

POWERMAXX LUBE INDIA

IRON SPONGE & STEEL INDUSTRY

Heavy-Duty & High Performance Specialized Lubricants for Iron Sponge & Steel Industry Processing Equipment.

- Synthetic and Petroleum-Based
- Heavy-Duty Multi-Purpose Greases
- Heavy-Duty Gear Oils
- Open Gear Greases
- Heavy-Duty Hydraulic Oils
- Specialty Lubricants

Increasing Plant & Equipment Reliability, Sustainability for Value & Creating Cost Savings all along with Process. Non-bituminous, Non-toxic additive & Environment Eco-friendly lubricants.

IRON SPONGE & STEEL INDUTRY PROCESSING

| Steel Plant Processing | | | |
|-------------------------|------------------------------------|---|--|
| APPLICATION / EQUIPMENT | LUBE POINTS | FEATURES / BENEFITS & ADVANTAGES | POWERMAXX RECOMMENDED SOLUTION |
| RAW MATERIAL PLANTS | | | |
| Preparation & Storage | Slew Ring Bearings of Stacker | Synergetic lithium complex high temperature grease with EP/AW, high shock loads, water resistant with good shear stability & pumpability for multifunctional applications | PD LCX-222 |
| | Slew Ring Gears of Stacker | | |
| | Vibrator Screen Bearings | Heavy duty synergetic high temperature lithium complex grease with EP/AW, high shock loads & water resistant grease with good shear stability for multifunctional applications | SYNTH HT LCX-2 460 HD |
| Coke Oven | Pusher Guide Rack & Pinion | Synergetic semi-fluid open girth gear grease fortified with high purity graphite and especially extreme pressure additives that help prevent excessive wear, squeeze out & ratio change. Withstand high shock loads and pressures. | G-ALX HTXX-0-000 2500 HD |
| | Coke & Coal Spike Crusher Bearings | Synergetic heavy duty lithium calcium grease fortified with Moly & EP/AW additives for water resistant, high shock loads carrying and high temperature with good pumpability | MOLY LI-CAM-2 1400 HD |
| | Valve Lubrication | Synthetic grease with excellent thermal stability, Water repellency, Ditectric application chemical inertness and maintains its consistency over a wide temperature range. Good sealing ability which makes this grease ideal for vacuum & pressure system handling equipment | SILICON -100 |
| Lime and Dolomite Plant | Kiln; Open Gear Sprayable Grease | Synergetic semi-fluid open girth gear grease fortified with high purity graphite and especially extreme pressure additives that help prevent excessive wear, squeeze out & ratio change. Withstand high shock loads and pressures. | G-ALX HTXX-0-000 2500 HD |
| | Enclosed Gearbox | High temperature synthetic gear oils with good AW and EP characteristics. Protects against oxidation, foaming and high temperature deposits. | SYNTHETIC HD TECHGEAR EP GL-5 - 150, 220, 320, 460 (PAO Based) |
| | | Advanced micropitting protection synergetic gear oil formulated with ultra-high performance EP additive and high quality synergetic base oil. Protects against oxidation, foaming, high temperature deposit & heavy-duty gear boxes operating in harsh conditions. | MPR GEARMAX - 150, 220, 320, 460 (Micro-Pitting Resistance) |
| | Support Roller Bearings | Synergetic heavy duty lithium calcium grease fortified with Moly & EP/AW additives for water | MOLY LI-CAM-2 1400 HD |

