applications	Draglines, shovels, kilns and mill open gears	Shovels and draglines	Shovels, draglines, kilns and mill open gears	Dragline, open gears, bushings and bearings
Thickener Type	Lithium	Aluminum complex	Aluminum complex	Bentone clay
Comments	Used for open gears, sticks, circle rails and rollers, bushings and large, heavily loaded bearings	High water resistance makes this product ideal for use on shovel dipper sticks and other exposed components	Meets Bucyrus SD4713 and P&H 520 specifications	Extensively used on open gears and house rollers of draglines
Grades	Arctic Light Heavy Extra Heavy Super Heavy	Winter Summer Extra Heavy	Arctic Medium Heavy Extra Heavy Super Heavy	Surtac 2000 Surtac 2000 RD Surtac 2000 HD Surtac 2000 XD
Low Temperature Pumpability (softest grade)	–40°F (–40°C)	–30°F (–35°C)	–40°F (–40°C)	–45°F (–43°C)

Extreme Pressure Greases

MATRIX® EP

Whitmore's best bearing grease for demanding applications. Matrix EP protects in difficult applications and conditions far beyond conventional grease. It protects against heat, high load, corrosion or infrequent lubrication. Matrix EP extends lubrication frequency using less grease, preventing premature wear.

CALIBER™ 3M & 5M

Caliber 3M and 5M greases meet the original Caterpillar "MPGM" specification. These greases contain 3% and 5% molybdenum disulfide (MoS2). Caliber 3M and 5M greases are designed primarily for use in mining equipment, such as draglines, shovels, drills, earthmoving equipment and other heavy-duty rolling stock applications. Caliber 3M and 5M are perfect for wheel and slewing bearings, chassis points and U-joints, as well as pivot points and bucket pins. It forms a protective barrier to reduce wear and extend lubricant life, reducing parts replacement and downtime. Caliber 3M and 5M's Sub Zero grades are synthetic oil based for superior low temperature performance down to -30°F (-34°C).

CALIBER™ BLUE

Ideal for heavy earthmoving and industrial equipment, the Caliber Blue series is perfect for heavy-duty plant lubrication, high load applications and applications involving extreme pressure. This performance grease reduces downtime and replacement costs by protecting equipment against scoring and high shock load conditions. Caliber Blue has become known for its high resistance to water and a high degree of rust protection. Its bright blue color acts as an identifier, making accidental mixing with other greases virtually impossible. This tacky, lithium grease excels in warm climates. Caliber Blue excels in warm climates.

CALIBER™ 460M

Caliber 460M is a robust, lithium complex grease containing molybdenum disulfide. It's designed to lubricate components of earthmoving heavy-duty equipment and rolling stock. Caliber 460M provides extended service intervals and reduces wear.

CALIBER™ XR

Caliber XR is the most robust, lithium-based, bearing grease in the Whitmore lubricant line. This extreme pressure grease is designed for heavy duty applications. Whitmore recommends this product where the most severe, high and shock loads are encountered. Applications include slew rings on mining and forestry equipment, rolling stock and heavily loaded industrial equipment such as mills, grinders and more. Ideal for warm climates.

LEGACY™ M

Legacy M is designed for use on mining equipment where low temperature pumpability is important. It can be pumped at temperatures down to –50°F (–46°C).

NOVAGARD®

Designed to lubricate anti-friction bearings and bushings, Novagard is recommended for pivot points and bucket pins on earthmoving equipment as well as vehicle chassis points and U-joints. It protects against shock loads, welding and scoring, resulting in fewer replacement parts and reduced downtime. Novagard is recommended for cold climates, the softest grade can be used at -45°F (-43°C).

