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BULKEX21:

Keeping your conveyors running

Keeping your conveyors running

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40 years experience in bulk material handling industries

Worked in the UK and overseas

10 years working with the MHEA

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Qualified to offer an opinion

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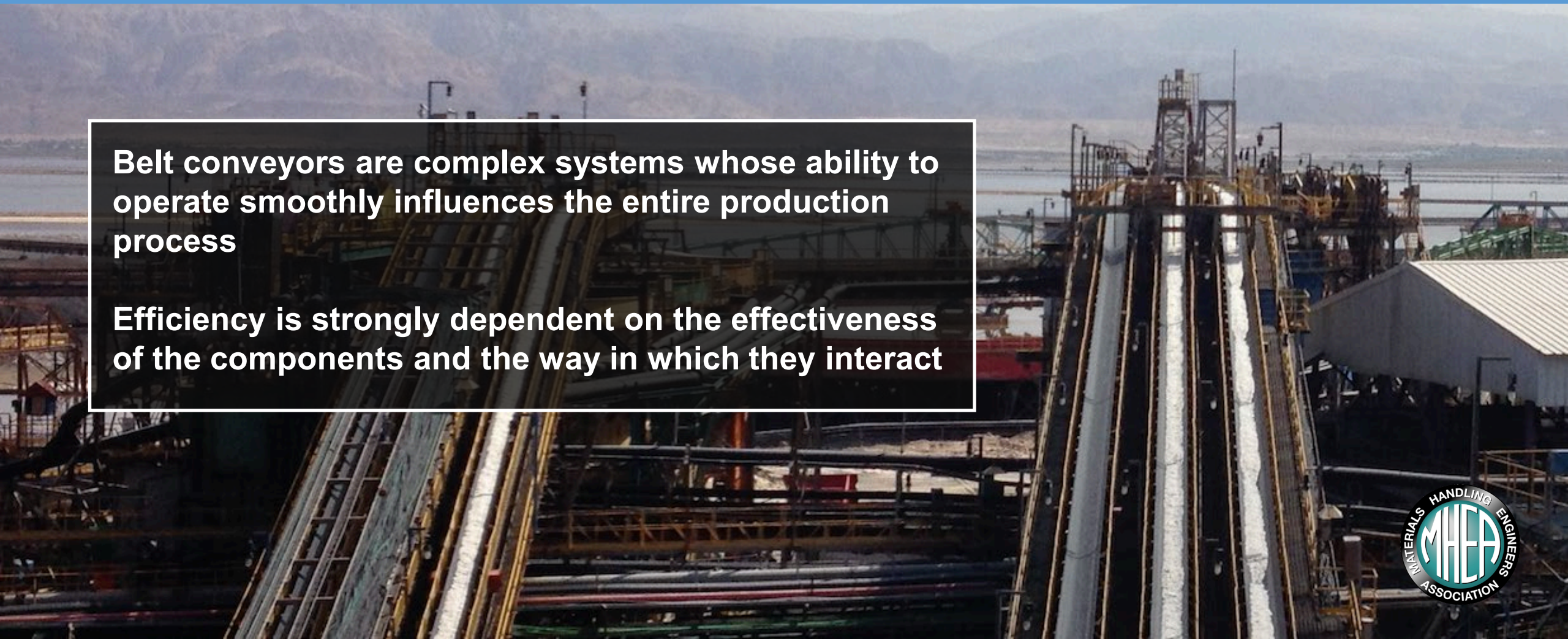
Belt Conveyors



Belt conveyors are complex systems whose ability to operate smoothly influences the entire production process

Efficiency is strongly dependent on the effectiveness of the components and the way in which they interact

