

Matrix Split Seal Saves Oil and Stops Leakage in Steel Mill Gearboxes

Steel Industry Chesterton Matrix Rotary Seal Case Study 047 Rotating Equipment

Challenge

Issue

- A steel mill had significantly worn out shafts with the gearboxes on the "repeater" of the wire mill. The wear was caused by running various rubber-style lip seals.
- Gearboxes were leaking oil consistently upon startup after a new competitor seal was installed. This progressively worsened causing significant oil/grease loss and major housekeeping issues.

Rubber lip Seals were causing shaft wear.

Solution

Overview

Replaced competitor's seal with the *Chesterton Matrix Rotary Seal*, a split polymer seal that can be installed in minutes minimized critical downtime.

- A unitized design.
- Advanced polymer combined with impregnated synthetic fiber packing technology to maximize performance.
- Positively seals out bearing contamination while keeping lubrication in.
- Withstands large runout conditions and vibration.

Results

Client Reported

- The Chesterton Matrix Rotary Seals running leak-free since installation (over six months).
- Piping improvements and the *Matrix Seals* have resulted in a drastic oil consumption reduction from nine truck tankers to three each year.
- An an ROI study revealed \$177,500 in net oil savings in six months.



Chesterton Matrix Rotary Seal will adjust to the shaft axis to avoid wear.



Leak-free performance saved over \$177K in oil in six months.

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