	Matrix EP	Caliber 3M & 5M	Caliber Blue	Caliber 460M	Caliber XR	Legacy M	Novagard
Major Applications	All purpose; protects against water, heat, extreme pressure	Earthmoving equipment and rolling stock	Earthmoving equipment and rolling stock in warm climates	Earthmoving equipment and rolling stock	Earthmoving equipment and rolling stock in hot climates	Mining equipment where low temperature pumpability is needed	Draglines, shovels, excavators, trucks, conveyors and other rolling stock in cold climates
Type	Calcium sulfonate	Lithium complex (Sub Zero: Synthetic Oil)	Lithium	Lithium Complex	Lithium	Aluminum complex with molybdenum synthetic oil	Aluminum Complex
Comments	Robust grease for virtually any bearing	Superior Caterpillar-specification grease with 3% or 5% molybdenum	Very high extreme pressure performance	Certified by Bucyrus International (Caterpillar) for use on heavy duty ball, roller and plain bearings	For high load, slow speed and contamination	High water resistance, low temperature pumpability	Lubricates antifriction bearings and bushings
Climate	All but Arctic	All	Warm	Warm	Warm	Temperate to Arctic	Temperate to Arctic

Enclosed Gear Oils

PARAGON™

Whitmore's work horse. This robust gear oil has been protecting gearboxes for over three decades. Paragon has earned a reputation for its long life, low foaming tendency and wear protection under high load.

PARAGON™ GOLD

The more difficult the application, the better Paragon Gold works. Its unique additive combination ensures smooth gear and bearing contact surfaces, even under the most punishing conditions of extreme load, reversing action and shock load. Paragon Gold is especially recommended for use where gears are pitted, scuffed or under unusually high load.

DECATHLON™ F

Approved by Flender (Siemens), this fully synthetic gear oil is designed for use in helical bevel and planetary gears. Decathlon F can be used in a variety of industrial and mobile equipment, including mixed fleets. It protects against scoring, scuffing and galling to increase gear and bearing life. It also protects seals and keeps operating temperatures low.

DECATHLON™ EXTREME - DECATHLON™ HD

Created for use under adverse conditions, Decathlon Extreme meets the performance requirements of the American Gear Manufacturer's Association (AGMA) specification 9005-D94. It performs in the harshest conditions, such as heavily loaded gears, shock loading and high temperatures due to hot, ambient conditions. This high-performance synthetic gear oil also meets Bucyrus requirements for use in non-planetary gearboxes.

GF 365

Synthetic components in GF 365 allow it to be used in temperature ranges from –40°F (–40° C) to 275°F (135°C). This lubricant reduces gearbox operating temperatures and helps dislodge the sludge that often remains from the previous use of inferior products.

	Paragon	Paragon Gold	Decathlon F	Decathlon Extreme (Decathlon HD)	GF 365
Grades	ISO 68, 100, 150, 220, 320, 460, 500, 680, 1000 and 1500	ISO 150, 220, 320, 460, 680, 1000 and 1500	ISO 150, 220 and 320	ISO 150, 220, 320, 460, 680 and 1000	ISO 150, 220, 320, 460, 680 and 1000
Bucyrus Approvals: Draglines	ISO 460, 1000 and 1500 approved for all gearboxes except planetary swing. ISO 320 approved for planetary swing gearboxes	Approved in all gearboxes except planetary swing	ISO 320 approved for planetary swing gearboxes where temperatures can go below 14°F (10°C)	ISO 460 and 1000 in all gearboxes except planetary swing	ISO 460 and 1000 in all grades except planetary swing
Bucyrus Approvals: 495 Series Shovels	ISO 320 approved for non-Flender gearboxes	N/A	ISO 320 approved for Flender gearboxes and all gearboxes operating under 14°F (10°C) ambient	Approved by Flender (Siemens)	N/A
P&H Gear oil Specifications	Meets specification No. 497	Meets specification No. 497	Meets specification No. 497	ISO 150 to 1000 meet specification No. 497	Meets specification No. 497

Propel Machinery Lubrication

WHITSLIDE® EXTREME

Intended for use on the slide boxes of Bucyrus 2500 series draglines. WhitSlide Extreme helps smooth the areas where metal-to-metal contact occurs under high load. It forms a tenacious coating on sliding surfaces, reducing friction, heat and wear. WhitSlide Extreme keeps the walking temperature low.

