

**GI Part 7. Guards for Power Transmission
Detailed Comparison With
29 C.F.R. 1910.219 Mechanical power-transmission apparatus**

Summary: The significant differences between GI Part 7 Guards for Power Transmission and 29 C.F.R. 1910.219 Mechanical power-transmission apparatus are in:

- Discharge or exhaust pipes
- Revolving and reciprocating parts
- Shafts
- Shafting
- Pulley guards and guides
- Pulley condition and operation
- Belt shifters
- Belt poles, perches, and fasteners
- Design
- Construction
- Materials
- Frames
- Disk guards
- Stopping devices
- Machine power disconnects

The comparisons show only those provisions where MIOSHA rules are different than OSHA or where MIOSHA rules are not included in 29 C.F.R.

****means there is a comparable OSHA rule to this paragraph

MIOSHA	OSHA
POWER TRANSMISSION EQUIPMENT	
R 408.10715. Discharge or exhaust pipes. Rule 715. The discharge of an exhaust pipe or boiler blowoff, if exposed to contact, shall be guarded pursuant to R 408.10751 to R 408.10754.	No comparable OSHA provision
R 408.10716. Revolving and reciprocating parts. Rule 716. A revolving or reciprocating part, if exposed to contact, shall be guarded pursuant to R 408.10751 to R 408.10754.	No comparable OSHA provision
R 408.10722. Shafting. Rule 722. (1)**** (2) Horizontal shafting extending over a driveway shall be guarded with a trough guard unless it is located 15 feet or more above the driveway, or is a part of an overhead traveling crane.	Equivalent No comparable OSHA provision

MIOSHA	OSHA
<p>(3) Horizontal transmission shafting exposed to contact under benches shall be guarded in 1 of the following ways:</p> <p>(a) Be completely enclosed.</p> <p>(b) Be guarded by a trough guard. The sides of the trough shall come to the underside of the table or, if the shafting is located near a floor, to the floor.</p> <p>(c) Be guarded on exposed sides with a rigid shield guard extending from the underside of the bench top to 2 inches below the line of shafting</p>	<p>No comparable OSHA provisions</p>
<p>R 408.10725. Pulley guards and guides. Rule 725. (1) to (2)****</p> <p>(3) If there is an overhanging pulley on a line, jack, or countershaft with no bearing between the pulley and the outer end of the shaft, a guide to prevent the belt from running off the pulley shall be provided.</p>	<p>Equivalent</p> <p>1910.219(c)(2)(ii) Shafting under bench machines shall be enclosed by a stationary casing, or by a trough at sides and top or sides and bottom, as location requires. The sides of the trough shall come within at least six (6) inches of the underside of table, or if shafting is located near floor within six (6) inches of floor. In every case the sides of trough shall extend at least two (2) inches beyond the shafting or protuberance.</p>
<p>R 408.10726. Pulley condition and operation. Rule 726. (1)****</p> <p>(2) A pulley subject to active corrosive conditions shall be of corrosion-resisting material.</p> <p>(3) A pulley permanently out of service shall not be allowed to remain on shafting which is in use, unless enclosed with a guard pursuant to R 408.10751 to R 408.10754.</p> <p>(4) A pulley shall not be operated at more than its designed rim speed.</p>	<p>Equivalent</p> <p>No comparable OSHA provision</p>
<p>STARTING AND STOPPING DEVICES</p>	
<p>R 408.10741. Clutches. Rule 741. (1)****</p> <p>(2) On a line shaft the shifting part of a jaw clutch and the shifting or mechanism part of a friction clutch coupling shall be attached to the driven shaft.</p>	<p>Equivalent</p> <p>No comparable OSHA provision</p>
<p>R 408.10743. Belt shifters. Rule 743. (1)****</p> <p>(2) A belt shifter and clutch handle shall be rounded and be located to prevent being exposed to contact, but within easy reach of the operator. If an overhead belt shifter is not directly located over a machine or bench, the handles shall be cut off 7 feet above floor level.</p>	<p>Equivalent</p> <p>No comparable OSHA provision</p>