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| | | resistant, high shock loads carrying and high temperature with good pumpability | |
| SINTER PLANT | | | |
| Rotary Mixer | Open Gear | Synergetic heavy duty open gear & rotary mills grease with high purity graphite and extreme pressure additives that help prevent excessive wear, squeeze out & ratio change. Withstand high shock loads and pressures. | G-ALX HTXX-0-000 2500 HD |
| Sinter Machine | Crusher Bearings | Synergetic lithium complex high temperature grease with EP/AW, high shock loads, water resistant with good shear stability & pumpability for multifunctional applications | PD LCX-222 |
| | Screen Bearings | Heavy duty synergetic high temperature lithium complex grease with EP/AW, high shock loads & water resistant grease with good shear stability for multifunctional applications | SYNTH HT LCX-2 460 HD |
| | Pallet Car Wheels | Synergetic lithium complex high temperature grease with EP/AW, high shock loads, water resistant with good shear stability & pumpability for multifunctional applications | PD LCX-222 |
| | Slide Tracks | Heavy duty synergetic high temperature lithium complex grease with EP/AW, high shock loads & water resistant grease with good shear stability for multifunctional applications | SYNTH HT LCX-2 460 HD |
| IRON MAKING BLAST FURNACE | | | |
| Hydraulic Mud Gun | Bearings / Drill Machine Chains | Long life synergetic polyurea high temperature grease with good pumpability extended re-lubrication intervals, water resistance, corrosion protection in plain & anti-friction bearings | SYNTH POLYTHERM - 1 & 2 460 |
| Charging System | Skip Car Bearings | Long life synergetic polyurea high temperature grease with good pumpability extended re-lubrication intervals, water resistance, corrosion protection in plain & anti-friction bearings | SYNTH POLYTHERM - 1 & 2 460 |
| | Skip Car Wire Ropes | | WR HTXX-00 460 |
| Hot Blast Valve | HT Valve | Synthetic non-melting grease creates good water & heat resistance for extreme high temperature applications and are not affected by mild acids/alkalis, creates a passive film on friction surfaces | SYNTHETIC MOLY HTXX-2 460 HD |
| STEEL MAKING SMS | | | |
| Overhead Crane | Wire Rope | Water repellent film, extends wire rope, chain & cable life, protection against corrosion caused by wet, adverse weather conditions and sea water | WR HTXX-00 460 |
| | Wheel Bearing | Synergetic lithium complex high temperature grease with EP/AW, high shock loads, water resistant with good shear stability & pumpability for multifunctional applications | PD LCX-222 |
| Overhead Crane | Leaking Gearboxes | Lithium grease for protection against rust, corrosion and resistance to water washout, Good pump ability in centralized systems, Effective leakage control | EP-00 |
| Trunnion Lubrication | Ladle | Synthetic non-melting grease creates good water & heat resistance for extreme high temperature applications and are not affected by mild acids/alkalis, creates a passive film on friction surfaces | SYNTHETIC MOLY HTXX-2 460 HD |
| Threaded Joints | Lancing Pipes | | |
| PRIMARY MILLS (Slab / Bloom / Billet / CSP CONTINUOUS CASTER) | | | |
| Converter | Bearings | Synergetic heavy duty lithium calcium grease fortified with Moly & EP/AW additives for water resistant, high shock loads carrying and high temperature with good pumpability | MOLY LI-CAM-2 1400 HD |
| Ladle Turret (Rollers, Wet Segment & Extractor Roller Bearings) | Withdrawal Bearings & Discharge Roller Table (DRT) | Synthetic non-melting grease creates good water & heat resistance for extreme high temperature applications and are not affected by mild acids/alkalis, creates a passive film on friction surfaces | SYNTHETIC MOLY HTXX-2 460 HD |
| Cooling Beds Rollers & Moving Beams | Bearings | Heavy duty synergetic calcium sulphonate complex high temperature grease with high shock loads & water resistant grease with good shear | CS HTXX-2 460 HD |