WHITCAM®

WhitCam achieves low temperature pumpability without the use of solvents. It eliminates the high friction, wear and shuttering often encountered on Monighan Cams. It forms a tenacious coating on metal surfaces and protects against wear while providing extreme load-carrying ability.

WHITCAM® EXTREME

Formulated with anti-wear additives combined with solid lubricants and a high-viscosity base fluid, WhitCam Extreme stays on the cam and provides a visible coating, making it easy for operators to determine when to re-apply.

	WhitSlide Extreme	WhitCam	WhitCam Extreme (pumpable)
Applications	Use on Bucyrus 2500 series dragline slide mechanisms	Monighan cams	Monighan cams
Comments	Prevents overheating on deadheads	The world's best-selling cam lube	Creates a darker, more visible coating
Grades	Medium, heavy	One grade for all seasons and climates	For warm to tropical climates
Low temperature pumpability	20°F (29°C)	-20°F (-29°C)	32°F (0°C)

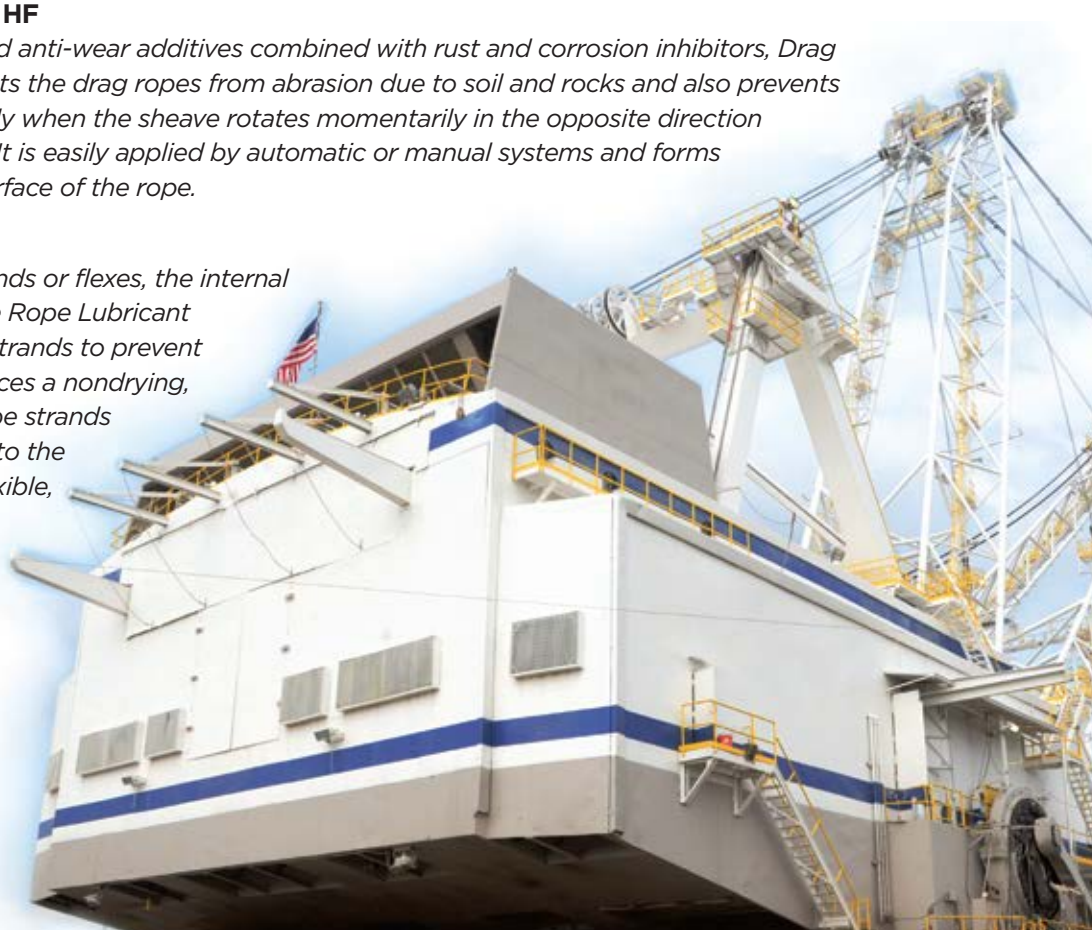
Wire Rope Lubricants

DRAG ROPE LUBRICANT HF

With extreme pressure and anti-wear additives combined with rust and corrosion inhibitors, Drag Rope Lubricant HF protects the drag ropes from abrasion due to soil and rocks and also prevents wear on sheaves, especially when the sheave rotates momentarily in the opposite direction to the travel of the ropes. It is easily applied by automatic or manual systems and forms a dense coating on the surface of the rope.

WIRE ROPE LUBRICANT

Every time a wire rope bends or flexes, the internal strands rub together. Wire Rope Lubricant penetrates to coat these strands to prevent friction and wear. It produces a nondrying, tack-free film on outer rope strands while quickly penetrating to the rope core and remains flexible, even in the most extreme weather conditions.



	Drag Rope Lubricant HF	Wire Rope Lubricant
Type	Asphalt with diluent	Penetrating anti-wear oil
Applications	Dragline drag ropes and all wire ropes that tend to wear from the outside	Hoist ropes on draglines and shovels and all wire ropes that tend to wear from the inside
Comments	Solvent evaporates leaving a dense protective film to protect the outer strands	Very low surface tension promotes deep penetration, protecting inner strands
Base Oil Viscosity	783,000 cSt @ 40°C* (before diluent added)	22 cSt @ 40°C
Viscosity of Finished Product	1,381 cSt @ 40°C	22 cSt @ 40°C (contains no diluent)

*Extrapolated

AIR SENTRY®

Desiccant Breathers & Add-Ons

The mining environment is hot, dusty and often humid. These conditions make Air Sentry® desiccant breathers a necessity for companies that desire maximizing equipment and fluid life while maintaining high cleanliness standards

