Case Study – K-Flexal® Elastic Belt Support System

Kinder Australia Product:	**K-Flexal® Elastic Belt Support System**
Product Category:	Conveyor Skirting & Transfer
Location:	International
Conveyed Materials:	Coal & Iron Ore
Conveyor Belt Width:	1800BW
Production Capacity:	3m / sec, 1200 tonnes / hr, material size 0 < 100mm, fall height 3m
Installation Date:	2017

CHALLENGE:

- *Continued conveyor belt damage causing premature roller destruction and failures.*
- *Escalating belt repair and replacement costs.*
- *Maintenance resources and costs allocated towards frequent belt replacement and repairs.*

ABOVE
Successful K-Flexal® installation Photo.

The client's core business is driven by its vision to produce safe and sustainable steel to market. Today they are the world's leading supplier of high-quality steel products.

With extensive conveyor systems running concurrently across all their operations, the conveyor located along a ship out-loading dock in the port of Gent, Belgium became the focus for this trial of K-Flexal® Elastic Belt Support System.

At this operation, coal or ore is typically unloaded using a crane with clamshell, the process dumps coal or ore into a mobile hopper. A belt lift system on the conveyor ensures the correct receival of the hopper along the conveyor belt.

Operating at 1200 tonnes per hour, the abrasive properties of Coal and Iron Ore and a fall height of 3 meters was observed to be delivering high impact shocks, this was the leading contributor to belt damage and gradual roller failures.

The maintenance team also reported the garlands were heavy and their frequent replacement was time consuming, tedious and costly to their operation.

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SOLUTION:

In 2017, it was proposed the site install the innovative elastic belt support system to address the operations significant belt and roller damage issues.

K-Flexal® Elastic Belt Support System was installed and has effectively solved these problems by providing elasticity to absorb shock and the full force of the impacts. A team of Engineers also designed special hanging supports to support the polyurethane elastic straps.

RESULTS:

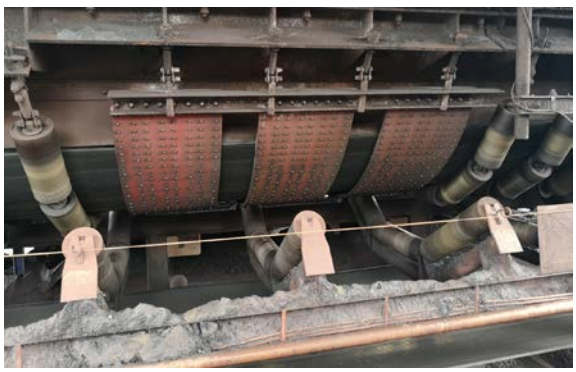
- *Product performance expectations exceeded.*
- *Protection and service life of belt and rollers extended.*
- *Effective sealing.*
- *Reduction in belt maintenance and repair costs.*

Client feedback points to successful installation, K-Flexal® Elastic Belt Support System continues to be highly effective in providing complete belt support at critical points. K-Flexal® cross belt polyurethane elastic straps absorb the brunt of the impact, protecting the belt and leaving it intact, thereby extending its service life and that of the rollers. Maintenance teams were also quick to report improvements in sealing, with no obvious signs of dust adhering to the back of the straps.

After two years of service, the client has reported positive outcomes from the installation. K-Flexal® Elastic Belt Support System continues to deliver superior belt protection, support and extends the wear life of critical conveyor components. There are initial plans to equip other parts of the operation with K-Flexal® straps of greater length and capacities.

BEFORE

AFTER



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