



PRECIPITATOR AGITATOR BLADES



SUMMARY

Industry: Alumina Processing Plant

Product: Chesterton® ARC BX1, Chesterton® ARC PYRO MX3 and Chesterton® ARC 855 HT

Plant: Alumina Refining

Location: Wagerup

Summary: The precipitator agitator blades were badly damaged and the turn around time on repairs was too long. With the repair of the blades with our ceramic composites, they were provided long term protection.

ROI: The whole job was completed in 9 days.
Final Cost = AU\$12,115.00 vs \$30,000.00 previously



PROBLEM DESCRIPTION

The blades are currently being coated with Metco 43C nickel chromium alloy and Metco 136F chromium oxide-silica composite powder.

Even though they were lasting ~5 years, they were badly damaged. Repairs with the previous coating, took 3 – 4 weeks to repair at a cost of approximately AU\$30,000



SOLUTION

The customer was looking for a repair system that could still offer the same service duration but was easier and quicker to repair.

Imatech offered to repair the damaged blades in a maximum of 10 days.

Process

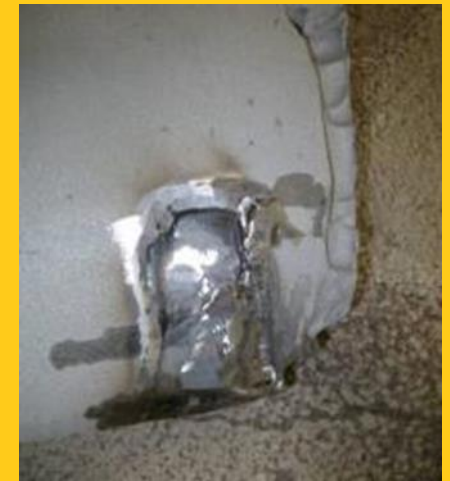
- The plates needed to be welded inside the large holes to close them.
- The entire set of blades needed to be abrasive blasted.
- Smaller holes then have to be filled with Chesterton® ARC BX1 and then shaped.
- The leading edges and tips of the blades have to be coated with 3mm of Chesterton® ARC PYRO MX3.
- Finally, the entire set of blades have to be coated with two coats of Chesterton® ARC 855 HT.

SOLUTION



Stage 1: Repair Process

Welding metal plates to fill the large holes.



SOLUTION

Stage 2: Repair Process

All holes are filled and shaped with Chesterton® ARC BX1.



SOLUTION

Stage 3: Coating

Leading edges and tips are coated with Chesterton® ARC PYRO MX3 at a thickness of 3mm.



SOLUTION

Final stage: Top Coat

The blades were “brush blasted” and coated with two coats of Chesterton® ARC 855 HT.



RESULTS



Finished Product

The whole job was completed in 9 days and post cured for 6 hours at 130°C to cure both products.

Final Cost = AU\$12,115.00 vs \$30,000.00 previously.



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