

“The Magnefast results were far better than anticipated. Installation/replacement time was less than one hour (compared to 12 hours using traditional bonded ceramic liners). After 14 weeks, all Magnefast panels remained firmly in place, with no visible sign of wear. We estimate they will last up to 8 years before they need replacing.”

- Site Maintenance Engineer



CASE STUDY: MAGNEFAST SYSTEM TRIAL AT IRON ORE EXPORT PORT

A major iron ore export port in the Pilbara, operating 24/7, faced significant challenges with a cycle of five-day planned maintenance shuts every 14 weeks. Site Maintenance conducted a 14-week trial of Magnefast ceramic liners to assess installation ease, magnet strength, and wear resistance. The results exceeded expectations.



LOCATION: Pilbara Region, AU
YEAR: 2023
APPLIC.: Chute Lining
SOLUTION: Magnefast Wear Panels

ISSUES ON SITE:

The site's reliability and maintenance personnel faced challenges in servicing over 20 chutes within this limited maintenance window, often requiring temporary repairs using Wemax direct bond epoxy ceramic. These repairs typically lasted until the next scheduled shut, which led to continuous labor-intensive cycles of repair, replacement, and associated downtime.

The labor resources were stretched, and the current wear liner systems, which required

more than 12 hours of work for installation or repair, were inefficient. Additionally, the use of direct bond adhesives and ceramic resins was time-consuming and labor-heavy, leading to safety risks during maintenance.



THE SOLUTION:

The site decided to trial the Magnefast system, a new magnetic ceramic liner technology, to address these issues - aiming to significantly reduce the time and labour involved in repairs. The installation took under one hour, compared to the usual 12-hour duration for traditional methods. The Magnefast ceramic panels were specifically chosen for their wear-resistant properties, including ZTA panels for high-impact zones.

Site personnel collaborated with the Magnefast team to design a custom wear panel layout for the chutes, incorporating a steel skin for the loading boot section and a composite wear panel map. The installation process was closely supervised to ensure optimal results.



Surface ID "Z" still visible after 52 weeks service

Reduced installation time: from 12hrs+ to less than 1hr

Extended service life up to 8 years

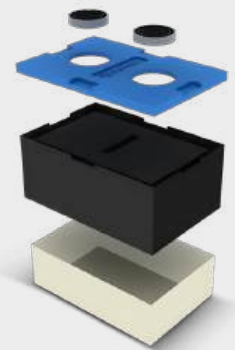
Reduced downtime during planned shutdowns

Increased overall **operational efficiency**

THE RESULTS:

At the 14-week shut, the results of the trial far exceeded expectations. All Magnefast ceramic liners remained in place with no movement, and there were no visible signs of wear on the ceramic panels. Notably, the ZTA wear liners, positioned in high-impact areas, still showed no signs of wear, with their "Z" markings clearly visible.

The trial demonstrated that the Magnefast system provided substantial benefits over traditional methods. Not only did it significantly reduce installation time (from 12+ hours to less than one hour), but it also resulted in a dramatic extension of service life of up to 8 years before requiring service – much longer than the 14 weeks associated with direct bond systems. This improvement will allow the site to reduce downtime during planned shuts, improve safety by minimizing labor-intensive maintenance, and increase overall operational efficiency.



SUCCESSFUL TRIAL OF SF45/45 MAGNEFAST LINER



The parent metal showed **no signs of corrosion**

This chute is expected to **last up to 8 years in service!**

Magnefast™ magnet holding force and appearance – **no change after 52 weeks of service.**

