

Fertilizer Production Extraction Fan

Chemical Processing — Process Equipment ARC 858 and SD4i Coatings Case Study 038

Challenge

Issue

Glass flake coating failure caused general erosion/corrosion damage to fan and excess dust attachment caused imbalance and premature bearing failure.

Goals

 Reduce dust build-up and provide longer corrosion protection

Root Cause

Corrosive gases caused corrosion of exposed metal surfaces. Dust attachment caused imbalance and vibration.



Six months of erosion and build up

Solution

Preparation

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

Application

- 1. Apply ARC 858 to worn and pitted areas
- 2. Apply 2 coats of ARC SD4i to final DFT: 60 mils (1.5 mm)



Installed fan coated with ARC

Results

Client Reported

- Virtually no build up at 6 months
- Vibration no longer an issue, bearing life extended
- No erosion or corrosion at 6 months
- Back in service in 1 hour after inspection, inspections now yearly vs bi-annually



After 1 year inspection: put back in service