

Addressing Transfer Point Challenges

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Agenda

- Introduction
- About Transfer Points
- Transfer Point Issues
- FOD – What is it and why is it important?
- Transfer Point Solutions – Pros and Cons
- Case Study
- Q&A

About Me

- Todd Stewart
- Almost 30 years with Flexco
- My past roles
- My current role



Transfer Points

- What are transfer points?
- What types are out there?
 - Belt to Belt
 - Belt to Roller
 - Belt to Chute/Slide
 - Hitch Conveyor

Top Three Transfer Point Issues

- Smaller conveyed parcels, such as garment shipping bags, get lodged in the transfer damaging the product contained as well as conveyor components
- Debris becoming lodged in the transfer
- Conveyor belt and components becoming damaged by debris lodged in the transfer

What is FOD?

- FOD stands for foreign object debris.

Types of FOD

- Screws, nuts, bolts
- Assembled product components
- Other conveyable items that break free from package

Damage caused by FOD:

- Damage to a transfer plate
- Belt Rips
- Belt gouges
- Belt tears/cuts
- Package damage



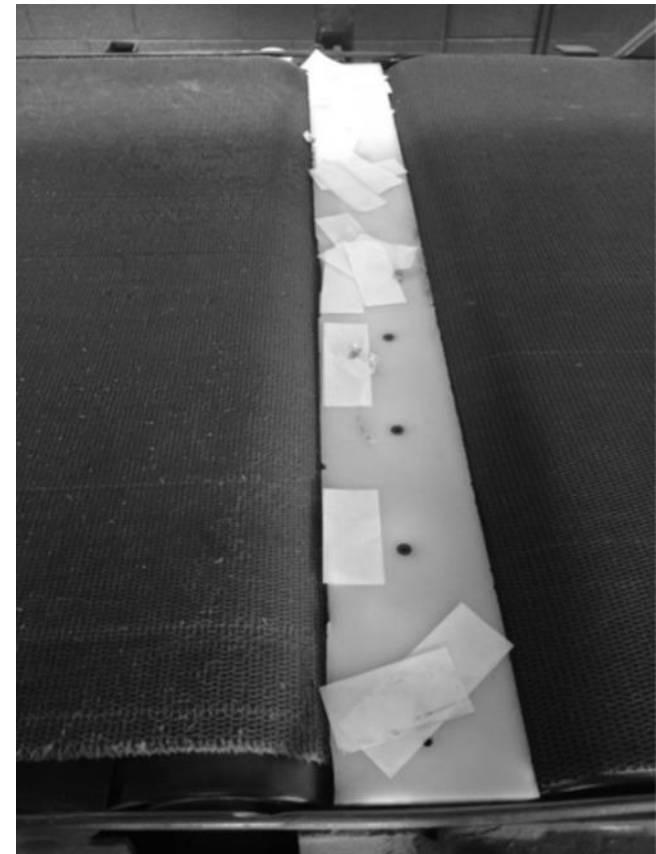
Solution: Transfer Plates

Transfer plates (T-plates) are installed to bridge the gap between two belted conveyors, between a conveyor and a chute/slide, or between a conveyor and a roller bed conveyor (live roller or gravity roller). The primary purpose is to provide a smooth transition of product across the transfer areas. The secondary purpose is to protect packages, belt, and conveyor components from potential damage caused by FOD.



Types of Transfer Plates: UHMW Plated

- Pros
 - Static mounted to angle iron
 - Beveled edges
 - Custom cut/fit to each transfer
 - Generally set with a 1/8" clearance
 - Generally safe for mechanical splice
 - Perceived as in-expensive
- Cons
 - Debris gets caught in t-plate damaging belt or conveyed packages
 - Warps and wears over time
 - Installation time can reach up to 3 hours
 - Hand fabricated