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| | | stability. Outstanding water resistance property including hot & cold water | |
| | Gear Couplings | Multifunctional synergetic lithium & lithium complex high temperature grease with moly and EP/AW, high shock loads & water resistant grease with good shear stability. | MOLEX EP-2 HD / MOLY HT LCX-220 PLUS HD |
| MILLS & SECONDARY MILLS (Slab / Bloom / Billet / CSP Hot Rolling Mill) | | | |
| Work / Back-Up Roll | Bearings | Heavy duty synergetic calcium sulphonate complex high temperature grease with high shock loads & water resistant grease with good shear stability. Outstanding water resistance property including hot & cold water | CS HTXX-2 460 HD |
| Rolling Mill Drive Shaft | Gear Couplings | Synergetic lithium & lithium complex high temperature grease with moly and EP/AW additives, high shock loads & water resistant grease with good shear stability for multifunctional applications | MOLEX EP-2 HD / MOLY HT LCX-220 PLUS HD |
| Re-Heating Furnace Table | Roll Bearing | Long life synergetic polyurea high temperature grease with good pumpability extended re-lubrication intervals, water resistance, corrosion protection in plain & anti-friction bearings | SYNTH POLYTHERM - 1 & 2 460 |
| Reheating Furnace Withdrawal / Roll Table | Bearing | Synergetic lithium complex high temperature grease with EP/AW, high shock loads, water resistant with good shear stability & pumpability for multifunctional applications | PD LCX-222 |
| Rolling Mill Drive Shaft Gear | Couplings | Synergetic lithium & lithium complex high temperature grease with moly and EP/AW additives, high shock loads & water resistant grease with good shear stability for multifunctional applications | MOLEX EP-2 HD / MOLY HT LCX-220 PLUS HD |
| Roller Stand | Bearing | Synergetic lithium complex high temperature grease with EP/AW, high shock loads, water resistant with good shear stability & pumpability for multifunctional applications | PD LCX-222 |
| MILLS & SECONDARY MILLS COLD ROLLING MILL (Slab / Bloom / Billet / CSP Hot Rolling Mill) | | | |
| Work / Back-Up Roll | Bearings | Heavy duty synergetic calcium sulphonate complex high temperature grease with high shock loads & water resistant grease with good shear stability. Outstanding water resistance property including hot & cold water | CS HTXX-2 460 HD |
| | | Synergetic lithium complex high temperature grease with moly and EP/AW additives, high shock loads & water resistant grease with good shear stability for multifunctional applications | MOLY 777 LCX-2 460 HD |
| Roll Chokes | Liner | Synergetic lithium & lithium complex high temperature grease with moly and EP/AW additives, high shock loads & water resistant grease with good shear stability for multifunctional applications | MOLEX EP-2 HD / MOLY HT LCX-220 PLUS HD |
| Rolling Mill Drive Shaft | Gear Couplings | Synergetic lithium & lithium complex high temperature grease with moly and EP/AW additives, high shock loads & water resistant grease with good shear stability for multifunctional applications | MOLEX EP-2 HD / MOLY HT LCX-220 PLUS HD |
| Pickling Line | Squeezer Roll Bearing | Synergetic lithium complex high temperature grease with moly and EP/AW additives, high shock loads & water resistant grease with good shear stability for multifunctional applications | MOLY 777 LCX-2 460 HD |
| | Water Rinse Tank Bearing | Heavy duty synergetic calcium sulphonate complex high temperature grease with high shock loads & water resistant grease with good shear stability. Outstanding water resistance property including hot & cold water | CS HTXX-2 460 HD |
| | Wringer Roll Bearing | Heavy duty synergetic calcium sulphonate complex high temperature grease with high shock loads & water resistant grease with good shear stability. Outstanding water resistance property including hot & cold water | CS HTXX-2 460 HD |
| | Blower Fan Bearing | Long life synergetic polyurea high temperature grease with good pumpability extended re-lubrication intervals, water resistance, corrosion protection in plain & anti-friction bearings | SYNTH POLYTHERM -2 460 |

Sponge Iron Plant

| APPLICATION | FEATURES & BENEFITS | POWERMAXX RECOMMENDED |
|---------------------------------------|--|--|
| SPONGE IRON | | |
| Kiln & Cooler Slip Sea | A premium grade lithium grease with high viscosity and high load slip seal application to withstand high temperature with maximum wear protection | EP-2 HD 680 (SS) |
| Kiln & Cooler Girth Gear-Sump & Spray | Synergetic premium grade spray able fluid for heavy duty open gear & rotary mills that prevents scoring, scuffing, galling, clawing, pitting, sliding and slipping. | OGL 18K FLUIDPRESS HD (Heavy duty & Biodegradable Fluid) |
| Support Roller Bearing | Synergetic heavy duty open gear & rotary mills grease with high purity graphite and extreme pressure additives that help prevent excessive wear, squeeze out & ratio change. Withstand high shock loads and pressures. | G-ALX HTXX-0-00 1000 HD |
| Vibrator Screen Bearing | Heavy duty synergetic high temperature lithium complex grease with EP/AW, high shock loads & water resistant grease with good shear stability for multifunctional applications | SYNTH HT LCX-2 460 HD |
| ID / FD Fan & Motor Bearing. | Synergetic non-melting grease creates good water & heat resistance for extreme high temperature applications and are not affected by mild acids/alkalis, creates a passive film on friction surfaces | MOLY HTXX-2 460 HD |
| Kiln Chair Plate | Copper based high performance antiseize compound for maintaining the creeping, protects against carbon fusion, minimizes parts replacement costs, enables faster disassembly when repairs are needed | COPAZ-B2 (Copper Anti-Seize Paste) |
| Enclosed Gear (Gear Box) | High temperature synthetic gear oils with good AW and EP characteristics. Protects against oxidation, foaming and high temperature deposits. | SYNTHETIC HD TECHGEAR EP GL-5 - 150, 220, 320, 460 (PAO Based) |
| | Advanced micropitting protection synergetic gear oil formulated with ultra-high performance EP additive and high quality synergetic base oil. Protects against oxidation, foaming, high temperature deposit & heavy-duty gear boxes operating in harsh conditions. | MPR GEARMAX - 150, 220, 320, 460 (Micro-Pitting Resistance) |
| Electric Motor | Long life synergetic high temperature grease with extended relubrication intervals for high speed applications. | SYNTH POLYTHERM-2.5 100/ PD UNIRAX N-3 |

