

APPLICATION

Cement Kiln

Cement Co. Cuts Kiln Lube Use by 7X

CUSTOMER TESTIMONIAL

LaFarge Holcim

CHALLENGE

Excessive lubricant usage,
buildup & leaking

SOLUTION

Pyroshield® Syn Kiln Lubricant (9020)

RESULTS

- Saved an estimated \$63,588 annually by reducing lube consumption
- Reduced application cycle counts by 70%
- Eliminated buildup and lowered gear temperature

Customer Profile

The LaFarge Holcim cement manufacturing plant in Whitehall, PA, has been in business since 1973 and has been an LE customer since 2015.

Application

The plant's Fuller cement kiln has a large shrouded open gear with 12-foot diameter and 165-foot circumference. The pinion is 17 inches wide.

Challenge

The plant was experiencing a significant buildup of kiln lubricant on the pinion and gear. The lubricant they were using was the product of a major lubricant company that specializes in these types of applications. However, this lubricant was building up near the gear guard, causing poor ventilation around the gear. In turn, this led to excessive lubricant usage, waste issues, and lubricant leaking all over the pier. Leaking such as this is of concern to the Mine Safety and Health Administration (MSHA).

Because of all the buildup, maintenance workers were unable to clearly inspect the gear for wear and damage. In addition, the spray pattern from nozzles – if they were spraying at all – was not as it should be. Lubrication intervals were set at 10 cycle counts every 20 minutes.

Results

By June 8, less than one month later, the company had reduced lubricant consumption by seven times – going from seven drums to just one. One drum of Pyroshield 9020 was \$5,299 less than seven drums of the previous product, representing an estimated annual savings of \$63,588 on lubricant for a single kiln.

It took a week to break up the old lubricant, after which the gear was much more visible, and temperatures dropped by 6 degrees Fahrenheit. Intervals were changed to 3 cycle counts every 20 minutes – a 70% application reduction. The maintenance inspector and manager were extremely happy with the results and chose to move forward with the next kiln and their finish mills, for which they anticipate similar results.

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LE Solution

Kevin Chapin, LE lubrication consultant, recommended Pyroshield® Syn Kiln Lubricant (9020) due to its ability to prevent wear without building up or leaking. This would enable the company to use less lubricant and spend less time on maintenance and housekeeping. The company agreed to try Pyroshield 9020 and started conversion May 11, 2022.

Pyroshield 9020 is a heavy-duty synthetic fluid designed to provide exceptional protection for high-load, heavy-shock, high-heat applications, particularly large open gears servicing kilns and ball mills. It is formulated with a synergistic mix of extreme pressure and wear-reducing additives, including solid particles of fine graphite and of Almasol®, LE's exclusive wear-reducing solid additive.

Results (cont.)

In addition, the LE and LaFarge teams identified multiple redundancies with the lube application systems during the process of lubricant conversion. This included an unnecessary divider valve that was leaking and a very old pressure relief unit that would have cost over \$5,000 to replace but was no longer needed; because of the conversion, they were able to get by with just four of these units.



Prior to conversion, the lubricant buildup is significant.

Thank you to Kevin Chapin, LE consultant, and to LaFarge Holcim's John Hish, maintenance inspector, and Elwyn Lizzorando, maintenance manager, for providing the information used in this report.