Conveyor problem areas: Around and under idlers

Conveyor problem areas: Belt mistracking

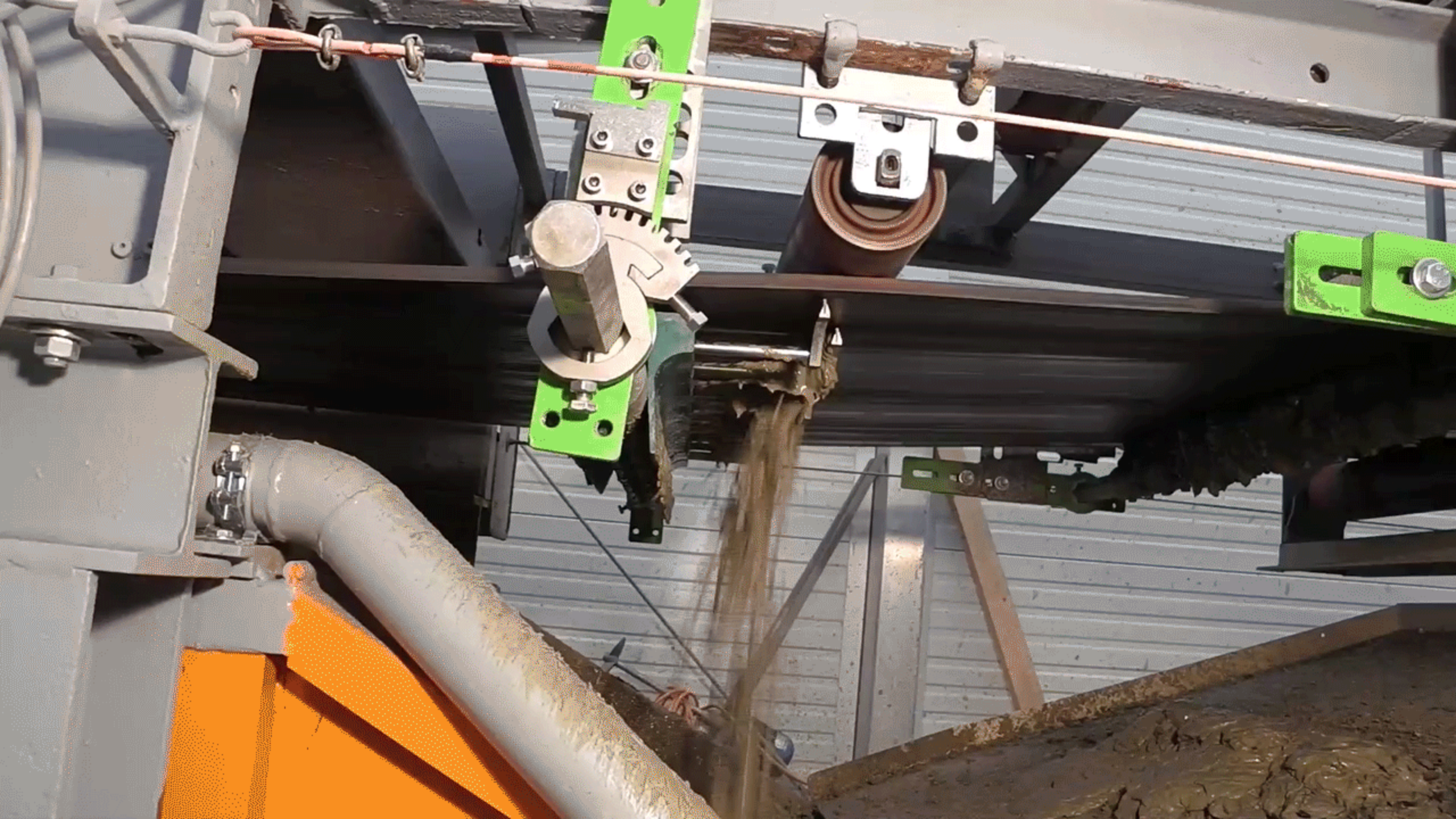
Conveyor problem areas: Transfer point

The importance of

Belt cleaning

Belt tracking / steering

Transfer point sealing



Belt cleaning: The problem with Carryback

Carryback calculation: Sample

Material layer thickness of 0.1mm

On a 1200mm wide conveyor

Travelling at a speed of 3m/s

Falling onto the floor

Resulting in a material loss of:

10m³ in an 8-hour day

Consequences of inefficient belt cleaning

Material loss

Clean up costs

Premature component wear

Carryback costs money

Scoping the conveyor

Cannot do this over the telephone

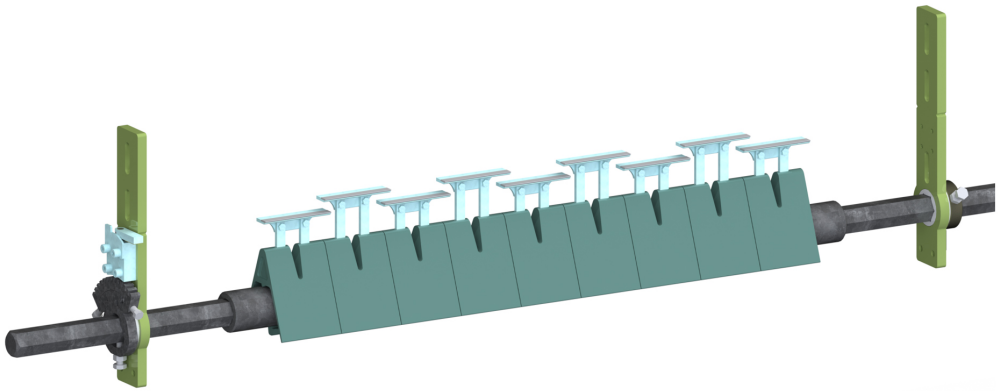
Walk the belt

Looking and listening

Analyse:

