

Case Study – Essential AIR Seal Dust Containment Combination

Kinder Australia Product:

Product Category:

Location:

Conveyed Materials:

Conveyor Belt Width / Speed:

Installation Date:

The Essential AIR Seal Dust Containment Combination System

Conveyor Skirting & Transfer

Brisbane, QLD

Clay, raw material for brick manufacturing

750mm Belt Width / 1 m/sec

January 2025

CHALLENGE:

- *Excessive spillage and dust accumulation below and around the conveyor system.*
- *Health and safety risks from airborne dust.*
- *Two hours per day spent on clean-up.*
- *Need for a comprehensive solution for apron belt feeders.*

A leading brick manufacturer in Brisbane operates one of Queensland's largest production facilities, relying on advanced bulk materials handling systems to efficiently process raw materials like clay and sand.

The brick operator struggled with significant spillage and dust issues along its conveyor system, particularly at conveyor transfer points. The airborne dust not only posed health and safety risks but also led to material loss, necessitating frequent and costly clean-ups.

The plant was investing up to two hours per day managing dust accumulation and spilled material. After the successful installation of Kinder's dust containment solution on a horizontal conveyor, the operator again turned to Kinder seeking a comprehensive system to tackle the challenges faced by their four apron belt feeders.

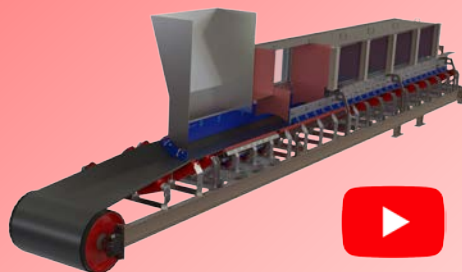


Before / After Photos:

"Since installing Kinder's system, dust and spillage have been dramatically reduced. The area remains much cleaner, and we've freed up time for more critical maintenance tasks", Maintenance Manager.

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SOLUTION:



The Essential AIR Seal Dust Containment Combination System.

To effectively combat the dust and spillage issues, the operator implemented Kinder's Essential Air Seal Dust Containment Combination System incorporating several innovative solutions:

AirScrape®: A non-contact skirting system that uses airflow to create a seal, preventing material spillage and dust emissions without causing belt wear.

TailScrape: Installed at the tail end of the conveyor to further contain spillage and minimise material loss.

K-Sure® Belt Support System: Provides critical support to the conveyor belt, maintaining its stability and preventing sagging, which can lead to spillage.

K-Containment® Seal Ceramic: First line of defence, highly durable sealing solution with superior wear resistance, extending the life of the dust containment system.

DustScrape: Positioned between transfer chutes, this system effectively captures airborne dust, keeping it from spreading throughout the facility.

Project management and installation by:



The combination dust containment solutions worked in tandem to reduce dust emissions, prevent material spillage, and seal the belt at critical transfer points.

With convenient access to the conveyor system, only two personnel were required for the installation, which was completed smoothly, efficiently and with minimal disruption to the plant operations. The modular nature of Kinder's system allowed for seamless integration with existing equipment. Additionally, the non-contact AirScrape® and DustScrape components could be adjusted with minimal downtime, ensuring that normal operations resumed swiftly with immediate improvements in dust and spillage control.

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RESULTS:

- 100% reduction in spillage.
- 98% reduction in airborne dust.
- Material loss eliminated.
- Clean-up reduced from 2 hours / day to 1 hour/week.

Kinder's Essential Air Seal Dust Containment Combination System installation yielded impressive results. **100% reduction in spillage, eliminating material loss** at the transfer points. **98% reduction in airborne dust**, significantly improving air quality and safety.

Material loss was completely prevented, and clean-up efforts were drastically reduced—from two hours per day to just one hour per week. The reduction in daily clean-up requirements has saved the plant significant time, freeing up staff to focus on more important tasks. With spillage eliminated, more raw material is available for production, improving resource efficiency.

Reduced Wear and Tear: The non-contact design and wear-resistant components help minimise belt and equipment degradation, potentially lowering maintenance costs over time.

Improved Operational Efficiency: Fewer disruptions due to dust and spillage have streamlined production processes, enhancing overall plant efficiency.

The site's maintenance manager expressed high satisfaction with the results, highlighting that the saved resources could now be used for more proactive maintenance, ultimately boosting plant performance. Following this success, the operator is now exploring additional installations of Kinder's Essential AIR Seal Dust Containment Combination Solutions across other areas of the facility.

Kinder's innovative dust and spillage solution presented can transform operations, reduce maintenance workload, and create a cleaner, more efficient working environment.



Photos: After Installation of Kinder's Essential AIR Seal Dust Containment Combination.
"We're ecstatic with results to date, there is now more time to concentrate on other important daily maintenance jobs", reported the Maintenance Manager.