

Challenge

Issue

Pump performance degraded by 30% after 5,000 hours' operation, resulting in low flow to reactor. Plant production reduced.

Goals

- Improve efficiency by 30%
- Prevent further abrasion and chemical attack
- Eliminate the purchase of new high alloy pumps

Root Cause

High pH alumina hydrate slurry wears ductile iron pump.



Prepared pump case



Prepared impeller

Results

Client Reported

- Previous loss of efficiency: 30% in 5,000 hours
- ARC coated pump loss of efficiency: 10% in 8,000 hours
- Pumps scrapped at 5,000 hours required \$20,000 pump replacement
- Coated pumps easily repaired and returned to service

\$=USD



Impeller protected with ARC 855