

Bradken Duaplate DX Plate for Vibe Feeder

Location	Pilbara Region, WA, Australia
Asset	Vibrating Pan Feeder
Conditions	>32mm Sized Iron Ore
Solution	Bradken Duaplate DX

Situation

A customer in the Pilbara Region of Western Australia, was operating four Vibrating Pan Feeders processing secondary crushed iron ore. These vibrating feeders were lined in 500BHN Abrasion Resistant Steel Plates as specified by the Original Equipment Manufacturer (OEM). The OEM liner package had large gaps in the direction of material flow, which resulted in extreme washout limiting the operational life of the liners to 13 weeks. These liners also weighed more than 70kg and did not incorporate any lifting solutions, creating safety issues during install and removal on-site.

The customer preferred a solution that would provide 48 weeks of operational life between liner change-outs and address the safety concerns with installation and removal. As Vibrating Pan Feeders are a fatigue application, it was also important that any solution did not increase the cyclic loads on the feeder, meaning that any solution could not increase the total liner package mass.

Solution

Bradken reverse engineered the OEM liner package and revised the liner material to utilise our new high performance Duaplate DX weld overlay material. The new liner package was supplied with the same total thickness as the OEM liner package to maintain the same overall liner mass. The new design consolidated the liners along each row into a single liner to eliminate the washout problem by removing the gaps between the liners. The new liners also incorporated reusable lifting points that allowed the liners to be installed and removed safely using an overhead crane.

Results

The customer trailed the new Duaplate DX 8/8 liner package in one of the feeders and after 13 weeks, the solution was performing so well, the customer committed to changing all four feeders to the new Bradken liner package. After completing their operational campaigns, the Duaplate DX 8/8 liners met the customer's expectation of 48 weeks of operational life. This allowed the liner package to be changed during the scheduled workshop refurbishment cycle of the Vibrating Feeders, completely eliminating liner change-outs insitu onsite.

Results Overview

- 4x the operational life without increasing liner mass
- Eliminated washout
- Incorporated lifting solution for safe installation and change-out
- Aligned liner change-out with refurbishment cycle



OEM Vibrating Pan Feeder liner with extreme washout



Bradken Duaplate DX 8/8 liner installed



Our Innovation. Your Advantage.

