

Challenge

Issue

Ceramic tile lasts 4-6 months in this application before cracking and delamination occurs. Exposed steel wears through and requires weld repair before retiling. Previous patch material lasts <7 days.

Goals

- Extend patch repair to >30 days
- Reduce maintenance cycle time to <12 hours

Root Cause

Brittle fracture failure of ceramic tiles results from impact of coal up to 10 cm (4 inch) diameter. Acidic wash water corrodes steel.



Damage to existing ceramic tiles caused unscheduled shutdown and loss of production

Solution

Preparation

- Grind down residual ceramic epoxy with power tool
- Decontaminate surface with solvent (MEK)
- Roughen with a rotary grinding tool

Application

1. Apply **ARC MX5** at 120-200 mils (3-5 mm) to steel and cove up onto the ceramic tile
2. Apply **ARC S2** at 12 mils (300 µm)



Installation of ARC MX5

Results

Client Reported

- ARC repairs completed in 8 hours
- ARC solution provided over 6 months service before a touch-up was required
- Due to success client has selected ARC coatings as “patch repair” for all tile-lined chutes and lines



ARC MX5 with ARC S2 topcoat cures rapidly, allowing fast return to service of chute