# Ventilation Fan

*Mining/Mineral & Ore Processing — Extraction*
**ARC BX2* and 855 Coatings**
*Case Study 107*

## Challenge

### Issue

Unscheduled shutdowns, due to bearing vibration failure, result in production losses and increased maintenance costs.

### Goals

- Reduce dust attachment to fan blades and resulting imbalance and vibration
- Extend bearing life and MTBR
- Control corrosion and abrasion

### Root Cause

High humidity atmosphere with chlorides corrodes fan blades and accelerates dust attachment, creating fan imbalance.

*Build-up on fan blades*

## Solution

### Preparation

- Decontaminate to remove chlorides
- Dynamic balancing of fan
- Grit blast to Sa 2.5 wtih 3 mil (75 µm) angular profile

### Application

1. Apply ARC BX2* @ 120 mil (3 mm) to leading edge of vanes
2. Apply ARC 855 @ total DFT of 20 mil (500 µm)
3. Fan is statically balanced

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

*ARC BX2* applied to leading edge*

## Results

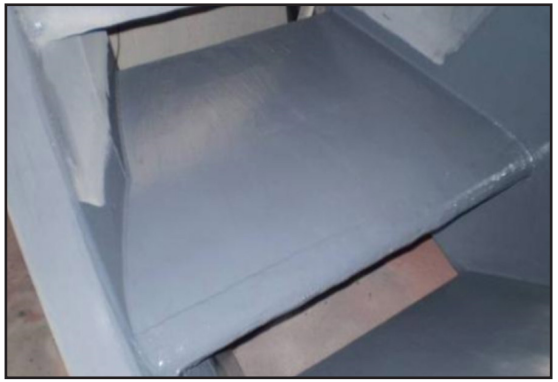
### Client Reported

- Shutdowns reduced to 1 per year at cost of $25,000
- Bearing life extended due to reduced vibration

### Estimated Savings

| | |
|---|---|
| Annual fan costs including semi-monthly cleaning: | $628,000 |
| ARC material and labor: | $ 32,000 |
| Estimated yearly savings | $596,000 |
| ROI | <1 month |

*$=USD*



*Protected fan*



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