Pelletizing Plant

| APPLICATION | FEATURES & BENEFITS | POWERMAXX RECOMMENDED |
|--|--|---|
| GRINDING MILL | | |
| Ball Mill Girth Gear | Synergetic premium grade spray able fluid for heavy duty open gear & rotary mills that prevents scoring, scuffing, galling, clawing, pitting, sliding and slipping. | OGL 18K FLUIDPRESS HD (Heavy duty & Biodegradable Fluid) |
| Ball Mill Girth Gear Pinion Bearing | Synergetic heavy duty open gear & rotary mills grease with high purity graphite and extreme pressure additives that help prevent excessive wear, squeeze out & ratio change. Withstand high shock loads and pressures. | G-ALX HTXX-0-00 1000 HD |
| MIXTURE MACHINE & BALLING DISC | | |
| Mixture Machine Bearing | Long life synergetic polyurea high temperature grease with good pumpability extended re-lubrication intervals, water resistance, corrosion protection in plain & anti-friction bearings | SYNTH POLYTHERM -2 460 |
| Mixture Machine Gear / Balling Disc Girth Gear | Synergetic heavy duty open gear & rotary mills grease with high purity graphite and extreme pressure additives that help prevent excessive wear, squeeze out & ratio change. Withstand high shock loads and pressures. | G-ALX HTXX-0-00 1000 HD (Aluminum-Complex + Graphite) |
| | Synergetic heavy duty open gear & rotary mills grease with high purity graphite and extreme pressure additives that help prevent excessive wear, squeeze out & ratio change. Withstand high shock loads and pressures. | G-ALX HTXX-0-00 2500 HD (Aluminum-Complex + Graphite) |
| Balling Disc Bearing | Synergetic lithium complex high temperature grease with EP/AW, high shock loads, water resistant with good shear stability & pumpability for multifunctional applications | PD LCX-222 |

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| Enclosed Gear (Gear Box) | High temperature synthetic gear oils with good AW and EP characteristics. Protects against oxidation, foaming and high temperature deposits. | SYNTHETIC HD TECHGEAR EP GL-5 - 150, 220, 320, 460 (PAO Based) |
| | Advanced micropitting protection synergetic gear oil formulated with ultra-high performance EP additive and high quality synergetic base oil. Protects against oxidation, foaming, high temperature deposit & heavy-duty gear boxes operating in harsh conditions. | MPR GEARMAX - 150, 220, 320, 460 (Micro-Pitting Resistance) |
| POWER GENERATION | | |
| Turbines | Rust and corrosion protection & Rapid water separation keeps water in oil to a minimum | TURBINE OIL - 46 & 68 |
| Air compressors | Excellent heat conduction properties & separation from air and minimum foaming tendency in critical high temperature areas | SYNTH AIR COMPRESSOR OIL-46, 68, 100, 150, 220 (Synthetic) |
| TRAVELLING GRATE | | |
| Plummer Block Bearing | Long life synergetic polyurea high temperature grease with good pumpability extended re-lubrication intervals, water resistance, corrosion protection in plain & anti-friction bearings | SYNTH POLYTHERM - 1 & 2 460 |
| | Synthetic non-melting grease creates good water & heat resistance for extreme high temperature applications and are not affected by mild acids/alkalis, creates a passive film on friction surfaces | SYNTHETIC MOLY HTXX-1 460 HD |
| | Heavy duty synergetic calcium sulphonate complex high temperature grease with high shock loads & water resistant grease with good shear stability. Outstanding water resistance property including hot & cold water | CS HTXX-0 460 HD |
| KILN | | |
| Kiln Girth Gear Spray System | Synergetic heavy duty open gear & rotary mills grease with high purity graphite and extreme pressure additives that help prevent excessive wear, squeeze out & ratio change. Withstand high shock loads and pressures. | G-ALX HTXX-0-00 1000 HD |
| Thrust / Bucket Elevator / Support Roller Bearing | Synergetic lithium complex high temperature grease with moly and EP/AW additives, high shock loads & water resistant grease with good shear stability for multifunctional applications | MOLY 777 LCX-2 460 HD |
| Sliding Surface of Track | Synergetic lithium complex high temperature grease with EP/AW, high shock loads, water resistant with good shear stability & pumpability for multifunctional applications | PD LCX-222 |

