

## SL WPG AQUATHERM

*India's First and Only Fully Water Resistant Grease to Prevent Pump Failures*

**Pump Applications in an Aluminium Smelter / Alumina Refinery**

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Pump bearings in alumina and aluminium plants live in caustic mist, red mud slurry, rectifier cooling water, fume scrubber liquor, and outdoor monsoon exposure. Ordinary greases wash out in hours. Bearing seizes, pump trips, pot-line is affected.

### Part A — Annual Cost of Pump Bearing Failures (1.5 MMTPA Refinery + 500 ktpa Smelter)

- **Bearing life: 3–5 years design → 1–1.5 years actual.** 100–200 extra failures per year across 400–700 wet-zone pumps.
- **Spares + cascade overhaul: ₹90 lakh – 1.5 cr/year.** Failing bearing takes the seal, shaft, and housing — 3× the bearing cost; slurry duty premium on spares.
- **Labour + energy waste: ₹35–60 lakh/year.** Callouts, overhaul hours, plus 2–4% higher motor current on contaminated bearings.
- **Downtime: ₹5–12 cr/year — the dominant cost.** Alumina digestion trip ₹1–2 cr/day; smelter pot-line cooling failure causes pot freeze (catastrophic, weeks to recover).
- **Total: ₹7–14 cr/year.** 40–60% grease-preventable → **₹3–7 cr/year addressable** by switching to a proper water-resistant grease.

### Part B — Pump Applications

- **Bauxite Slurry Handling** — feed pumps to grinding and digestion.
- **Digester Area** — caustic transfer; blowoff condensate; flash tank pumps.
- **Red Mud Handling** — settler underflow; washer interstage; disposal pumps.
- **Precipitation** — slurry transfer; classifier; spent liquor recycle.
- **Calcination** — scrubber circulation; condensate; cooling water pumps.
- **Smelter Pot-Line Cooling** — rectifier and transformer cooling water — continuous, critical.
- **Smelter Fume Treatment** — alumina dry scrubber auxiliary; wet scrubber circulation.
- **Cast House** — ingot quench; descaling; cooling water pumps.
- **Anode / Paste Plant** — paste plant cooling; baking furnace water pumps.
- **Cooling Towers** — main CW; ACW pumps for refinery and smelter.
- **Captive Power Plant** — BFP, CEP, CW, ash handling, FGD recirculation.
- **Fire Water & ETP** — main, jockey, diesel; neutralisation; sludge transfer.

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

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