Butterfly Valve

Mining/Mineral & Ore Processing — Refining
ARC 858, BX2* and S4+ Coatings
Case Study 042

Challenge

Issue

Corrosion of valve due to failed rubber lining led to leaks and environmental fines totaling >$200K.

Goals

- Eliminate risk of future fines
- Increase protection for valve discs/bodies

Root Cause

15% H_2SO_4 vapors at 120°F (50°C), under vacuum of 1 bar (14.5 psi), attacked rubber lining.

Solution

Preparation

- Remove rubber lining by UHPWB at 40 kpsi (2,600 bar)
- Grit blast to Sa 2.5 with 3 mil (75 µm) angular profile

Application

1. ARC 858 used to rebuild corroded and pitted valve disc and body
2. Apply ARC BX2* for abrasion resistance of valve disc
3. Topcoat valve body with ARC S4+ for chemical resistance

**ARC BX2 is the "Bulk" package size of ARC 897*

Results

Client Inspection Results After >18 Months

- Goal to eliminate fines: *Achieved*
- Goal to provide long term protections: *Achieved*
- Goal to avoid repeated maintenance: *Achieved*

Client reported savings of: >$40K
(productivity and rubber repair avoidance)

Additionally, 17 more valves have been coated since the first one was done in 2006. No reports of failure.

$=USD

Delaminated rubber liner with corrosion underneath

Disc before rubber removal

Completed valve with ARC S4+ topcoat applied

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