PRODUCT SPECIFICATIONS

GREASE SPECIFICATIONS

| Product | Thickener / Base Oil Type | Viscosity @ 40°C cSt | NLGI | Drop Point °C | Operating Temp°C |
|---------------------------------------|---|-------------------------|-------|------------------|---------------------|
| EP-2 HD 680 (SS) | Lithium / Mineral | 680 | 1 / 2 | +190 | -20 to 140 |
| PD UNIRAX N-3 | Lithium Complex / Synergetic | 100 | 3 | +265 | -20 to 160 |
| PD LCX-222 | Lithium Complex / Synergetic | 220 | 2 | +265 | -20 to 160 |
| SYNTH HT LCX-2 460 HD | Lithium Complex / Synergetic | 460 | 2 | +265 | -20 to 160 |
| MOLEX EP-2 HD | Lithium + Moly/ Synergetic | 220 | 2 | +190 | -20 to 140 |
| MOLY HT LCX-220 PLUS HD | Lithium Complex + Moly / Synergetic | 220 | 2 | +265 | -20 to 160 |
| MOLY 777 LCX-2 460 HD | Lithium Complex / Synergetic | 460 | 2 | +265 | -20 to 160 |
| SYNTH POLYTHERM-2.5 100 | Polyurea / Synergetic | 100 | 2.5 | +280 | -20 to 180 |
| SYNTH POLYTHERM - 1 & 2 460 | Polyurea / Synergetic | 460 | 1 / 2 | +280 | -20 to 180 |
| CS HTXX-2 460 HD | Calcium Sulfonate Complex / Synergetic | 460 | 2 | +280 | -20 to 180 |
| G-ALX HTXX-0-00 1000 HD | Aluminum Complex / Synergetic | 1000 | 0/00 | +280 | -20 to 180 |
| G-ALX HTXX-0-00 2500 HD | Aluminum Complex / Synergetic | 2500 | 0/00 | +280 | -20 to 180 |
| MOLY LI-CAM-2 1400 HD | Metal complex / Synergetic | 1400 | 2 | +200 | -20 to 160 |
| COPAZ-B2 (Copper Anti-Seize Paste) | Metal Complex / Mineral | 1000 | 2 | +320 | -20 to +1200 |
| SYNTHETIC MOLY HTXX-2 460 HD | Inorganic / Fully Synthetic | 460 | 2 | +320 | -40 to 450 |
| SYNTHETIC MOLY HTXX-1 460 HD | Inorganic / Fully Synthetic | 460 | 2 | +320 | -40 to 450 |
| MOLY HTXX-2 460 HD | Inorganic / Synergetic | 460 | 2 | +320 | -20 to 220 |

OIL SPECIFICATIONS

| Product | Base Oil Type | Base Oil Viscosity @ 40°C cSt | Copper Corrosion | Pour Point °C | Flash Point °C |
|--|--------------------|----------------------------------|---------------------|------------------|-------------------|
| OGL 18K FLUIDPRESS HD | Synergetic | 18000 | 1b | -10 | +200 |
| SYNTHETIC HD TECHGEAR EP GL-5 | Fully Synthetic | 150/220/320/460/680 | 1b pass | -45 | 250 |
| MPR GEARMAX (Micro- Pitting Resistance) | Synergetic | 150/220/320/460/680 | 1b pass | -19 | 240 |
| SYNTH AIR COMPRESSOR OIL | Fully Synthetic | 32/46/68/ 100/150/220 | 1a | -50 | 260 |
| TURBINE OIL | Mineral | 46 & 68 | 1b pass | -24 | 240 |