

Challenge

Background

Wicket gates at a large hydropower plant were leaking – leading to unplanned maintenance, environmental, and safety concerns.

Root Cause

A competitor's rubber U-cup seals had to be replaced regularly a maximum of every two years. This resulted in shutdowns, extra maintenance costs, and lost production.



Wicket gate cylinder being rebuilt.
Insert: damaged rubber u-cup seal

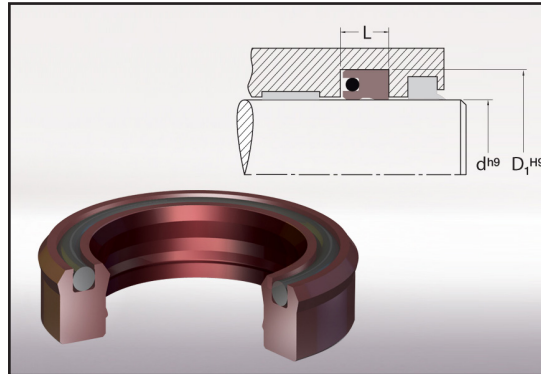
Solution

Product

Chesterton 22KE, single continuous U-cup, which incorporates the use of an O-ring to increase pre-load capabilities, energizes the seal in the absence of system pressure while providing added stability during operation.

Material

The seal material is **AWC 800**, a proprietary thermoset polymer that offers excellent abrasion and hydrolysis resistance for reliable performance in these challenging hydraulic applications.



Chesterton 22KE with an o-ring energizer and high performance AWC 800 polymer materials.

Results

Improved Performance & Reliability

- Extended the rebuild cycle from a 2-year cycle to 5 years on all wicket gate cylinders.
- Enabled the customer to maintain operations 24/7/365 and has eliminated the environmental and safety concerns on this equipment.
- Customer now has a planned maintenance schedule for every 5 years

MTBR: 2.5x



Chesterton R22KE – Unique lip geometry stabilizes seal to prevent rolling and to ease installation.