

Challenge

Issue

Damage to carrying ring surface caused excess vibration and premature bearing failure of rake arm, requiring unplanned clarifier shut downs. Conventional concrete repair would require 21 days to complete.

Goal

- Restore concrete carrying ring surface in under 10 days vs. quoted 21 days

Root Cause

Damage from condensing H₂SO₄ reacting with cement paste causing damage to concrete.



Corroded concrete with exposed rebar



Surface cleaned and damaged concrete removed



ARC 791 being applied with screed box

Solution

Preparation

- Surfaces high pressure water blasted at 8-10k psi (535-670 bar)

Application

1. Screed strips installed to maintain width and flatness
2. Apply **ARC 797 Primer** by roller
3. Apply **ARC 791** by screed box at .25" (6.4 mm) and finish with trowel

Results

Client Reported

- Work was completed within 3 days vs. 21 days
- Clarifier ring surface required no repairs since 2002

Benefits

- Reduced shutdown by >2 weeks
- Eliminated cause of bearing failure