Corrosion to Baghouse Dust Collector Significantly Decreased

Cement Production Industry
ARC SD4i *and* ARC 858
ARC Case Study

Challenge

Issue
Combustion of fossil fuels in cement production led to corrosive off-gases damaging the frames holding the filter bags within 1 year after installation. If the bag drop unit does not function properly, the client is subject to environmental fines.

Goals
Reduce the effects of corrosion on the frames.

Root Cause
Combustion gases contain SO_2 which cools in the upper section of the baghouse and condenses to form H_2SO_4.

Solution

Preparation
All identified wear zones were HOP water washed and neutralized, then grit blasted to Sa 2.5 with a 75 – 125µm (3 – 5 mil) angular profile.

Application
Chesterton® ARC 858 Abrasion Resistant Rebuilding and Faring Composite was used to fare pitted regions and address thin surfaces. Following faring with ARC 858 two coats of Chesterton® ARC SD4i Ceramic-Reinforced Coating were applied at 375 – 500 µm (15 – 20 mils).

Results

Client Reported
Emergency shutdowns have been significantly decreased and the effects of corrosion have been mitigated. The baghouse dust collector has been in service for 2 years with little corrosion.

Corrosion inside bag house.

Severe corrosion at bag frame plate.

Equipment with ARC SD4i applied.

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EN601968
11/24

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