



Kinder Australia Product:

K-Shield® Impact Belt Support System

Product Category:

Impact Load Zone Belt Support

Location:

Queensland

Conveyed Materials / Rate | Belt Speed:

Blue Metal / 450 TPH | 1.5 mtr per sec

Engineered for Impact. Proven Over 17 Years.

OVERVIEW

For a Queensland hard rock quarry producing blue metal for rail ballast and major road infrastructure, conveyor reliability is critical to maintaining production. In 2009, the operation installed Kinder's K-Shield® Impact Belt Support System at a high-impact conveyor transfer point.

Seventeen years later, the original K-Shield® system remains installed and is reported to be performing brilliantly and demonstrating exceptional longevity in a demanding hard-rock application. The conveyor operates at approximately 1.5 m/s, handling abrasive blue metal used in rail and road applications.

CHALLENGE

Prior to the K-Shield® installation, the transfer point relied on conventional idler support and experienced consistent asset and conveyor belt damage. The impact of hard, heavy material entering the loading zone also contributed to poor containment and excessive material spillage, with the resulting maintenance requirements creating unwanted site downtime.

For a quarry operation, these issues extend beyond housekeeping. Repeated impact loading can compromise the belt support interface and increase the risk of belt damage, while an unstable belt line through the loading zone makes effective sealing and material containment more difficult.

The site therefore required a more robust impact support solution capable of withstanding the severe loading conditions associated with hard-rock processing while providing a stable belt profile for improved transfer point performance.



- Recurring belt damage caused by heavy impact at the transfer point.
- Ongoing asset damage increasing maintenance demands and downtime.
- Excessive material spillage resulting from poor containment.
- Unreliable transfer performance impacting overall conveyor efficiency.

SOLUTION

Kinder Australia recommended the **K-Shield® Impact Belt Support System** as a more robust alternative to the conventional idler-based support arrangement. The solution was selected following a technical sales consultation and review of a comparable hard-rock quarry application.

Installed at the transfer point in 2009, the K-Shield® provides continuous support beneath the conveyor belt through the critical loading and impact zone. This creates a more stable belt profile under material loading, helping the transfer point withstand the demanding impact conditions associated with abrasive blue metal.

The supported belt profile also provides a more consistent surface through the loading zone, which is important for effective skirting and material containment. By addressing the impact zone as an integrated belt-support and containment system, the solution targeted the site's key issues of belt damage, asset damage, downtime and excessive spillage.



RESULTS

- 17 years proven with original K-Shield® solution still performing strongly.
- Long-term protection built for demanding hard rock impact.
- Improved reliability addressing belt, asset and containment issues.
- Site-wide confidence and success leading to further Kinder solution installations.

The K-Shield® Impact Belt Support System installed in 2009 has now delivered a staggering 17 years of service in a demanding, abrasive blue-metal quarry application and remains installed and performing strongly today.

Operating on a conveyor running at approximately 450 TPH / 1.5 m/s, the system has demonstrated exceptional long-term durability under the demanding impact conditions associated with hard-rock conveying. The fact that the original K-Shield® remains in service after 17 years provides a clear, measurable indication of its reliability and suitability for high-impact quarry applications.

The success of the installation has also contributed to an ongoing relationship with Kinder. The customer has subsequently engaged Kinder to improve performance across other conveyors, including the implementation of Kinder skirting systems on multiple conveyors and further work focused on dust containment, air quality and environmental improvements.

17 years after installation, the K-Shield® continues to perform in a severe hard-rock application - delivering long-term impact protection where reliability matters most.



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YEARS
OF INNOVATION