

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 modification 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.



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

Solution

Preparation

- Grit blast to Sa 2.5 with 3 mil (75 µm) profile

Application

- Rebuild volute and parts using ARC 858
- Machine to tolerance as required
- Apply ARC BX1* and ARC BX2* and MX1 to high wear areas
- Apply 2 coats ARC 855 total DFT of 1000 µm
- 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



Thorough surface preparation

Results

Breakdown of Costs

■ New pump lead time:	8 months
■ New Chinese pump:	€ 110K
■ Modified piping and suction:	€ 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 :	€ 265K
■ Lead time reduction:	7 months



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