

PROJECT

Integrated Conveyor Solution for a Greenfield Cement Facility



Kinder Australia Product:

Custom Engineered Conveyor Solutions

Project:

Greenfield Materials Handling Facility

Location:

Western Australia

Conveyed Materials:

Cement

Greenfield Conveyor System – Engineered for Performance.

Project Overview

This project involved the design, manufacture, and delivery of critical conveyor components for a large-scale materials handling system within the cement industry, handling materials including clinker, slag, gypsum, and limestone. The conveyor systems were engineered to accommodate belt widths of 800, 1000, 1200, and 1400 mm, operating at speeds ranging from 0.5 to 2.1 m/s, and designed to achieve throughput capacities between 250 and 1200 tph.

Kinder Australia was engaged to provide a complete package of rotating equipment and conveyor technologies, including skirting (AirScrape & TailScrape), pulleys, idlers, belt cleaners and safety switches.

The project formed part of a new (greenfield) materials handling facility, requiring the development of conveyor solutions from the ground up. Kinder collaborated with an external engineering company, responsible for the structural design elements such as ground works, plant structures and transfer chutes. This required a highly coordinated approach to ensure all mechanical and structural components integrated seamlessly from the outset.

Values Delivered

Kinder's engineered conveyor solution delivered operational value to across several key areas:



High-Quality, Compliant Delivery

Delivered a solution fully aligned with client specifications and industry standards.



Collaborative & Adaptive Approach

Responded effectively to project challenges through strong teamwork and tailored solutions for existing infrastructure.



Structured Engineering Process

Ensured consistency, accuracy, and efficiency across all stages - from design to manufacturing and quality assurance.



Practical, Site-Ready Outcomes

Reduced installation risks, improved constructability, and supported long-term system reliability.

Engineering Collaboration

Close collaboration between Kinder, the client, and the external engineering company was central to the project's success. With responsibilities split between rotating equipment and structural design, continuous communication and coordination were essential.

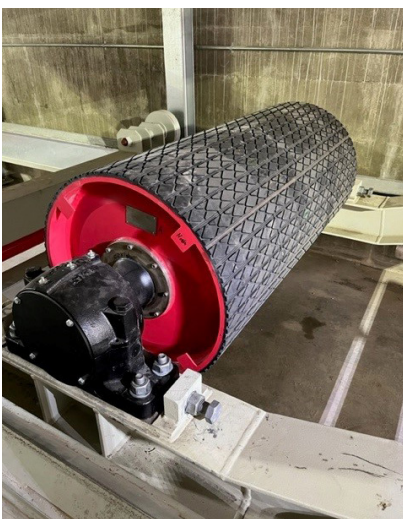
Kinder worked proactively with the external engineering team to:

- Align conveyor pulley and idler designs with conveyor layouts and structural constraints.
- Ensure compatibility between component mounting points and supporting structures.
- Coordinate the integration of safety and monitoring systems, including pull wire, belt alignment, and belt rip detection devices.

Identify and resolve interface challenges early, minimising the risk of rework during installation. Internally, Kinder's engineering, drafting, and quality teams operated in parallel, ensuring efficient progress while maintaining strict quality control. This integrated approach enabled a cohesive design outcome across all disciplines.

Solutions Delivered

- **K-Conveyor Pulleys** – Engineered to meet operational load requirements, optimising shaft design, bearing selection, and durability.
- **Conveyor Idler Frames** – Designed to support correct belt profile and belt alignment.
- **AirScrape®** – A contact-free skirting system that reduces dust emissions and material spillage.
- **K-Containment® Seal** – Advanced sealing technology improving containment at transfer points.
- **K-Sure® Belt Support System** – Enhances sealing performance and prevents belt sag at the transfer point with the use of low friction slider rails.
- **K-Safeguard Vee Plough Cleaners** – Protect tail pulleys by removing carryback material from the return belt.
- **K-Calibre® Primary & Secondary Cleaners** – High-efficiency belt cleaning systems reducing material carryback and maintenance requirements.
- **Conveyor Electrical Switches** – Safety and monitoring devices, including pull wire switches and accessories, belt alignment, and belt rip detection systems.



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YEARS
OF INNOVATION

Solutions Delivered continued.....

In addition, Kinder delivered:

- Detailed engineering calculations and validation.
- Full manufacturing drawings using SolidWorks.
- Custom-designed brackets for conveyor safety systems.
- Comprehensive quality assurance documentation.



Results & Commercial Outcomes

The project successfully delivered a fully integrated, compliant conveyor component package for a new materials handling facility, with all equipment manufactured to AS/NZS and ISO standards and meeting strict quality requirements.

Kinder's collaborative approach and ability to adapt to design changes minimised installation risks and supported a streamlined construction phase. Custom-engineered components improved constructability, enabling an efficient and controlled installation process.

Operationally, the solution enhanced efficiency and capacity by reducing spillage, minimising tracking issues, and preventing bottlenecks. High-quality components improved durability, extending conveyor life and reducing unplanned downtime. Cost savings were achieved through reduced maintenance and extended belt life, while time savings resulted from decreased manual cleaning and fast access to locally stocked spare parts.



Overall, the project demonstrates Kinder's capability to deliver complex, high-performance conveyor solutions in greenfield environments, providing both immediate construction benefits and long-term operational value.

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