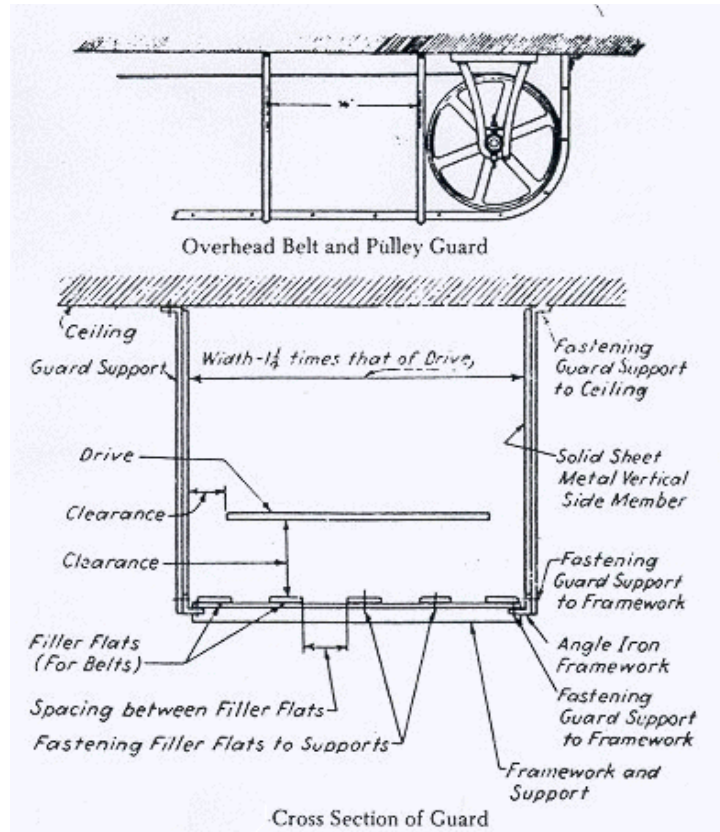
MIOSHA	OSHA
<p>R 408.10744. Belt poles, perches, and fasteners. Rule 744. (1)****</p> <p>(2) Belts shifted by hand shall be glued or fastened with leather lacing.</p>	<p>Equivalent</p> <p>1910.219 (I) Belt shifters, clutches, shippers, poles, perches, and fasteners. (ii) Belt shifter and clutch handles shall be rounded and be located as far as possible from danger of accidental contact, but within easy reach of the operator. Where belt shifters are not directly located over a machine or bench, the handles shall be cut off six feet six inches (6 ft. 6 in.) above floor level.</p>
<p>GUARD DESIGN AND CONSTRUCTION</p>	
<p>R 408.10751. Design. Rule 751. (1) The design of a guard shall take into consideration:</p> <ul style="list-style-type: none"> (a) The nature of protection required of the guard. (b) The possibility of guard failure. (c) The amount of maintenance required on the guard. <p>(2) In a place where it is necessary to change belts, make adjustments or apply oil or grease, a guard may have hinged sections or be of a removable design. A guard shall be closed or replaced after servicing.</p>	<p>No comparable OSHA provision</p>
<p>R 408.10753. Materials. Rule 753. (1) Wood guards may be used if the presence of fumes or if manufacturing conditions cause rapid deterioration of metal guards, in construction work, and in locations outdoors if extreme cold or extreme heat makes metal guards and railings undesirable.</p> <p>(2) Material sizes and clearances shall be pursuant to table A. See Figures 2, 3, and 4.</p> <p>(3) Table A reads as follows:</p>	<p>No comparable OSHA provision</p>

