Flat-Flex® Conveyor Belting

12 Potential Causes of Downtime Related to Conveyor Belting

By their very nature, all conveyor belts have a finite life, including metal belts. However, it is a fact that the majority of conveyor belts do not wear out or "use up" their life. Most belts, if they actually do fail during use in a production environment, fail because of factors not related to strength, belt life, or robustness of the belt. They usually fail for one or more of the reasons outlined below. These failures result in critical downtime, which equates to lost opportunity, lost production and lost profits. We have listed 12 of the most common issues that have been found to be the culprit in conveyor and/or belting breakdown situations. They are listed in reverse order with number 12 being the least common, and number 1 being the most common.

12. No spare belt – A spare belt should always be available close to the point of use in order to be prepared for the unexpected. It is a false economy not to carry spare belting or to make arrangements for rapid availability. The Wire Belt Company has a number of solutions to the costly cause of downtime.

11. Installing the belt "backwards" – The single or double loop edges on the belt should curve back and away from the direction of belt travel. If the belt is installed backwards, the loops can catch (for example clothing) and cause accidents.

10. Belt installed and run "upside down" - There is a smooth ("top") side to Flat-Flex belts and an "underside" where the Z-bends form a distinct "ridge". The smooth side should always be "up" for the belt to run properly.

9. Using the wrong mesh belt for the current application - Products and processes change over the years. The conveyor and belt that were designed for a specific product and process several years ago may no longer be appropriate or heavy duty enough for the demands of the current application. The impact of product loading and belt speed on belt life needs to be re-evaluated on an on-going basis.

8. Drive sprockets out of alignment - The drive sprocket teeth must be perfectly aligned so that they all pull together smoothly to avoid "stress overload" on individual wire strands. (Using a "Keyed" drive shaft eliminates the need to manually align the sprocket teeth.)

7. Installing the wrong drive sprockets - Substituting other commercially available spur gears and sprockets will cause belt climbing and snapping. Only Flat-Flex sprockets purchased from Wire Belt Company are specifically designed to fit and pull the belt properly.

6. Transfer or reverse bend radii too small - This causes unnecessary stress in the Z-bends.

5. Worn out or damaged drive components - Worn drive sprockets, idler sprockets, or blanks, can cause a belt to skip, drift side to side or slip on a conveyor circuit. All of these conditions will cause either premature wear or induce work hardening in the individual wire strands leading to broken wires and downtime.

4. Improper clearance between belt joints ("Z-bends") and drive sprockets, blanks, grooved end rollers and/or wear strip - The Z-bends should never make contact with any conveyor component. A minimum 5mm clearance is required. There also needs to be sufficient clearance between the Z-bends on the underside of the belt and the bottom of the grooves in the transfer rollers. The belt joints on the underside of the belt running over any portion of the wear strips will produce wear and fatigue failure.

NOTE; Hygiene and maintenance teams should be properly trained to ensure that clearances are still in place after cleaning or servicing equipment

3. Too much tension on the belt - Flat-Flex is a low-tension system. You only need to use enough tension to engage the drive sprockets correctly. (Too much tension literally pulls the belt apart).

2. Accidents to the conveyor machinery and belt - Accidents can and should be minimised, through establishment of standardised maintenance checklists and proper training of maintenance personnel.

1. Poor or incomplete splicing - Getting the splice right is not only difficult but time consuming. Many splices are made in haste; often they're put together "on-the-fly" immediately following a breakdown. The unfortunate result is that nearly 90% of breakages during production occur at the splice.

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