

# **Distribution Pump**

### Challenge

#### Issue

After 20 years in service, corroded pump internals reduced flow and efficiency. Client sought options to high capital 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</p>
- 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

09/15

Technical data reflects results of laboratory tests and is intended to indicate general characteristics only

A.W. Chesterton Company disclaims all warranties expressed or implied, including warranties of merchantability and fitness for a particular purpose. Liability, if any, is limited to product replacement only. Any images contained herein are for general illustrative or aesthetic purposes only and are not intended to convey any instructional, safety, handling or usage information or advice respecting any product or equipment. Please refer to relevant Safety Data Sheets, Product Data Sheets, and/or Product Labels for safe use, storage, handling, and disposal of products, or consult with your local Chesterton sales representative.

#### A.W. Chesterton Company

860 Salem Street, Groveland, MA 01834 USA © A.W. Chesterton Company, 2014, All rights reserved.

FN23593.93

® Registered trademark owned and licensed by A.W. Chesterton Company in USA and other countries, unless otherwise noted, WWW.ARC-EPC.COM

