

APPLICATION
Ball Mill Pinion Gears

Mine Lowers Mill Temps, Cuts Costs

CUSTOMER TESTIMONIAL
Large Platinum Mining Company

CHALLENGE

Excessive lubricant consumption and unplanned downtime

SOLUTION

Pyroshield® Syn XHvy Open Gear Lubricant (9011)

RESULTS

- Reduced annual lube consumption by 88%, resulting in \$400,000 USD in savings.
- Dropped operating temps to 36-38°C (96.8-100.4°F) – a 48% reduction.
- Eliminated emergency breakdowns for gear repairs

Customer Profile

Global leader in platinum mining.

Application

The company has several FLSmidth Ball Mills at its mines. They use automatic spray systems to ensure adequate lubrication of the large pinion gears on these mills.

Challenge

The company had been using a heavy duty open gear lubricant from a well-known international lubricant manufacturer on 22 ball mills at two of its mines. Using this lubricant, the company struggled with excessive lubricant consumption and frequent breakdowns that drove up operating costs.

LE Solution

To help solve their problem, the company chose Lubrication Engineers' Pyroshield® Syn XHvy Open Gear Lubricant (9011), a heavy-duty synthetic fluid designed to provide outstanding protection for high-load, heavy-shock applications, such as large shrouded open gears used in mining, mineral processing and cement industries. Pyroshield 9011 contains Almasol®, LE's proprietary wear-reducing solid additive, and extreme pressure additives. It is an environmentally friendly lubricant, containing no heavy metals.

Results

Pyroshield 9011 enabled the customer to adjust automatic spray lubrication frequency from 10 pulses every 20 minutes to just 3 pulses every 20 minutes, while ensuring the pressure on the gear was adequately spread and the temperatures were running perfectly.

The Pyroshield performance was even more impressive when the customer realized the temperatures had dropped by 48%, even with the dramatic reduction in lubricant used. The average temperatures of the Pyroshield-lubricated gears are running well below the others, and the average running cost of these mills is about one-fourth the running cost of the mills using the competitor's lubricant.

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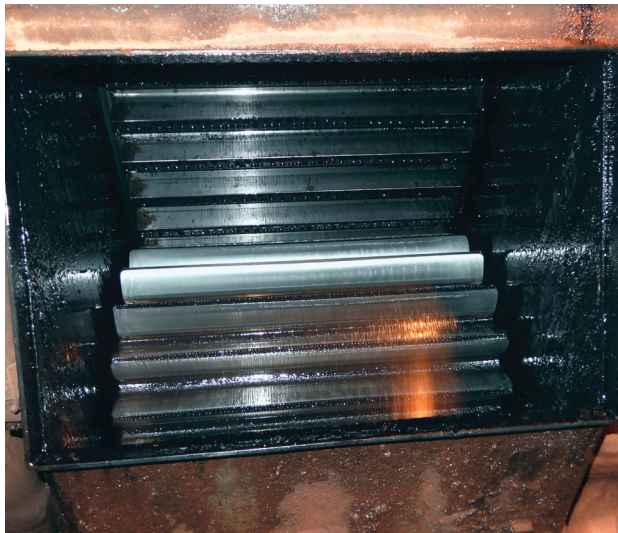
35.4 °C

Results (cont.)

Additional results – not included in the cost savings – are lower energy consumption due to lower temperatures, reduced production downtime, less cleanup required around the mills, and better vibration analysis results.

Although the price of the LE lubricant is 60% more than the competitive product, the customer was interested in the lower operating and maintenance costs they could realize by switching to the LE solution. The customer converted some of its mills to Pyroshield in order to compare its performance to that of the competitive lubricant.

During the trial of Pyroshield 9011, the customer had an equipment malfunction that caused the mill to run without lubrication for 24 hours. Upon inspection the customer found the gear in perfect condition, with temperatures quickly returning to the 36-38°C (96.8-100.4°F) range. This unbelievable protection, along with the reduction in operating costs, caused the customer to begin converting all 22 of its mills to Pyroshield 9011 as quickly as possible.



Thank you to Lubrication Engineers South Africa for providing the information used in this report.



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