Distribution Pump

Water Treatment — Distribution
ARC 858 and S2 Coatings
Case Study 098

Challenge

Issue
After 20 years in service, corroded pump internals reduced flow and efficiency. Client sought options to high capitol replacement cost with long lead time.

Goals
- Restore 4 pumps to optimal efficiency
- Reduce 30-week lead time and $40K/pump projected spare parts replacement cost

Root Cause
Corrosion and erosion from entrained solids degraded internal tolerances and increased frictional drag through hydraulic passages.

Solution

Preparation
- Decontaminate surfaces
- Grit blast to Sa 2.5 with 3 mil (75 µm) angular profile

Application
1. Apply ARC 858 to fare smooth and fill pitted surfaces rebuilding tolerances
2. Apply 2 coats of ARC S2 @ 15 mils (375 µm) DFT per coat

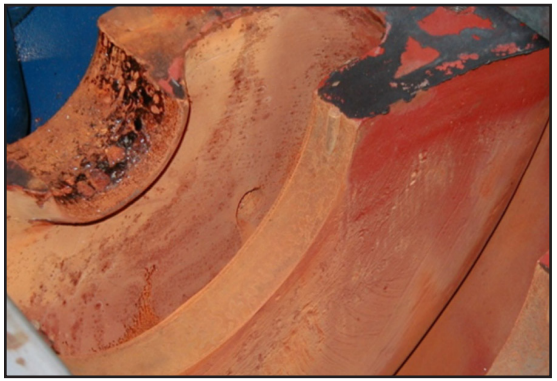
Results

Client Reported
- Rebuilt pumps returned to 100% of BEP
- Lead time reduced from 30 weeks to 3 weeks
- ARC upgrade was <40% of replacement parts
- Used ARC to upgrade for 15 more pumps

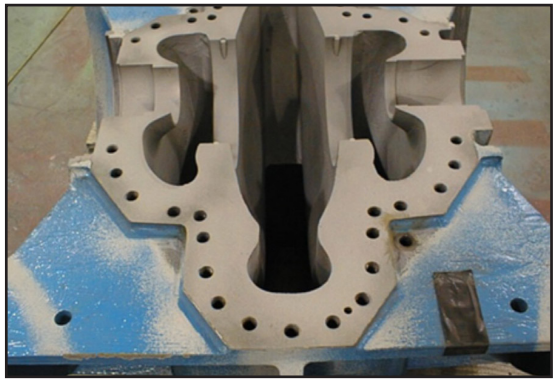
Client Reported Savings (4 pumps)

Spare parts replacement:	$160K
ARC repair costs:	$ 64K
Savings vs. replacement:	$ 96K
Estimated annual energy savings:	$ 30K

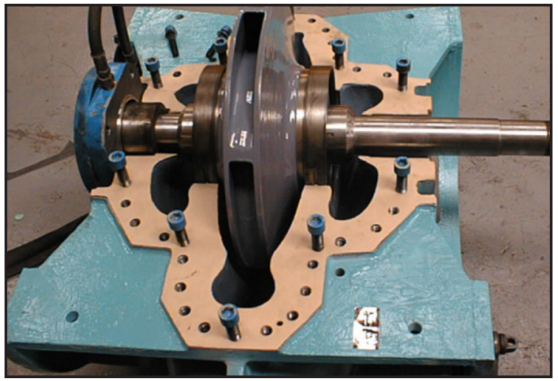
$=USD



Eroded and corroded pump volute



Surface after proper surface preparation



ARC-coated surfaces - casing and impellor

A.W. Chesterton Company
860 Salem Street, Groveland, MA 01834 USA

EN23593.93
09/14

CHESTERTON
Global Solutions, Local Service.