

APPLICATION
Ball Mill Open Gear

Mine Sees 7x Lower Lube Use with Switch to Pyroshield

CUSTOMER TESTIMONIAL
Gold Mine

CHALLENGE

Above average temperatures and high lubricant consumption

SOLUTION

Pyroshield® Syn XHvy Open Gear Lubricant (9011)

RESULTS

- Reduced lubricant consumption by 86%
- Lowered operating temperature
- Will save \$25,000+ annually

Customer Profile

This gold mine in Northern Ontario, Canada, has been an LE customer since 2020.

Application

The mine's ball mill is used to grind ore, processing 1,200 tons per day, and is critical to maintaining the mine's production output.

Challenge

Using a competitor's asphaltic-based open gear lubricant to lubricate the ball mill's open gear, the mine was concerned about the above average operating temperatures and excessive lubricant consumption – requiring one new quarter drum nearly every week. Asphaltic-based lubricants require a significantly higher consumption to ensure proper film strength and adequate gear protection. They also require frequent cleaning and contribute to excessive disposal costs.

LE Solution

Curtis Lammi, LE distributor, recommended non-asphaltic Pyroshield® Syn XHvy Open Gear Lubricant (9011), a heavy-duty synthetic fluid designed to provide outstanding protection for high-load, heavy-shock, high-temperature applications, such as large shrouded open gears.

Results

The mine's maintenance general foreman says that switching to Pyroshield 9011 in August 2020 has been a success. Six months later, they have reduced lubricant consumption from approximately 50 to a projected 7 quarter drums per year – a sevenfold or 86% reduction – while reducing operating temperatures to an acceptable profile and maintaining it there. The lubricant switch will save the mine more than \$25,000 annually in lubricant costs alone. The mine is also benefitting from lower electricity usage and the avoidance of temperature-related equipment breakdowns and downtime, although those numbers are not included in the cost savings.

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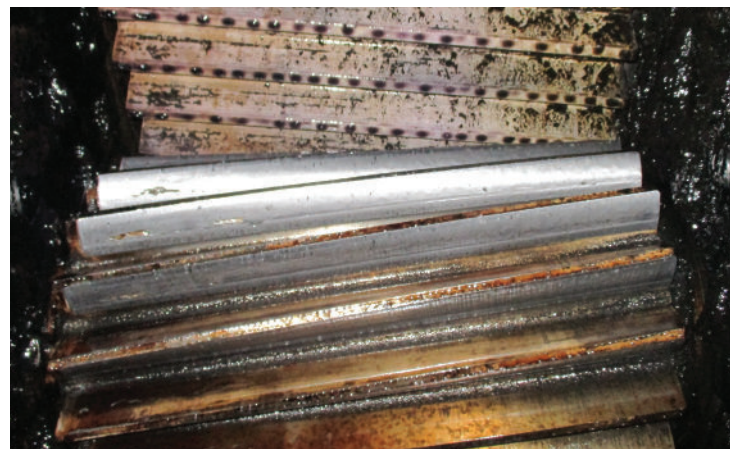
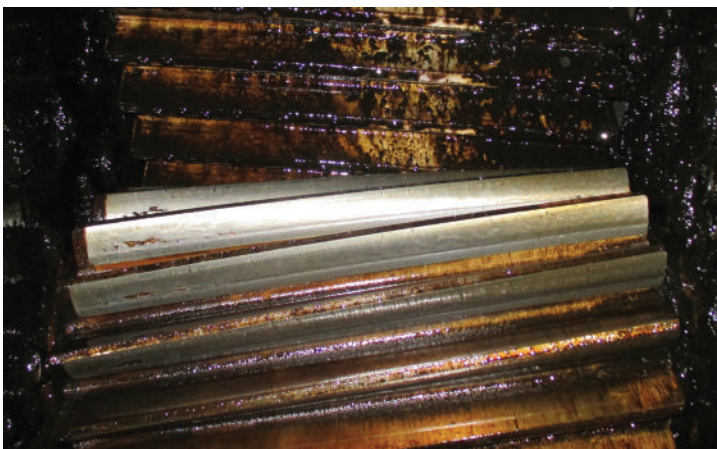
Closeup of gear prior to Pyroshield conversion. Same gear is shown below, 3 weeks and 6 months after conversion.

Pyroshield clings tenaciously to open gears, and with its significantly higher viscosity vs. an asphaltic product, much less of it needs to be applied to ensure adequate protection. Pyroshield Syn 9011 features a synergistic mix of Almasol®, LE's exclusive wear-reducing additive, and extreme pressure additives. It does not require equipment to be shut down during the conversion process and can be applied manually or through automatic spay systems, with no nozzle plugging. Pyroshield is environmentally friendly, containing no heavy metals, and can be disposed of like any other nonhazardous petroleum oil.

Results (cont.)

Additional benefits realized from the switch to Pyroshield:

- Easy visual inspection of gear, due to the lubricant being translucent in use
- No gear cleanup required, freeing up maintenance and housekeeping time
- Less waste, reducing ecological footprint



The ball mill pinion gear in September 2020 (left) – less than a month after conversion to Pyroshield – and the same gear in January 2021 – six months after conversion.

Thank you to Curtis Lammi, LE distributor (pictured), for providing the information used in this report.

