

SL123R UNITHERM

India's First and Only True Synthetic · High Load · High Temperature Grease to Prevent Failures in Gear Couplings and Heavy-Duty Drives

Gear Coupling & Heavy Drive Applications in Sponge Iron & DRI Plants

Coal-based DRI runs its rotary kiln main drive as the heart of the plant — girth gear pinion, main reducer output coupling, and auxiliary drive couplings operate continuously at 180°C+ grease temperature with iron oxide dust and coal char contamination. A single coupling failure on the kiln drive halts production; restart involves fuel loss, refractory thermal stress, and product quality rejection. SL123R UNITHERM is engineered for exactly this thermal-plus-load-plus-dust combination.

Part A — Annual Cost of Gear Coupling & Drive Failures — 500–1,000 TPD Coal-Based Kiln

- **Coupling / pinion life:** ordinary EP grease delivers 8–18 months on kiln pinion and drive couplings against 5+ year design life.
- **Coupling + pinion spares:** ₹25–45 lakh/year per kiln. Iron oxide contamination accelerates tooth wear and shaft sleeve damage.
- **Maintenance + alignment:** ₹10–18 lakh/year. Kiln drive alignment is specialised; frequent re-work on ordinary grease.
- **Kiln downtime:** ₹1.5–4 cr/year — the dominant cost. Kiln drive failure halts sponge iron production; restart is 24–48 hrs with product rejection.
- **Total:** ₹2–6 cr/year per kiln. A true synthetic high-load, high-temperature grease delivers 3–4× drive life and addresses ₹80 lakh–2.5 cr/year.

Part B — Gear Coupling & Heavy Drive Applications

- **Rotary Kiln Main Drive** — girth gear pinion drive; main reducer output coupling; motor-to-reducer input coupling.
- **Kiln Auxiliary Drives** — air tube drive couplings; dust cover drive; shell blower drive couplings.
- **Product Cooler** — cooler main drive coupling; cooler pinion drive; product discharge drive coupling.
- **Coal Handling** — coal mill drive couplings; coal feeder drive couplings; coal crusher drive coupling.
- **Iron Ore Handling** — screen drive couplings; conveyor drive couplings; ore crusher drive couplings.
- **WHRS / Captive Power** — turbine-generator coupling; BFP drive couplings; ID/FD/PA fan drive couplings.
- **Product Handling** — sponge iron conveyor drive couplings; briquetting plant drives; magnetic separator drives.
- **EAFF / Induction Furnace (where integrated)** — furnace tilting drive; charge car drives; secondary dedusting fan drive couplings.
- **Dust Collection** — ESP booster fan drive couplings; bag house fan drive couplings.
- **Ancillary** — cooling tower fan gearbox drive; compressor drive couplings.

Request a free 90-day plant trial — your reliability data will speak for itself.

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