

Challenge

Issue

Tile lined spool pieces last <6 months before delaminating and damaging downstream piping and valves, effecting production. Exposed steel wears rapidly and requires weld repair.

Goals

- Extend MTBR for pump discharge spools
- Replace ceramic tiles with monolithic liner

Root Cause

Abrasion and impact of 2" (50 mm) rock and clay particles at spool neck cracks tiles, leading to disbondment and clogging.



Spool piece after 4-6 months with tile removed and weld patch over hole

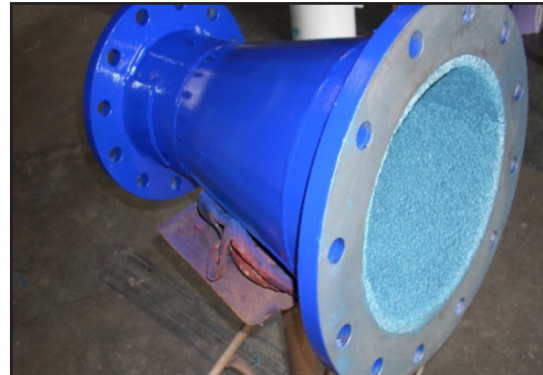
Solution

Preparation

- Remove remaining tiles
- Grit blast to Sa 2.5 and 3 mil (75 µm) angular profile

Application

1. Apply **ARC MX1** @ 500-600 mil (12-14 mm) to mate with upstream and downstream liner thickness



Newly coated spool piece

Results

Client Reported

- Spool piece was inspected after 6 months and found to have 85% of original coating thickness
- Unit went back into service for 6 more months before relining
- ARC solution total run time: 12 months
- **ARC MX1** specified replacing ceramic tiles



Spool after 6 months with over 85% of original thickness remaining