

## SL WR2 WIRETHERM

*India's First and Only Penetrative Synthetic Lubricant for Enhancing Wire Rope Life and Safety*

### Wire Rope Applications in Mining Operations

Mining is the flagship application for penetrative synthetic rope lubricants globally. Deep shaft hoist ropes carry 10–30 tonnes per cycle at 40–50 mm diameter through sulphide mine-water vapour; dragline and shovel ropes run continuously in dust and water spray; ore handling ropes face impact and abrasion. Rope change means shutdown and DGMS inspection. Core corrosion is the primary failure mode — exactly what topical grease cannot reach.

### Part A — Annual Cost of Wire Rope Failures (Deep Shaft Mine + Open-Cast + Washery)

- **Rope life:** topical-greased hoist ropes typically discard at 50–70% of design life on core corrosion, not outer wire wear.
- **Rope spares: ₹80 lakh–2 cr/year.** Deep shaft hoist ropes ₹30–80 lakh each; dragline and shovel ropes ₹8–25 lakh each.
- **Rope change downtime: ₹1.5–5 cr/year — the dominant cost.** A shaft hoist rope change is a 2–5 day production outage with full DGMS inspection.
- **Safety & regulatory:** hoist rope failure is a Category 1 mine accident; DGMS inspection specifications increasingly reference lubricant programme and internal corrosion testing.
- **Total: ₹2.3–7 cr/year.** A penetrative synthetic extends rope life 2–4× and addresses ₹1–4 cr/year. Better inspection visibility (no grease crust) also de-risks DGMS audit.

### Part B — Wire Rope Applications

- **Deep Shaft Hoisting** — main hoist ropes (Koepe or drum); guide ropes; rubbing ropes; tail ropes.
- **Dragline & Shovel (Open-Cast)** — hoist ropes; drag ropes; boom suspension ropes; dipper trip ropes.
- **Ore Handling** — grab crane ropes; haulage winch ropes; incline haul ropes.
- **Washery** — launder grab ropes; belt take-up ropes; crusher maintenance rigging.
- **Tailings & Thickener** — thickener drive maintenance ropes; tailings dam rigging ropes.
- **Workshop & Maintenance** — mobile equipment service crane ropes; mill reliner ropes.
- **Camp & Infrastructure** — borewell pump lowering ropes; utility crane ropes.
- **Exploration & Development** — diamond drill rig ropes; raise-bore rigging.
- **Slope Haulage (Underground)** — chair-lift and man-winder ropes; material hoist ropes.
- **Outdoor Stockyard** — bucket wheel reclaimer ropes; stacker boom ropes.

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