

## Challenge

### Background

The back-up roll seals of a reversible cold rolling stand at an aluminum mill were leaking – leading to inconsistent performance, unplanned downtime and maintenance, and environmental concerns.

### Root Cause

The original manufacturer's lip seals had a short life time due to high peripheral speed. The seals also wore out the roll shafts, which resulted in high maintenance/repair cost and lost production.

Customer had an immediate need to repair shafts and replace manufacturer seals with rotary seals, which can withstand high peripheral speed.



Worn roll shaft

## Solution

### Service

The Chesterton team developed a system solution that over performed the original manufacturer's seals.

### Products

**50KA Mill Rotary Face Seal** made of FKM in combination with **53K Premium Mill Rotary Seals**. The **53Ks** are in tandem configuration.

### Design and Material

The **53K** represents advanced technology that combines finger and garter springs with high performance elastomers. It is designed to outlast conventional radial oil seals in the most difficult rolling mill applications.



Back-up roll bearing system

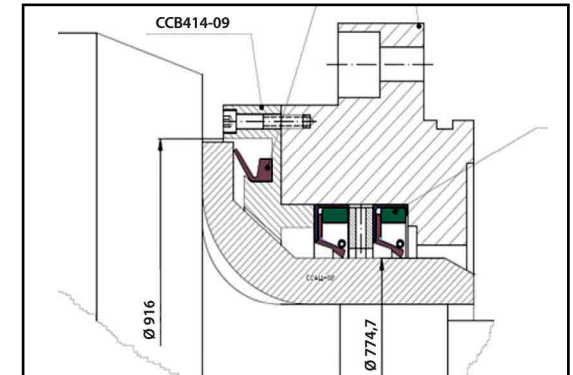
## Results

### Improved Performance and Reliability

The customer was extremely satisfied with the solution's performance, which resulted in less frequent downtime. Because the Chesterton seal system routinely increased reliability, the customer installed the seal system in all roll chocks.

### Benefits

- MTBR improvements: 2x
- Extension of bearing life
- No unplanned shutdown and production loss



Chesterton seal system arrangement