



Addressing the Lubrication Demands of the Primary Metals Industry

Primary metals equipment must perform through heat, shock, water, scale and contamination while supporting continuous production. Royal Purple® Industrial offers advanced synthetic lubricants and reliability support help steel, aluminum and foundry operations protect assets, improve uptime, extend lubricant life, and support profitability.

WHY PRIMARY METALS LUBRICATION IS DEMANDING

- Heavy, cyclic and shock-loading in rolling mills, casters, couplings and mill drives can squeeze lubricant film out of loaded contact zones.
- Reheat furnaces, walking beam equipment, ladle turrets and hot-end bearings expose lubricants to sustained high temperatures and oxidation stress.
- Water, steam, scale and chemical contamination are constant threats in descaling, cooling and wet-end areas.
- Slow-speed bearings, sliding surfaces and open-contact points often need very high-viscosity films that stay in place under severe load.
- Continuous-process equipment leaves little room for errors because downtime quickly becomes a production and maintenance cost issue.
- Procurement and maintenance teams benefit from fewer SKUs, longer service life and support that aligns lubricant choice with OEM and reliability requirements.

CRITICAL APPLICATIONS ACROSS THE PLANT

Application	Typical Equipment Assets	Lubrication Needs
Rolling mills and continuous casters	Roll neck bearings, gear couplings, caster drives, auxiliary gearboxes	Strong film strength, shock-load protection, water resistance and corrosion control in areas exposed to constant washdown and scale
Furnaces and hot-end equipment	Walking beam components, ladle turret points, hot bearings, skid rails	High-temperature stability plus a tenacious film that stays in place on slow-speed bearings and sliding surfaces
Severe-service gearboxes	Mill drives, enclosed gears, spindle drives, coupling housings	Synthetic lubrication that resists oxidation, protects under heavy loads and helps separate water so contamination can be managed
Descaling, cooling and auxiliary systems	Pumps, oscillators, conveyors, fans and plant-wide rotating equipment	Reliable wear protection, rust resistance, water resistance and practical lubricant consolidation across general maintenance points



RPI LUBRICANT RECOMMENDATIONS

Following are commonly recommended lubrication options as a starting point for primary metals operations. The final selection should consider metallurgy, OEM guidance, and operating conditions.

Need	Recommended Products	Why They Fit
Open gears and loaded slow-speed sliding points	Thermasil T-100	Very high-viscosity grease for loaded slow-speed points that need film retention, water resistance and protection in hot or wet service.
Wet bearings, gears and plantwide grease points	Enduro-MP™ Grease or Ultra-Performance™ Grease	Both support consolidation; Enduro-MP is stronger for wet heavy-duty points, while UPG covers broad multipurpose synthetic grease needs.
Shock-loaded slow-speed bearings and gears	Thermax™ 680 Grease	High-viscosity synthetic grease built for shock-loaded slow-speed points that need extra film strength and wash-off resistance.
Severe-service enclosed gears and worm drives	Thermyl-Glyde® or Thermyl-Glyde® Worm Gear Oil	Synthetic gear oils for heavy loads, oxidation resistance and water separation, with a worm-drive option for yellow-metal compatibility.

PRIMARY METALS INDUSTRY BEST PRACTICES

- Match lubricant chemistry and viscosity to the application instead of treating all mill points the same.
- Review hot-end and cold-end equipment separately because duty and contamination conditions change across the process.
- Protect lubricant cleanliness through closed storage, good transfer practices, and contamination exclusion.
- Standardize products where it makes sense, but not at the expense of protection in severe applications.

RELIABILITY SUPPORT: SERVICES THAT GO BEYOND LUBRICANT PURCHASE

Assess	Control	Sustain
Onsite inspections and application reviews help match lubricant choice to equipment duty and reliability goals.	Contamination control, filtration and storage guidance help preserve lubricant condition in wet and dirty areas.	Training, product-specific recommendations, and technical support help plants improve practices after the initial change

BENEFITS FOR PLANT TEAMS

- Maintenance engineers gain stronger application alignment.
- Procurement managers get a clearer path to consolidation and longer service life.
- Plant leaders get a reliability approach focused on uptime, production continuity and profitability – not just product supply.

RPI's technical consultants can help evaluate critical assets, align products to service conditions, and strengthen lubrication reliability programs across primary metals operations.