

The implementation of Magnefast wear panels delivered significant efficiency gains and cost savings for the site.

Liner replacement time was reduced from 12 hours to just 3 hours, wear life increased by 600%, and crane hire was eliminated altogether - dramatically reducing downtime and maintenance costs.

- Maintenance Supervisor

CASE STUDY: MAGNEFAST TRAIN LOAD OUT DEFLECTOR RELINE

A major quarry in Western Australia sought to improve the efficiency and durability of its train load out deflector system. The key objectives were to reduce change-out and relining time, minimise reliance on crane hire, and extend the service life of existing rubber wear panels - which were currently lasting only 10 months.

This case study explores how Magnefast wear panel technology successfully helped achieve these goals, leading to substantial reductions in downtime and maintenance costs.



LOCATION: Marulen, NSW

YEAR: 2023

APPLIC.: Deflector Reline

SOLUTION: Magnefast Wear Panels

ISSUES ON SITE:

A major quarry in Western Australia faced ongoing issues with its train load out deflector system, including frequent wear panel replacements, extended downtime during relining and a high reliance on crane hire during maintenance. The existing rubber wear panels had a limited-service life of just 10 months, leading to recurring disruptions and increased operational costs, with more than 12 hours of work required for installation and/or repair.

Additionally, the use of direct bond adhesives and ceramic

resins was time-consuming and labour-heavy, leading to safety risks during maintenance.



THE SOLUTION:

To address the client's challenges, the Elastotec's engineers focused on optimising the installation and wear management process using Magnefast technology.

The first step involved cleaning and preparing the existing backing plate to ensure a strong and reliable foundation for the new installation. With Magnefast's streamlined system, the deflector was efficiently relined and replaced with wear panels specifically engineered for enhanced durability. This approach minimised downtime and eliminated the need for complex, time-consuming installation methods, ultimately eliminating reliance on crane hire and improving overall maintenance efficiency.

The results demonstrated the effectiveness of this solution in real-world conditions.

75% reduction in liner replacement time

100% removal of crane hire

600% increased service life in 24-months



THE RESULTS:

After three months in operation, the deflector system remained in excellent condition, showing no significant signs of wear. At the six-month mark, wear was measured at just 5mm — far exceeding the performance of the previous rubber lining. This substantial improvement not only extended service life (by up to 600%) but also reduced the frequency of maintenance interventions, lowering overall costs and enhancing operational reliability.

The implementation of Magnefast technology delivered significant efficiency gains and cost savings for the site. Liner replacement time was reduced from 12 hours to just 3 hours, dramatically minimising downtime and maintenance disruptions.

The need for crane hire was completely eliminated, as Magnefast panels could be rotated and replaced in situ, enhancing both safety and operational flexibility. Additionally, the projected service life of the Magnefast liners showed remarkable improvement—extending to 24 months without rotation and up to 48 months with rotation. These results not only reduced maintenance frequency but also provided a more sustainable, long-term solution for the train load out deflector system.

