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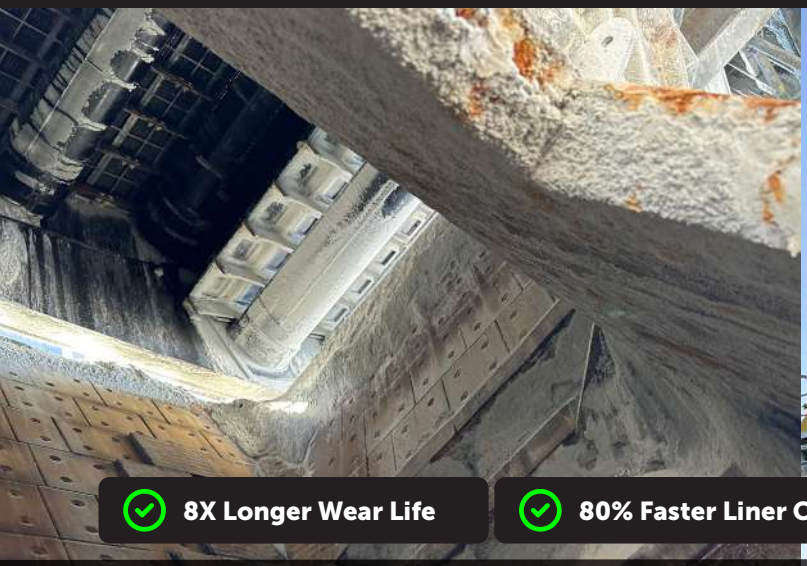

- 8X Longer Wear Life
- 80% Faster Liner Changeouts
- Reduced Labour Requirements

CASE STUDY:

OPEX BUDGET UNLOCKS IMMEDIATE LONGTERM PRODUCTIVITY GAINS: HOW ONE HIGH-VOLUME LITHIUM MINE INCREASED UNDERPAN WEAR LIFE BY 8X - ON MULIPLE CHUTES, ONE SHUTDOWN AT A TIME.

A high-volume lithium mine sought to improve the reliability and maintainability of its screen underpan wear liner system. Frequent liner replacements, material build-up and labour-intensive maintenance during every 14-week shutdown were impacting productivity and increasing shutdown demands. Following the successful implementation of Magnefast™ ceramic liners on a neighbouring underpan, the site expanded the solution to another high-wear chute, aiming to extend liner life, reduce maintenance time and improve overall operational efficiency.

LOCATION: Western Australia

YEAR: 2026

APPLIC.: Screen Underpan

SOLUTION: Magnefast™ Ceramic Liners

MATERIAL: Lithium Ore

ISSUES ON SITE:

The site's four screen underpans had been lined with traditional studded Ni-Hard liners since the plant was commissioned. Processing highly abrasive and corrosive lithium ore fines created several ongoing maintenance challenges, including:

- Material hang-up and build-up, particularly in wet conditions, requiring frequent washdowns to prevent blockages.
- Reduced throughput and inconsistent conveyor loading caused by material accumulation.
- High wear rates requiring liner replacement every 14-week shutdown.
- Labour-intensive changeouts involving scaffolding, gas axe cutting, and removal of corroded studs.
- Logistical challenges associated with mobilising sufficient personnel during shutdowns at a remote site with limited accommodation.

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THE SOLUTION

In September 2025, Magnefast™ ZTA liners had been installed in a large screen underpan and at the first 14-week shut site maintenance personnel estimate it will be at least 18-months before liners in the high flow/wear areas will require replacement. This is an increase of 8X for the service life now that the Magnefast™ liners have been installed.

As a result, the decision was made to reline the high wear area in the screen underpan with Magnefast™ ceramic liners to replicate these results.

First, the existing studded Ni-Hard liners were removed and replaced with new 8mm mild steel skins to provide the clean, flat surface required for Magnefast™ installation. To maximise wear performance, the liner design was tailored to each wear zone:

- **Upper Section:** Installed with Magnefast™ 95% Aluminium Oxide (Al_2O_3) ceramic liners for areas experiencing lower wear.
- **Lower Section:** Installed with a combination of ZTA (Zirconia Toughened Alumina)
- **Silicon Carbide (SiC) ceramic liners** to withstand the highest wear and flow concentrations. Silicon Carbide was also introduced as a trial material to evaluate its potential for even longer service life.

Unlike conventional studded liners, the Magnefast™ system allows adjacent panels to be installed without gaps, helping prevent material ingress, steel erosion, corrosion and the solving a key issue on site.

This installation took place in June 2026 with the first planned 14 week shut due first half of October 2026.

THE RESULTS

The installation of Magnefast™ will deliver:

- Up to 8x longer liner service life
- Approximately 80% reduction in liner replacement labour and maintenance time
- Reduced material build-up through gap-free liner installation
- Improved chute protection against wear and corrosion
- Lower shutdown workload and maintenance costs

Importantly, the project demonstrated that significant reliability improvements can be delivered progressively through planned maintenance activities, rather than requiring a major capital project.

NEXT STEPS

Based on the success of previous Magnefast™ installations, the site has committed to progressively upgrading all four screen underpans as part of its scheduled 14-week maintenance program.

Rather than undertaking a full replacement in a single capital project, one wall will be relined during each planned shutdown using the site's existing maintenance (OPEX) budget.

This staged implementation enables the operation to spread investment over multiple shutdowns while immediately benefiting from improved wear life, reduced maintenance and safer liner replacement practices.

A SMARTER PATH TO ROI

One of the biggest barriers to upgrading wear liner systems isn't the technology, it's securing capital funding.

By implementing Magnefast™ during planned shutdowns using existing maintenance budgets, this operation avoided the need for a large upfront CAPEX investment while progressively improving reliability, reducing maintenance costs and extending equipment life.

Instead of waiting for capital approval, the site began realising operational benefits immediately - one shutdown at a time.

magnefast™

- **8X Longer Wear Life**
- **80% Faster Liner Changeouts**
- **Reduced Labour Requirements**
- **Minimised Material Build-Up**
- **Lower Lifecycle Maintenance Costs**