



CASE STUDY:

IRON ORE EXPORT PORT USES NEXT-GEN MAGNEFAST™ TECHNOLOGY TO ELIMINATE 14-WEEK WEAR LINER REPLACEMENT

A large iron ore export port was looking to improve maintenance outcomes of one of its critical transfer chutes. Frequent wear liner repairs every 14-week shutdown were consuming valuable maintenance time and labour, while temporary repair methods provided only short-term relief. The objective was to move away from repetitive repair cycles and implement a more reliable wear protection system that would support safer, more efficient operations and lower lifecycle maintenance costs.



LOCATION: Western Australia
YEAR: 2026
APPLIC.: Lower Transfer Chute
SOLUTION: Magnefast™ Ceramic Liners

ISSUES ON SITE:

After seeing strong results from an earlier Magnefast™ installation, the site turned its attention to the higher volume transfer chute that had been operating for more than 30 years.

This chute was originally lined with studded Ni-Hard steel liners. With shutdowns scheduled every 14 weeks and limited to just five days, there was rarely enough time to complete comprehensive repairs across all transfer chutes.

Instead, the maintenance team relied on repeated patch repairs using Epoxy Ceramic Filler. While quick to apply, these fixes were temporary and required rework at every shutdown consuming valuable labour, time and maintenance resources.

Key challenges included:

- Ⓢ Tight shutdown windows limiting maintenance scope
- Ⓢ Ongoing rework from temporary repairs
- Ⓢ High labour demands during planned shutdowns
- Ⓢ Safety risks associated with working inside transfer chutes



Old transfer chute in situ with ceramic filler repairs

THE SOLUTION

The site chose to install a complete Magnefast™ ceramic lining system in a new steel chute body. The actions taken to improve the performance of this chute include:

1. Manufacture a new mild steel chute body and skirt assembly to replace the heavily worn existing 30 year old components. Remove existing chute body and replace with new chute body and skirt.
2. Optimise the selection of Wear Liner Material. In this case 95% Aluminium Oxide ceramic was chosen to replace the existing NiHard wear liners. Expected increase in service life was > 500%.
3. Magnefast™ 95% aluminium oxide wear liners were installed to reduce labour and time required for wear liner replacements. An added benefit was the ability to quickly and easily rotate wear liners to move worn areas out of the high product flow and/or swap with adjacent unworn liner.



New chute body



New chute body being installed



New skirt system with Magnefast™ liners



Installed Magnefast™ ceramic liners



 **magnefast™**

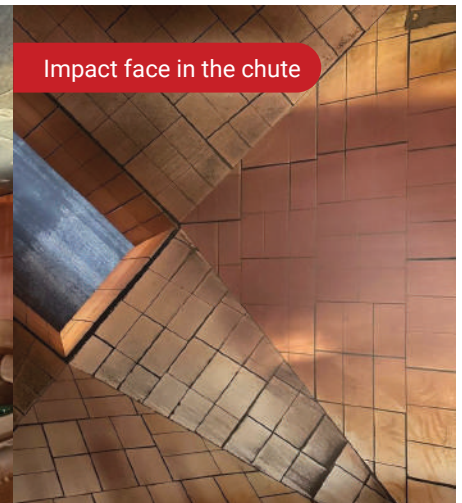
RESULTS

After 6 million tonnes of throughput, the Magnefast™ ceramic liner system was inspected during the site's planned 13-week shutdown. The assessment revealed minimal wear, with the highest wear zones showing only 3–4mm of surface erosion and the majority of the chute experiencing less than 1mm of wear. Two panels were removed for further inspection, confirming no visible corrosion on the chute wall and no signs of deterioration within the magnetic fastening system.

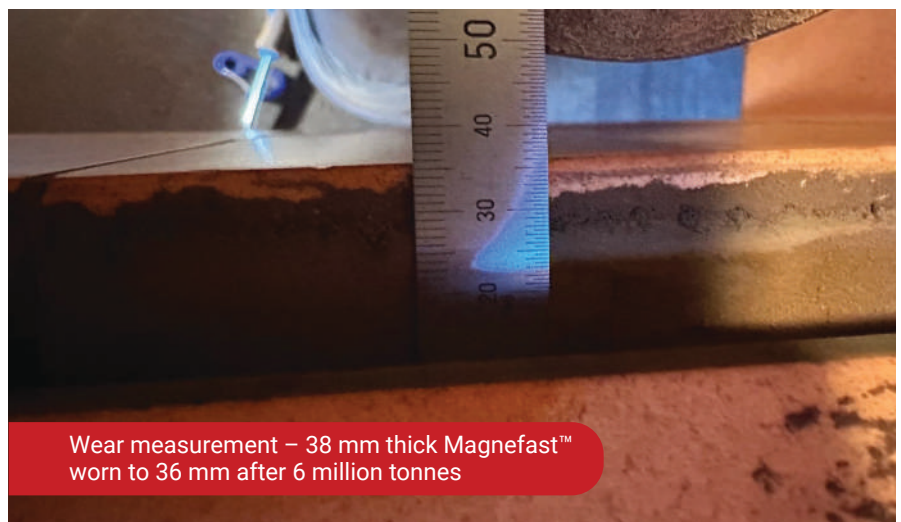
Based on the measured wear rates, the 38mm Magnefast™ ceramic panels are projected to deliver a service life of approximately 78 weeks in the highest wear areas and more than five years in lower wear zones. This represents a 600% improvement over the previous lining system in critical wear areas and provides maintenance-free operation across six planned shutdown cycles. When replacement is eventually required, panel changeouts in the highest wear zones are expected to be completed in less than one hour, significantly reducing maintenance time and shutdown impact.



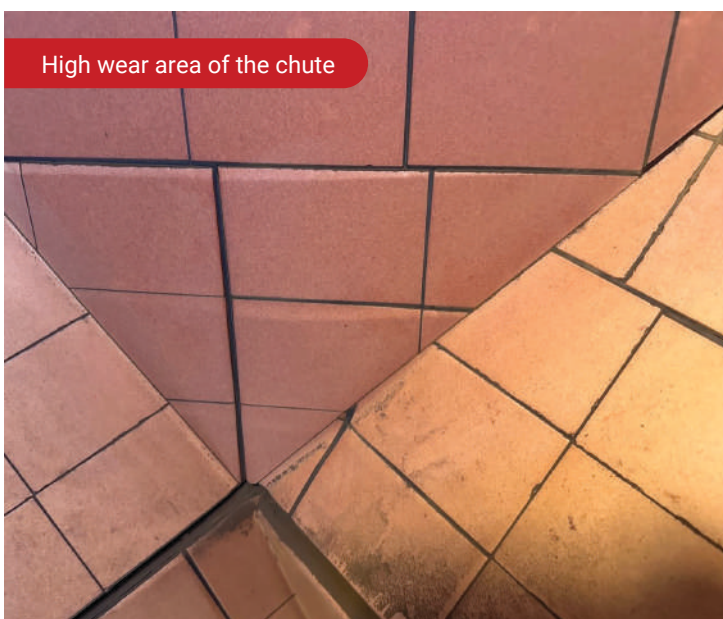
Magnefast™ liners from top of chute



Impact face in the chute



Wear measurement – 38 mm thick Magnefast™ worn to 36 mm after 6 million tonnes



High wear area of the chute

✓ **600% increase** in service life

✓ **Maintenance-free Operation** for Six Planned Shutdowns

✓ **Quick and Easy Panel Replacement** in Under One Hour

✓ **Reduced shutdown duration and maintenance costs**