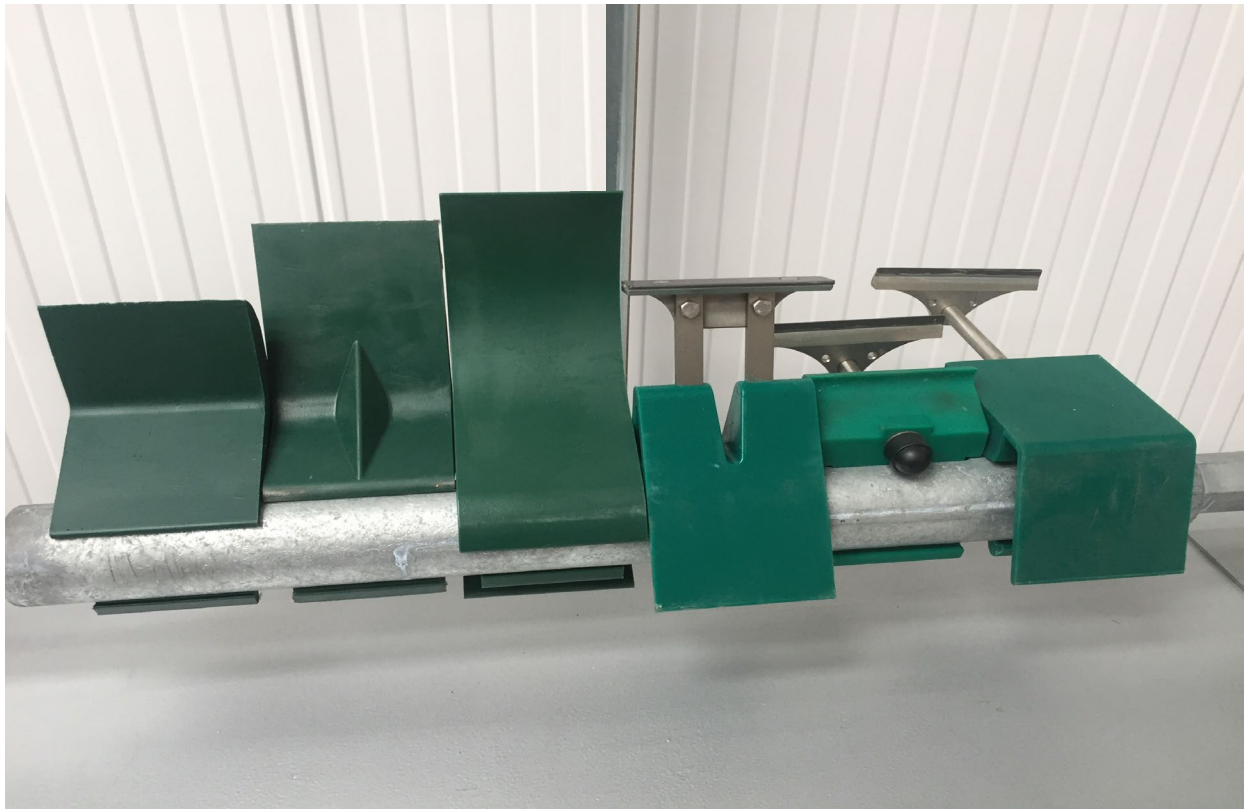
- Type of material
- Tonnage
- Speed of belt
- Length and width of belt
- Belt condition
- The splice
- Single direction or reversible
- Misalignment
- Customer expectations

Effective belt scrapers: Design features



1. Modular
2. Simplicity
3. Easy maintenance
4. Overlapping blades
5. Constant contact
6. Deflection

Effective belt scrapers – modular design



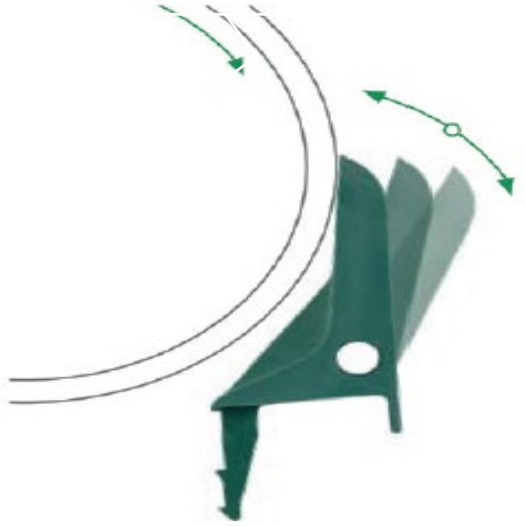
Effective belt scrapers –
Simplicity, easy maintenance and overlapping blades

Effective belt scrapers – Constant contact

Elastic deformation:

The blade stores energy by physically changing shape under the load creating by the torsion from the tensioning device.

Equivalent to roughly 40mm of displacement



Therefore a nominal 10kg of pressure is being spread over 40mm of wear

Effective belt scrapers – Deflection

Scraper selection. The variables

Keep the belt aligned

Effectively sealing the belt will stop spillage and dust

Sealing system should adjust to match profile of the belt

Shouldn’t impact the longevity of the belt

Needs to be quick, simple and safe to adjust

In summary

Belt cleaning

Belt tracking / steering

Transfer point sealing

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