# Cooling Tower Fan Blade Repair Results in $21K Savings

*Thermal Power Industry*
**ARC 858, SD4i, and Chesterton 803 Industrial and Marine Solvent**
*Case Study 152*

## Challenge

### Issue

After three years in service, the leading edges of fiberglass blades became severely abraded. New blades cost $8,000. The OEM repair method cost $2,500 and had client concerned about rivet attachments breaking and repair cap delaminating.

### Goals

Provide three years or better service at lower price.

### Root Cause

High-pressure water flow with airborne particulates wore the gel coat, leading to exposure of fiberglass reinforcement.

## Solution

### Preparation

Clean surfaces with Chesterton 803 Industrial and Marine Solvent and trim back exposed fiberglass and radial grind areas to be repaired. Wipe area to be repaired with solvent.

### Application

Spot patch repair the deep damage regions with manual application of ARC 858. Follow with contoured gauge screed application of ARC 858 to reproduce proper blade contour. Final topcoat of ARC SD4i applied for surface finish and restoration of gel coat.

## Results

### Client Reported

Repaired blades lasted over three years

| | |
|---|---|
| New blades: | $ 8,000 |
| OEM Repair | $ 2,500 |
| **ARC Repair:** | **$ 750** |
| **Savings (12 x $1750/blade) =** | **$21,000** |

Four blades repaired each year. ARC repair cost $3K/year compared to OEM repair which cost $10K/year saving $21K over a three year period.

*Before: worn blade.*

*In process: blade in prep stages and partial ARC 858 repair.*

*After: completed blade with ARC SD4i topcoat.*



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EN351039
06/21

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