

# **Conveyors – Hidden Hazards**

Student Materials MTI Level Two Compliance Course Consultation Education and Training Division Michigan Occupational Safety and Health Administration Michigan Department of Labor and Economic Opportunity www.michigan.gov/miosha 517-284-7720





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# Vertical vs. Horizontal Standards (continued)

- When a hazard is covered by both a vertical and a horizontal standard, the vertical standard shall take precedence even if the horizontal standard is more stringent.
- When a hazard is covered by both a horizontal (general) and vertical (specific) standard where the horizontal standard appears to offer greater protection, the horizontal (general) standard may be cited only if its requirements are not inconsistent or in conflict with the requirements of the vertical (specific) standard.













"**Aisle**" a path of travel for vehicles <u>and</u> employees.









"**Conveyor**" a horizontal, inclined or vertical device for moving or transporting bulk materials, packages or objects in a predetermined path by design and having points of loading or discharge fixed or selective.















fixtures or other means advances material in a horizontal plane.





"Live roller conveyor" a series of rollers over which objects are moved by application of power to some or all of the rollers.





























"Slat conveyor" one or more endless chains to which <u>non-overlapping</u>, <u>non-interlocking</u>, spaced slats are attached to form a moving support for packages or objects being conveyed.























Rule 408.11412 (2) Lubrication must comply with General Industry Safety Standard Part 7, Guards for Power Transmission



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## Rule 408.1422 (2)

A counterweight and its pulleys suspended more than seven feet above the floor or ground, in an area where an employee could walk, shall have an enclosure around the area of impact or a catch pan under the counterweight of such strength and design to hold the counterweight and pulley from dropping to the ground, floor, or platform.












### Rule 408.11424 (2)

A <u>power</u> operated section for employee passage shall be provided with a mechanical safety device which shall prevent the section from falling in case of power failure.











A crossover must be in compliance with General Industry Safety and Health Standard Part 2, Walking-Working Surfaces

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# Rule 408.11426 (2) Rule 408.11426 (3)

A maintenance walkway shall be not less than 18 inches wide where it runs along a conveyor.

A walkway along a conveyor in a pit or tunnel shall have illumination of at least ten foot candles when an employee is required to work in an area.









A conveyor capable of adjustment to variable fixed elevations shall be equipped with a locking device to hold the conveyor at any altitude where failure to hold would create a hazard to an employee.



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A belt tripper, with or without an operator, shall be equipped with a safety limit switch and a fixed stop to prevent overrun at each end of the runway which shall shut off the power if the tripper moves too close to the end of the runway.



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#### Rule 408.11447 (2) Rule 408.11447 (3) A gasket holding line pressures shall be shielded to prevent a gasket leak from projecting the conveyed material into a work area if the material would cause a hazard. A receiver or storage bin shall be equipped with full bin indicators or controls to prevent overfilling, if overfilling will create a hazard. 117

# Rule 408.11447 (4)

A pneumatic conveyor carrying oxidizable materials shall be designed for hazards, such as but not limited to explosion, fire or corrosion.

# Rule 408.11447 (5)

A pneumatic conveyor serving an area containing contaminated air shall be designed so that the contaminated air cannot be transported to another area.













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#### Rule 408.11451 Slat conveyors





## Rule 408.11451(2)



A slat conveyor with slats more than 1/4 inch but less than one inch apart and moving at floor level or in a work area shall not have any nip point less than four inches below the slats.

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### Rule 408.1461 (2)

Where combustibles, such as, but not limited to, coal or grain, are conveyed or stored, and where a fire caused by slippage between a drive pulley and a belt would create a hazard, the conveyor shall be equipped with a device so adjusted that a 5% loss of full load rated speed of the belt shall shut down the belt drive.

# **Case Studies**

- Students will review slides to determine if a rule violation exists.
- GI Part 14, Conveyors may be used to verify correct rule reference.

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# Conveyors – Hidden Hazards

## **Student Resources**

#### **MIOSHA Standards:**

Part 2. Walking-Working Surfaces
Part 7. Guards for Power Transmission

Part 14. Conveyors

#### **MIOSHA** Publications:

Conveyors - OSC-6045

#### **MIOSHA Training Institute (MTI) Resources:**

www.michigan.gov/mti

#### **MIOSHA Training Calendar:**

www.michigan.gov/mioshatraining

#### **MIOSHA Homepage:**

www.michigan.gov/miosha



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For further information or to request consultation, education and training services call 517-284-7720 or visit our website at www.michigan.gov/miosha

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