

Belt Conveyors in Industry: How to ensure safety

DE Brown November 18, 2015



Conveyors are vital in industries as they are undoubtedly one of the simplest of machines for assembly, transferring of parts and general automation without any form of manual interference.

([Newswire.net](#) -- November 18, 2015) -- Their usefulness notwithstanding, conveyors are the most guilty when it comes to worker injuries. Engineering writer James @ [Newswire](#) spoke with [Conveyor Systems Ltd a Belt Conveyor specialist](#) who told us about the parts of conveyors that lead to the most injuries and actions to be taken to ensure [worker safety](#). So let us take a look at what they said.

The nip point

The [nip points are most guilty](#) when it comes to hazards associated with conveyors. They are dangerous as they can easily draw in clothing, hair, tools and limbs. This is especially the case for high powered and high speed conveyors. To avoid this, the two directions of travel of the nip points must be fully guarded.

Transmission components

Couplings, tensioners and transmission components pose hazards to workers. The moving edge of the conveyor belt can be a hazard. In white goods and automotive industries where conveyors typically run overhead, workers must be adequately protected against falling or ejected objects.

What are the appropriate safeguards to use?

Depending on level of need for access, fixed guards or movable guards are often most useful in combating most hazards. With long conveyors dealing with large numbers however, it is often not possible to interlock all movable parts. In this sort of condition, the industry will be best served deploying isolation procedures, safe working practices and rope-operated emergency controls.

In many industries, welded wire mesh is the material of choice for guarding conveyors. Sheet metals are used for power transmission components, couplings and conveyors that pose a risk of parts being ejected onto or towards workers. [Clear polycarbonate](#) is the sheet metal of choice as seen in most food, drink and pharmaceutical industries.

A physical perimeter fencing that denies access to the belt conveyors is simpler and more cost effective to use in some cases. In such situations, suitable access control systems for use during cleaning and maintenance and loading and unloading of parts and assemblies are put in place. In some cases, light barriers or safety mats are engineered to immediately stop the conveyor as soon as an individual ventures too close to the danger area.

Guarding meant to protect workers from objects falling off overhead conveyors need to be designed to withstand high forces. While polycarbonate may be ideal for the food industry, steel channel and heavy-duty expanded metals are the best for heavier industries like the automotive industry.

During installation of guarding, care needs to be taken to ensure that new hazards are not introduced into the environment. Similarly, it is easy to compromise the overall efficiency of the plant. This is why managers and workers must be part and parcel of the guarding design process. During the design, considerations should be made for remote grease points (which will allow conveyor to be lubricated without dismantling of guards) and externally controlled belt alignment mechanisms. Rodding access points can be added to the design so that routine cleaning and clearing of spillages can occur without disturbing the guarding setup.

The effectiveness of the guarding may not be fully optimised however, without proper employee education, training, deployment of power lock-offs and effective supervision.

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