

## Challenge

### Issue

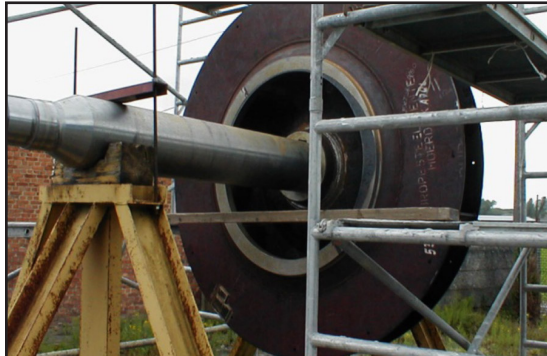
Particle build-up on fan caused imbalance requiring frequent hydro-blast cleaning. Imbalance results in vibration and premature bearing failure.

### Goals

- Reduce particle build-up and minimize the frequency of hydro-blast cleaning
- Reduce vibration induced bearing failure

### Root Cause

Corrosion of fan blades increases surface roughness, resulting in accelerated particle attachment.



Corroded fan led to dust particle sticking to surface causing balancing problems

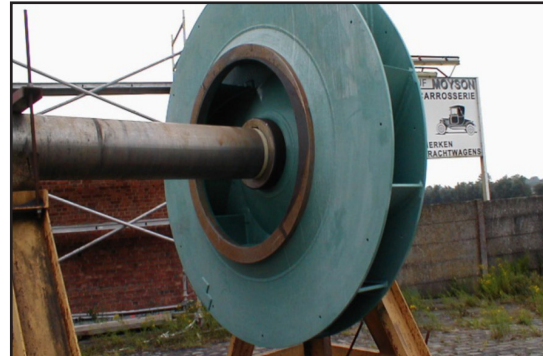
## Solution

### Preparation

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

### Application

1. Dynamically balance fan
2. Apply 2 coats of **ARC S2** at 30 mils (750 µm)
3. Static balance fan



ARC S2 prevented corrosion and reduced particle build up on the fans

## Results

### Client Reported

- Smooth surface created by **ARC S2** credited with reducing particle build-up by >80%
- Reduced frequency of hydro-blast cleaning
- Client reported consequential reduction in premature bearing failures

### Follow On Results

- Based on achieved goals at multiple plants over a 2-year period, client upgraded all converter gas fans with ARC Coatings



Two different fan impeller designs were upgraded with ARC S2 at 30 mils (750 µm)