

Challenge

Issue

The pump performed inefficiently, and increased downtime and maintenance. However, the lead time for a new pump was 8 months and would also require modication to piping system.

Goal

 Rebuild 1949 pump to near new in less than 2 months with no modification to piping

Root Cause

Severe corrosion/erosion in volute, backplate, and other wear parts as well as irreparable impeller with broken blade.

Solution

Preparation

 $\hfill \label{eq:alpha}$ Grit blast to Sa 2.5 with 3 mil (75 $\mu m)$ profile

Application

- 1. Rebuild volute and parts using ARC 858
- 2. Machine to tolerance as required
- 3. Apply ARC BX1* and ARC BX2* and MX1 to high wear areas
- 4. Apply 2 coats ARC 855 total DFT of 1000 μm
- 5. Apply 2 coats ARC S2 total DFT of 500 μm to outside of pump

*ARC BX1 is the "Bulk" package size of ARC 890 *ARC BX2 is the "Bulk" package size of ARC 897



Cast Steel pump built in 1949! With a diameter of 2,5 meter, 30 m³/minute



Thorough surface preparation

Results

Breakdown of Costs

New pump lead time:	8 m	onths
New Chinese pump:	€	110K
 Modified piping and suction: 	€2	250K
Total est. installed costs (new):	€:	360K
Lead time on repairs:	4 \	weeks
New cast balanced impeller:	-€	17K
Cost of total ARC repairs:	-€	78K
Total ARC solution costs :	-€	95K
Total cost avoidance :Lead time reduction:	€ 265K 7 months	



Multiple ARC products used to address various wear levels and surface enhancement

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

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