

Case Study – The Essential SNAP Seal, K-Commander® Conical Tracker & K-AllShelter® Covers

Kinder Australia Product:	The Essential SNAP Seal , K-Commander® Conical Tracker & K-AllShelter® Covers
Product Category:	Conveyor Skirting & Transfer Conveyor Belt Tracking Covers & Enclosures
Location:	New Zealand
Conveyed Materials:	Gypsum Rock
Belt Width Prod. Capacity:	1200mm / 750mm / 650mm Varies 1000 / 300 / 100 / 10
Installation Date:	Feb - October 2022

OVERVIEW:

Our client leads the way in the marketing and manufacture of gypsum plasterboard / building products. [PW Engineering](#) were subcontracted to provide the intake and plant feeding conveyor system by an International Supplier who had the primary contract for the new gypsum manufacturing plant in New Zealand. The new plant was recently commissioned in June 2023.

The nature of bulk materials handling operations means dust and spillage problems are inevitable. Likewise, conveyor belt misalignment is also often considered the root cause of most common conveyor problems and the leading cause of conveyor shutdowns.

During the initial design phase, PW Engineering collaborated with [Russet](#) to factor in the installation of a top-notch / targeted belt misalignment and dust solution for the new plant. Installing a belt tracking and dust suppression solution right from the plant's inception was necessary to prevent unwanted productivity interruptions and downtime when dealing with the transport of bulk materials along the conveyor stream. The client highlighted some key criteria for the targeted solution:

1. Conveyor reliability and safety at the core.
2. Fit for purpose belt tracking and dust / spillage solution.
3. Industry best practice conveyor components / equipment.

Kinder, an innovative global conveyor components provider with nearly 40 years of industry knowledge and a line-up of high-performance belt tracking / dust containment solutions was ready to take up the challenge. The proven solution once installed will mean the operator will be less exposed to the most common conveyor problems. Costly maintenance cleaning up costs can be avoided, and worker safety hazards won't be comprised.

SOLUTION: Conveyor Skirting & Transfer

As part of the targeted dust / spillage solution, the design included Kinder's the [Essential SNAP Seal](#), belt support and skirting solution, seven in total within the conveyor system's seven primary load zone areas. Installing [K-Shield Impact Belt Support System](#) onto the biggest conveyor made sense as it was the taking the largest throughput and fullest impact.

For the lower throughput conveyors, the operator opted for the installation of Kinder's side skirting / belt support solution, [K-Containment® Seal](#), [K-Snap-Loc® Dust Seal](#) and [K-Sure® Belt Support System](#) with a rolling element.



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SOLUTION: Conveyor Belt Tracking

Reliability was a major consideration for selecting and installing Kinder's K-Commander® Conical Tracker. Without a suitable belt tracking solution, the belt will fail to track properly, there is also potential for conveyor structural damage and reduced service life of the belt.

To elaborate, the intake conveyor is 260m long, including a 100m incline section. The last 100m uses a tripper car to discharge the gypsum into the storage hall via a dual chute, which requires lifting the belt anywhere along this length.

There was not a lot of room between the chutes as space was at a premium. Traditional trough trackers with side rollers would not allow the belt to lift as required, and many other conical style trackers have outer supports that are too wide to fit inside the tripper frame and chute.

PW Engineering didn't want to risk leaving the belt untracked over this length, particularly as it is picked up and put back down by the tripper at a variable location. In this instance, K-Commander® Conical Trackers were the perfect fit, six K-Commander® Conical Trackers were easily bolted into place and fitted nicely between the chutes.



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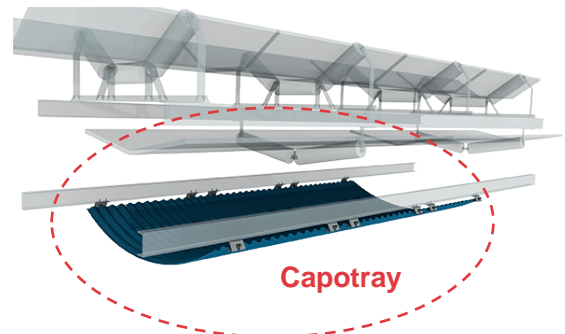


SOLUTION: Conveyor Covers

With conveyor safety also at the core a total of 575 metres of [K-AllShelter® Conveyor Covers](#) was installed as an effective way of reducing dust emissions from the conveyor system.

The conveyor covers also are highly effective in providing a physical barrier and protecting maintenance staff from the health risks of uncontained dust, reducing the environmental impact of dust emissions, as well as keeping conveyed product dry from rain.

535 metres of Capotray was also installed in conveyor areas over a certain height, where falling debris can lead to serious worker injuries if not contained.



RESULTS:



Reliability



Productivity



Safety

The collaboration between [Kinder Australia](#), [Russet](#) and [PW Engineering](#) to deliver the belt tracking / dust control solution to the client overall has been well planned, designed and installed. Initial reports from client's maintenance and management teams have all been very positive.

Keeping the belt correctly tracked along the tripper path will elevate the overall reliability of the conveying process. Thanks to the K-Commander® Conical Tracker, proprietary designed and engineered by Kinder, conveyor reliability is assured.

The belt tracking / dust control solution from the onset will contribute to saving the operator time and money by more effectively managing resources and ultimately avoidance of costly productivity shutdowns, which can erode the operator's bottom line.