MIOSHA	OSHA																																		
<p>TABLE A STANDARD MATERIALS AND DIMENSIONS FOR MACHINERY GUARDS</p> <p>Size and Clearance of Filler Materials</p> <table border="1"> <thead> <tr> <th>Material</th> <th>Clearance From Moving Part At All Points (Inches)</th> <th>Largest Mesh or Opening Allowable B (Inches)</th> <th>Minimum Gauge (U.S. Standard) Or Thickness</th> </tr> </thead> <tbody> <tr> <td>Woven Wire</td> <td>Under 2 2-4 4-15</td> <td>3/8 1/2 2</td> <td>No. 16-3/4 In. No. 16-1/2 No. 12-2</td> </tr> <tr> <td>Expanded Metal</td> <td>Under 4 4-15</td> <td>1/2 2</td> <td>No. 18-1/2 In. No. 13-2</td> </tr> <tr> <td>Perforated Metal</td> <td>Under 4 4-15</td> <td>1/2 2</td> <td>No. 20-1/2 In. No. 14-2</td> </tr> <tr> <td>Sheet Metal</td> <td>Under 4 4-15</td> <td>---</td> <td>No. 22 No. 22</td> </tr> <tr> <td>Wood Or Metal Strips Crossed</td> <td rowspan="2">} Under 4 4-15</td> <td>3/8 2</td> <td rowspan="2">} 3/4 In. Wood Or No. 16 Metal</td> </tr> <tr> <td>Wood Or Metal Strips Not Crossed</td> <td>1/2 The Width One Width</td> </tr> <tr> <td>Plywood, Plastic Or Equivalent</td> <td>Under 4 4-15</td> <td>---</td> <td>1/4 In. 1/4 In.</td> </tr> <tr> <td>Standard Railing</td> <td>Min. 15 Max. 20</td> <td>---</td> <td>---</td> </tr> </tbody> </table> <p>See Figures 2, 3, and 4 at the end of this document.</p>	Material	Clearance From Moving Part At All Points (Inches)	Largest Mesh or Opening Allowable B (Inches)	Minimum Gauge (U.S. Standard) Or Thickness	Woven Wire	Under 2 2-4 4-15	3/8 1/2 2	No. 16-3/4 In. No. 16-1/2 No. 12-2	Expanded Metal	Under 4 4-15	1/2 2	No. 18-1/2 In. No. 13-2	Perforated Metal	Under 4 4-15	1/2 2	No. 20-1/2 In. No. 14-2	Sheet Metal	Under 4 4-15	---	No. 22 No. 22	Wood Or Metal Strips Crossed	} Under 4 4-15	3/8 2	} 3/4 In. Wood Or No. 16 Metal	Wood Or Metal Strips Not Crossed	1/2 The Width One Width	Plywood, Plastic Or Equivalent	Under 4 4-15	---	1/4 In. 1/4 In.	Standard Railing	Min. 15 Max. 20	---	---	<p>No comparable OSHA provision</p>
Material	Clearance From Moving Part At All Points (Inches)	Largest Mesh or Opening Allowable B (Inches)	Minimum Gauge (U.S. Standard) Or Thickness																																
Woven Wire	Under 2 2-4 4-15	3/8 1/2 2	No. 16-3/4 In. No. 16-1/2 No. 12-2																																
Expanded Metal	Under 4 4-15	1/2 2	No. 18-1/2 In. No. 13-2																																
Perforated Metal	Under 4 4-15	1/2 2	No. 20-1/2 In. No. 14-2																																
Sheet Metal	Under 4 4-15	---	No. 22 No. 22																																
Wood Or Metal Strips Crossed	} Under 4 4-15	3/8 2	} 3/4 In. Wood Or No. 16 Metal																																
Wood Or Metal Strips Not Crossed		1/2 The Width One Width																																	
Plywood, Plastic Or Equivalent	Under 4 4-15	---	1/4 In. 1/4 In.																																
Standard Railing	Min. 15 Max. 20	---	---																																
<p>R 408.10754. Frames. Rule 754. (1)****</p> <p>(2) The minimum dimensions of materials in the frame of a guard shall be of sufficient strength and rigidity to hold the filler material fastened to it and to give sufficient strength and rigidity in order to provide the desired protection.</p>	<p>Equivalent</p> <p>No comparable OSHA provision</p>																																		
<p>R 408.10756. Disk guards. Rule 756. A disk guard shall be made of materials specified in table A of rule 753 and fastened securely to spokes of pulleys, flywheels or gears. If a possibility of contact with sharp edges of the disk exists, the edge shall be rolled. Lock nuts or washers shall be placed on the unexposed side of the wheel.</p>	<p>No comparable OSHA provision</p>																																		

MIOSHA	OSHA
POWER DISCONNECTS AND LOCK-OUTS	
<p>R 408.10761. Stopping devices.</p> <p>Rule 761. (1) A machine shall be equipped with a stopping device when can be safely actuated from the operator's working position. Such a device may stop the entire machine operation or only that part of the machine at point of operation. The machine shall be restarted only after an assurance that all employees are in the clear.</p> <p>(2) Each machine simultaneously attended or operated by more than 1 employee shall be equipped with a machine power control for each employee exposed to point of operation hazards. These controls shall be interlocked in a manner to prevent operation of the machine, until each employee actuates his control.</p> <p>(3) A machine power control shall be designed and installed to prevent operation by accidental contact with objects or parts of the body and maintained in good operating condition.</p>	<p>1910.219(b)(1)(iv) For flywheels with smooth rims five (5) feet or less in diameter, where the preceding methods cannot be applied, the following may be used: A disk attached to the flywheel in such manner as to cover the spokes of the wheel on the exposed side and present a smooth surface and edge, at the same time providing means for periodic inspection. An open space, not exceeding four (4) inches in width, may be left between the outside edge of the disk and the rim of the wheel if desired, to facilitate turning the wheel over. Where a disk is used, the keys or other dangerous projections not covered by disk shall be cut off or covered. This subdivision does not apply to flywheels with solid web centers.</p> <p>1910.219(d)(1) Guarding. Pulleys, any parts of which are seven (7) feet or less from the floor or working platform, shall be guarded in accordance with the standards specified in paragraphs (m) and (o) of this section. Pulleys serving as balance wheels (e.g., punch presses) on which the point of contact between belt and pulley is more than six feet six inches (6 ft. 6 in.) from the floor or platform may be guarded with a disk covering the spokes.</p>
<p>R 408.10763. Machine power disconnects.</p> <p>Rule 763. A machine shall be equipped with means to permit the disconnecting of its source of power while persons are performing maintenance or making adjustments or repairs.</p>	No comparable OSHA provision
<p>R 408.10765. Inspection and care of equipment; clothing for oilers.</p> <p>Rule 765. (1) to (7)****</p> <p>(8) The oilers shall wear clothing appropriate to the hazard.</p>	<p>Equivalent</p> <p>1910.219 (p) Care of equipment (7) Lubrication. The regular oilers shall wear tight-fitting clothing. Machinery shall be oiled when not in motion, wherever possible.</p>

