

Pitted, Worn Wicket Gate Cylinder Successfully Upgraded with Chesterton® Solutions

Hydropower Industry
R22KN, R9K AER, and ARC10
Polymer Seal and ARC Case Study

Challenge

Background

A hydropower facility needed to upgrade its cylinders which actuate a wicket gate. The original seals had been stacked leather seals which were later converted to a more traditional V-Ring stack. Over the years, the box bores had become heavily pitted and worn. This had led to premature failure of the seals and subsequent leakage.

Solution

Product

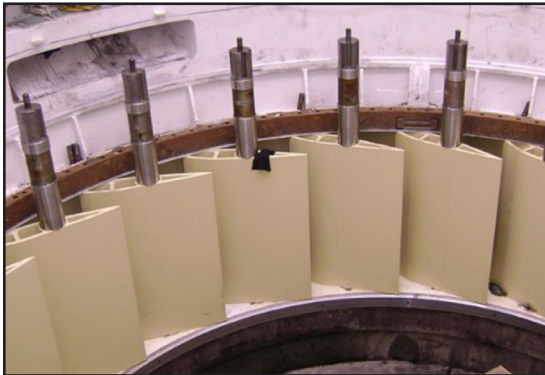
Chesterton® ARC 10 was used to coat the box bores and to fill in the pitted and worn surfaces. These were subsequently honed to size to provide an even sealing surface with adequate finish.

A **Chesterton® R22KN seal** with **9K AER Backup Ring** was used to provide a reliable long term sealing solution.

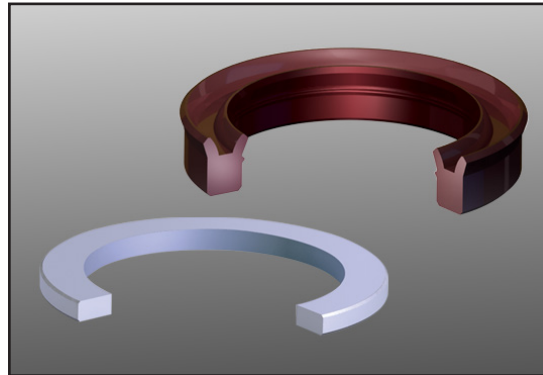
Results

Increase Reliability

The wicket gate cylinders were successfully repaired, returning their surfaces to appropriate finishes. Chesterton's sealing solution provided a more durable and long lasting result leveraging its best-in-class **AWC800** polyurethane.



Hydropower wicket gate.



Chesterton® R22KN and R9 Rings were used to replace old V-Rings.



ARC 10 was used to repair the worn cylinders.