Types of Transfer Plates: Belting & Metal Plate

- Pros
 - Standard belting material
 - Angle iron base with steel plate cap
 - Angle iron welded in place
 - Considered low cost
- Cons
 - Traps FOD
 - Allows FOD into transfer
 - Allows smaller packages and shipping bags to go into transfer
 - Short running life



Types of Transfer Plates: Pop-out Roller

- Pros
 - Lower Friction
 - Pops out for safety
 - Generally safe for mechanical splice
- Cons
 - Frequent pop outs – leaves open transfer
 - Louder
 - Bearing wear and seizure
 - Tape, straps, etc. can get wrapped around roller



Types of Transfer Plates: Inverted Brush

- Pros
 - Static mounted
 - Lower friction
 - Inexpensive
 - Generally safe for mechanical splice
- Cons
 - Catches and holds FOD
 - Wears belt
 - Short run life



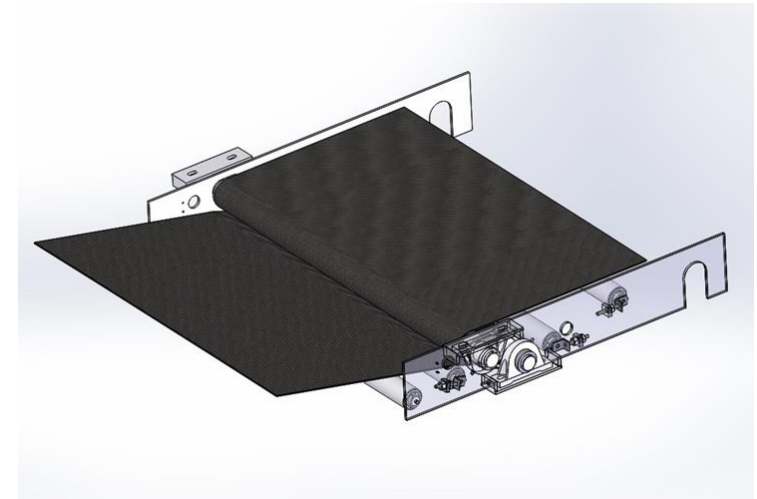
Types of Transfer Plates: Segmented Transfer Plate

- Pros
 - Long service life
 - Simple installation
 - Eliminates belt, splice, and product damage
 - Span size configurability
 - Safe for mechanical belt splice
 - Weld in place or bolt in place
- Cons
 - Newer technology that industry is just becoming aware of



Hitch Conveyor

A hitch conveyor is one that changes elevation, either from a horizontal to an incline or from a decline to a horizontal, utilizing a single drive system. A hitch is created at the transition point between the two conveyor sections.



Types of Hitch Protectors: Floating Block

- Pros
 - Single UHMW trapezoidal shape
 - UHMW generally has angle iron bolted to bottom for stiffness
 - “floating” installation held in place by installed blocks
 - Generally safe for mechanical splice
- Cons
 - Pops out too easy
 - Allows FOD into hitch
 - Allows smaller packages and shipping bags to go into hitch



Types of Hitch Protectors: Simple Metal Guard (OEM)

- Pros
 - Metal angle iron
 - Welded in place or bolt in place
 - Low cost
- Cons
 - Traps FOD
 - Allows FOD into hitch
 - Allows smaller packages and shipping bags to go into hitch
 - Can damage belt
 - Can damage belt splice



Types of Hitch Protectors: Segmented

- Pros
 - Long service life
 - Simple installation
 - Eliminates belt, splice, and product damage
 - Individual segments can raise or release
 - Safe with mechanical splices
- Cons
 - Newer technology that industry is just becoming aware of



Case Study

- 300 transfer related issues daily
- Shipping envelopes and small parcels
- Installation of Segmented Transfer Plate
- Massive decrease in issues

Types of Transfer Plates: No Transfer

- Pros
 - No added expense at installation
 - Safe for mechanical splice
 - Quiet running
- Cons
 - Small packages get lodged into open transfer
 - Metered packages get temporarily stuck in transfer
 - Totes could tip
 - Could be considered less safe for workers



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