

Case Study – K-Sure® Belt Support & K-Snap-Loc® Dust Seal System

Kinder Australia Product:	K-Sure® Belt Support System & K-Snap-Loc® Dust Seal System
Product Category:	Conveyor Skirting & Transfer
Location:	Toowoomba QLD
Conveyed Materials:	Blended Fertiliser Materials
Conveyor Belt Width / Speed:	700mm Belt Width / 1m/sec
Rate:	5000 tonnes per season
Installation Date:	January 2022

CHALLENGE:

- Corrosive rust present and damaging idler frames.
- Target belt edge sag between idlers.
- Fix material spillage and product loss.
- Escalating maintenance/housekeeping costs due to OHS hazards.

Our client is a leading supplier of fertiliser blended products, servicing primarily the Agricultural sector within Toowoomba and surrounding regions. Their core business relies on various material blends such as Phosphate and Calcium being processed and mixed in the plant's hopper, the finished fertiliser product is then bagged and ready for shipping to nearby retail outlets.

Steel idler frames with plain rubber soft skirting was mostly used as the plant's primary line of support within the transfer point areas. It was clear from site inspections high humidity environment and atmosphere generated within the hopper from blended materials was a key contributor to significant rust and corrosion damaging critical plant and equipment.

Corrosive rust present on the idler frames was so severe the frames were ready to collapse, the potential to cause production havoc and short-term shutdowns was a constant concern for the operator. Belt sag between the idlers was also identified as a key area for rectification. The material being loaded was not adequately supported. This caused skirting to lift away from the belt line resulting in major spillage and product loss. 1 tonne of product each season was written off, plus additional maintenance and cleaning up costs was factored in to remove material spillage.

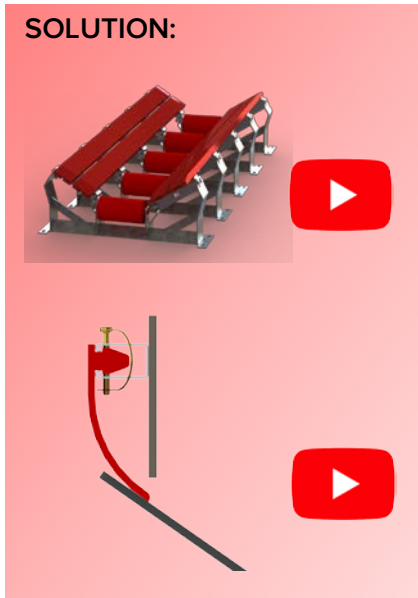
From an OHS perspective, the combination of humidity and conveyed material spillage led to a toxic and dangerous work environment with false floors posing a major slipping and tripping hazard.



Photos: The presence of corrosive rust caused conveyor componentry damage; idler frames were on the verge of collapse (Top). After Installation of K-Sure® & K-Snap-Loc® (Bottom).

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SOLUTION:



Kinder Field Applications Specialist conducted a thorough audit and recommended Kinder's conveyor belt support and skirting solution to tackle the plant's belt sag and material spillage challenges.

K-Sure® Belt Support System was very easy to set-up and tune to the belt's existing profile. Stainless steel idlers were installed together with the K-Sure® Belt Support System to deliver solid belt support where it was most needed. The installation of stainless steel (SS-304 grade) idler frames and brackets also part of the solution ensured the issues of corrosion/rust and conveyor componentry damage won't be a concern in the foreseeable future.

K-Snap-Loc® Dust Seal, skirting system was installed specifically to address material spillage and spiralling product loss. Once the K-Snap-Loc®'s mounting system was welded into place, the soft skirt was hassle free to fit.

RESULTS:

- *Material spillage slashed from 1 tonne to 1/2kg per season.*
- *Product loss and cleaning up costs contained.*
- *Overwhelming positive feedback and excellent product performance.*
- *Potential to upgrade other areas of the plant.*

The operator has only positive feedback to report, the targeted area of the plant is now running cost-effectively at full capacity and problem free.

Previously, material spillage of approximately 1 tonne per season was calculated as lost, after Kinder's conveyor belt support and skirting installation, this spillage is now reduced to 1/2kg.

"Kinder's applications have absolutely delivered, we will be working with them again for future plant upgrades", Site Manager reports.



Photos:

After installing K-Sure® Belt Support System (L) & K-Snap-Loc® Dust Seal System (R).