

Challenge

Issue

Loss of ceramic tile results in abrasion and corrosion damage to structural steel requiring weld patching every 12-14 days. Maintenance shut downs (12 hrs) allow for partial patching.

Goals

- Find reliable solution to extend operating interval to >6 months
- Solution must allow fast return to service

Root Cause

Failure of brittle ceramic tiles due to impact of coal particles as large as 4" (10 cm) diameter.



Failure of tile lined chute after 4 months prior to patch weld

Solution

Preparation

- Exposed metal was patch welded
- Grit blast to Sa 2.5 with 3 mil (75 µm) angular profile

Application

1. Apply **ARC MX5** @ 120-200 mil (3-5 mm) to steel and butting up to ceramic tile
2. Total repair was completed in <12 hours



Application of ARC MX5

Results

Client Reported

- | | |
|------------------------------|------------|
| ■ Life of ceramic tile: | 4-6 months |
| ■ Life of patch weld repair: | <4 weeks |
| ■ Life of ARC MX5 repair: | >7 months |

Follow On Results

- Due to the success of this application the client adopted ARC Coatings as the emergency “patch repair” for all tile lined chutes and lines



ARC MX5 after 7 months