CASE STUDY: K-Sure® Belt Support System

Kinder Australia product:	K-Sure® Belt Support System
Kinder Australia product category:	Conveyor Belt Support
Location:	Ormeau, Queensland
Conveyed materials:	Crushed Greywacke
Conveyor belt width:	750mm
Installation date:	October 2015

Previous problem:

Above: customer site
Below: 3D drawing of K-Sure® Belt Support

Our customer's site has a production capacity of approximately 400,000 tonnes per annum. Its location in the Gold Coast is situated in a large zone of meta-greywacke, handling an application with gritty characteristics. The quarry manager had identified 2 key problems:

1. The weight pressure of transferred material load was causing the **conveyor belt to sag in between the supporting rollers.** Belt edge sag allows the material to spill through the gaps that appear between the skirting and the belt, and as well as creating spillage. Smaller rocks have the potential to get caught between the belt and the skirting, causing premature groove lines in the belt's top cover. Tears and blockages will occur if fines are not identified and removed.

2. The impact of the material causes a **dust problem requiring constant deployment of labour resources** to clear up the dust creating a physical manual labour OHS issue as well as an environmental air pollution issue.

A resolution was required to suit a **confined access space** around the chute.

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Kinder Australia Pty Ltd

26 Canterbury Road, Braeside VIC 3195
PO Box 1026, Braeside VIC 3195

☎ +61 3 8587 9111
+61 3 8587 9101

conveyorsolutions@kinder.com.au
ABN: 28 006 489 238

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Resolution:

K-Sure® Belt Support
Key features and benefits:

- Eliminates belt edge sag.
- Increases the effectiveness of the skirting seal, providing dust control.
- Eliminates the need for clean-up resources.
- Retrofit requiring no pre-engineering, adjustments of special tools.
- Removes the presence of moving parts that would need replacing in the future.
- Suitable for all belt widths and trough angles
- Available in fire retardant and fire resistant anti-static formulas (FRAS)
- Less stoppages and resources required for clean-up associated tasks.

Kinder Australia recommended the installation of the **K-Sure® Belt Support to fix the problem of belt sag**. This belt support system is designed to provide even and consistent support under the belt, utilising low friction UHMWPE sliding surface bars instead of rollers. Also, with **no moving parts that would wear in the future**, this solution will remove the need to change rollers in the awkward space.

Kinder Australia then recommended the installation of the double layered **K-Ultra Dual® Seal** to trap the dust particles effectively. Mounted using shallow clamps it is ideal for this confined access location. This skirt works by utilising an interior wear resistant layer of polyurethane (longer lasting than rubber skirting), but it also has an outer anti-dust integral moulding that can adapt to belt vibration and **maintain the correct pressure** to effectively seal the belt.

Right: Images taken of K-Sure® Belt Support after installation

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