

Challenge

Issue

Damage from abrasion to screw flyghts reduces coal transport efficiency by >10%, impacting plant production. Conventional weld repair provides 12 month MTBR.

Goals

- Extend MTBR by >50%
- Return plant to 100% production capacity

Root Cause

Abrasive and corrosive coal corrodes and wears flights, causing cracking and distortion of transport face.



Worn screw after first weld overlay and grit blasted ready for coating

Solution

Preparation

- Grit blast to Sa 2.5 with 3 mil (75 µm) anchor profile

Application

1. Apply **ARC BX1*** at 1/4"-3/8" (6.4-9.6 mm) on flight faces and drum to rebuild and protect
2. Apply **ARC 855** to reduce surface friction unit start up and initial run

**ARC BX1 is the "Bulk" package size of ARC 890*



ARC BX1 is applied as severe duty wearing coat*

Results

Client Reported

- ARC repair extended MTBR from 10-12 months to 18 months

Client Reported Savings (18 months runtime)

■ Previous weld over lay repair:	\$3,150
■ ARC repair:	\$2,670
■ Savings (per screw):	\$ 480
■ Total savings (8 screws):	\$3,840

\$=USD



Completed screw coated with ARC BX1 and topcoat with ARC 855*