GUARDIAN® SERIES

GUARDIAN is Air Sentry's industry leading breather series. These breathers are the best solution for extreme conditions and environments and ideal for most applications. Some models feature an isolation check valve that keeps exhaust air from depleting the desiccant and protects from volatile fumes and splashing fluids. The Guardian's casing is constructed from Tritan,® a patented material highly resistant to impact and chemicals with a broad range of operating temperatures. These unique features equate to a longer life for your breather and your equipment.

Applications: Gearboxes, Hydraulic Systems, Storage Tanks for Lubricants & Diesel Fuels

Guardian Series Add-Ons

HIGH-CAPACITY AIR FILTER - GHCAF

Can be used with a desiccant cartridge or as a standalone particle filter. The High-Capacity Air Filters' 0.3-micron HEPA filter is 99.97% efficient. Ideal for extremely dirty/dusty environments.

MODULAR STACKABLE RING - GMSR

By using the Modular Stackable Ring, you are able to attach GUARDIAN breather cartridges to extend the service life. This stackable ring also allows for the addition of the High-Capacity Air Filter and Activated Carbon Filter.

SHIELD WASH-DOWN CAP - GSWDC

The cap provides a barrier in environments where equipment wash down happens frequently and in dusty environments. This prevents any direct spray from opening check valves in the top cap. The Shield Wash-Down Cap is designed for use in food processing, mining, cement, pulp and paper facilities and outdoors.

Established in 1893, Whitmore is a global leader in providing innovative products and services that increase the reliability, performance and lifespan of industrial assets. Whitmore manufactures high-performance lubricants, friction modifiers, application equipment, lubrication management systems, desiccant breathers and cleaners designed to meet the specific needs of each industry and application. Industrial customers worldwide rely on Whitmore to deliver the performance engineered solutions industry counts on, even in the most adverse conditions and demanding environments.

Whitmore maintains an industry-leading reputation for high-quality products and customer service. Its family of products and services are sold worldwide through a distribution network committed to technical support and total customer satisfaction.

Whitmore is headquartered in Rockwall, Texas, and includes a fully integrated manufacturing plant, leading-edge research and development center, training facility and corporate offices.

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