MIOSHA

OSHA



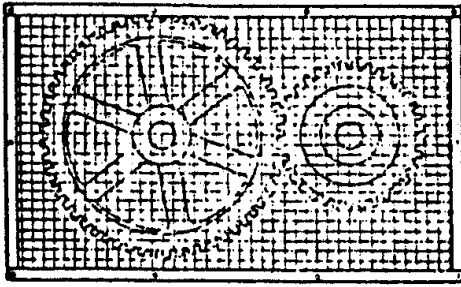
No comparable OSHA provision

MIOSHA

OSHA

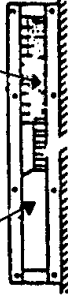
GUARD CONSTRUCTION

Front

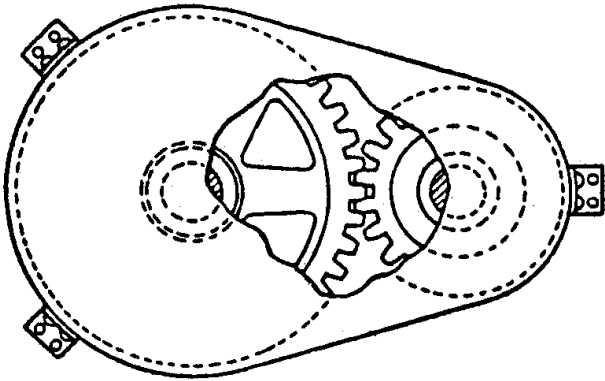


Side

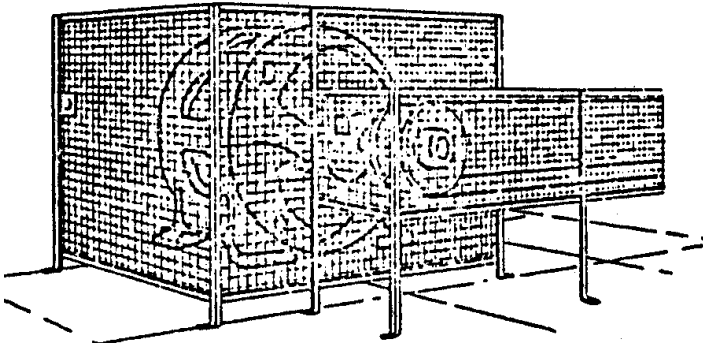
Wire Cloth
or
Sheet Metal



GEAR GUARD WITH WIRE CLOTH FILLER



GEAR GUARD OF SHEET METAL



MOTOR AND LOW-BELT ENCASED

No comparable OSHA provisions

MIOSHA	OSHA
<p>IRON PIPE GUARD WITH WIRE CLOTH FILLER</p> <p>PROTECTION OF ROUGH EDGES <i>Sheet Metal No 24 or Heavier</i></p> <p>PERFORATED OR SHEET METAL BOLTED DIRECTLY TO ANGLE</p> <p>FLAT STRIP RIVETED (OR BOLTED) TO ANGLE TO FASTEN FILLER</p> <p>WOVEN WIRE, 1" MESH $\frac{3}{8}$" ROUND FRAMES</p> <p>FLY WHEEL GUARD Showing Standard Railing and Toeboard</p> <p>Acceptable Guard Construction.</p>	<p>No comparable OSHA provisions</p>

Disclaimer:

Documents available from this server were prepared as a courtesy for informal guidance and assistance. This information is not intended to replace or supercede the actual MIOSHA standard or rule requirement. Please reference the specific MIOSHA standard or rule for the actual rule requirement language.

All information published online by MIOSHA is subject to change without notice. Every effort is made to ensure that the information provided at this site is accurate and up-to-date, but no legal responsibility is accepted for any errors, omissions, or misleading statement.