

Recommended Industry Safety Practice

An ISRI Safety Council Recommendation
Adopted by ISRI Board on April 7, 2008

Conveyors

Introduction

Conveyors pose a wide range of potential risks during normal operation, both to the operator of the equipment it serves and to others nearby. Severe, even fatal, injury is likely when a person comes in contact with any of a conveyor's moving parts.

Primary Hazards

Nip points
Protruding metal
Flying/falling objects

Primary Safety Solutions

Pre-startup safety precautions
Machine guarding
Effective emergency shut-down
Lock-out/Tag-out procedures
Safe work practices
Pre-operation inspection
Personal protective equipment
Installation of effective interlocks
Employee training

Pre-Startup Safety Precautions

The conveyor operator must be fully aware of the equipment's surroundings before initiating startup. All personnel must be accounted for, and verified to be out of harm's way. Visual and audible alarms must be sounded prior to startup, and the alarms must give adequate warning to allow someone who might have wandered into danger to remove himself from danger.

Machine Guarding

All rollers, pulleys, rotating shafts, pinch points, nip points and other moving guards must be guarded in such a way that contact with such parts is physically impossible, when such

*** Disclaimer – Recommended Industry Safety Practices (RISP's) are simply practices recommended by the ISRI Safety Council. They are not necessarily the only practices either necessary, or appropriate, with respect to the applicable equipment, activity or operation. These recommended practices are designed to serve as guidelines for members, for their consideration as appropriate, and not intended to replace OSHA requirements, manufacturers' specifications, or either company- or facility-specific requirements, practices or guidelines ***

parts are less than 7 feet above a walking or working surface. (NOTE: The allowable height measurement is made from the nearest working surface, not from the ground. For example, if a conveyor pulley is 15 feet above the ground, yet only six feet above the tread of a stairway, it must still be guarded.) Under no circumstances may a conveyor be operated when any element of the machine guarding is either missing or damaged in a way that compromises its effectiveness.

Emergency Shut-Down

Every conveyor must be equipped with a single-action emergency shut-down mechanism, the activation of which will immediately stop all movement of the pulleys, rollers and belts. ISRI recommends that such emergency shut-off devices be readily accessible from any point along the length of the conveyor, and not require movement to a specific button for activation.

Lock-Out/Tag-Out Procedures

Strict adherence to lock-out/tag-out protocols must be enforced whenever a machine guard is removed, or when maintenance work is being performed.

Safe Work Practices

A common mechanism of injury involves loose clothing being snagged by moving machinery parts, which then pull the worker into the machinery. Loose clothing or jewelry is prohibited for wear within 6 feet of a conveyor, unless the conveyor is shut down and locked out.

Workers must never touch a moving conveyor belt.

Workers must never reach across a moving conveyor belt.

Workers must never pass under an unguarded conveyor. Even when a guard is in place, ISRI believes that a significant impact hazard still exists from materials falling from the conveyor, and therefore recommends that workers never pass under any working conveyor, irrespective of whether or not a guard is in place.

Workers must never stand or walk upon a conveyor belt unless the conveyor mechanism is shut down and locked out.

Workers must never be beyond the reach of the emergency stop mechanism.

Workers must remain vigilant of the movement of others, and shut the conveyor down when anyone wanders into danger.

Workers must never exceed a conveyor's load capacity.

*** Disclaimer – Recommended Industry Safety Practices (RISP's) are simply practices recommended by the ISRI Safety Council. They are not necessarily the only practices either necessary, or appropriate, with respect to the applicable equipment, activity or operation. These recommended practices are designed to serve as guidelines for members, for their consideration as appropriate, and not intended to replace OSHA requirements, manufacturers' specifications, or either company- or facility-specific requirements, practices or guidelines ***

Pre-Operation Inspection

At the beginning of each shift, and periodically thereafter as necessary, the conveyor and its surrounding area must be inspected for hazards, and where hazards exist, they must remove them. At a minimum, this pre-operation inspection should insure that:

- The loading/unloading areas are free of slipping and tripping hazards;
- Emergency stops and all other controls and safety devices are working properly;
- No one is working under the conveyor;
- No one is working within the fall zone around the conveyor;
- The conveyor belt itself is free from tears;
- No material is caught between the belt and the rollers.

Personal Protective Equipment

At a minimum, employees working near conveyors in a scrap processing environment must wear the following protective gear:

- Hard hat;
- Eye/face protection suitable to the hazard;
- Well-fitting cut-resistant gloves

Where unique hazards may exist, each employer must evaluate the need for additional personal protective equipment.

Employee Training

Prior to being exposed to the potential hazards posed by conveyors, employees must be trained on the specific safety requirements of their positions (see above). The training must be presented in a language they understand, and the effectiveness of the training should be affirmed through some combination of apprenticeship, observation and on-the-job reinforcement.

