

**GI Part 2. Floor and Wall Openings, Stairways, and Skylights
Compared with**

- **29 C.F.R. Subpart D – Walking-Working Surfaces:**
- **1910.21 Definitions,**
- **1910.22 General requirements,**
- **1910.23 Guarding floor and wall openings and holes, and**
- **1910.24 Fixed industrial stairs**

Summary: The significant differences between GI Part 2. Floor and Wall Openings, Stairways, and Skylights and 29 C.F.R. Subpart D – Walking-Working Surfaces rules are in:

- Guards for open-sided floors, platforms, and runways
- Guards for other floor openings or platforms
- Guards for wall openings, holes, and pits above floor or ground level
- Open tanks or vats
- Access to other elevations
- Stairway slopes, treads, and risers
- Alternating tread-type fixed industrial stair
- Removable standard barrier specification
- Standard barrier specifications
- Temporary barriers
- Stair railing and toe board specifications
- Handrail specifications
- Wall opening grab handles and screens
- Maintenance

The below comparison shows 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
<p>R 408.10213. Guards for open-sided floors, platforms and runways. Rule 213. (1) to (2)(b)****</p> <p>(2)(c) The intermediate sections of the barrier and the toe board may be eliminated when materials are regularly passed over the end of the floor, as in lumber storage. A stationary elevated platform secured to a building or structure used exclusively for the service and maintenance of overhead bridge cranes and similarly mobile equipment may be equipped with standard barriers and toe boards that are removable in lieu of fixed standard barriers and toe boards on the side adjacent to the machinery, if such barriers and toe boards are secured against falling when they are not serving as protective barriers.</p> <p>(3) Guards shall be provided for a platform or runway of gratings used as a working area, which will prevent tools or materials from falling on persons below.</p>	<p>Equivalent</p> <p>1910.23 Guarding floor and wall openings and holes. 1910.23(c) "Protection of open-sided floors, platforms, and runways." 1910.23(c)(2) Every runway shall be guarded by a standard railing (or the equivalent as specified in paragraph (e)(3) of this section) on all open sides 4 feet or more above floor or ground level. Wherever tools, machine parts, or materials are likely to be used on the runway, a toeboard shall also be provided on each exposed side.</p> <p>Runways used exclusively for special purposes (such as oiling, shafting, or filling tank cars) may have the railing on one side omitted where operating conditions necessitate such omission, providing the falling hazard is minimized by using a runway of not less than 18 inches wide.</p>

MIOSHA	OSHA
<p>(4) Open sides of a loading or storage platform which is used primarily for loading or unloading railroad cars or trucks, and open hearth pouring platforms are exempt from the provisions of this part.</p> <p>(5) A runway shall be guarded by a standard barrier and toe board as specified in rules 231 and 233 on all open sides feet or more above floor or ground level. The barrier and toe board on 1 side of a runway used exclusively for special purposes, including but not limited to oiling, servicing or filling tank cars, may be omitted if the runway is not less than 18 inches wide.</p>	<p>Where persons entering upon runways become thereby exposed to machinery, electrical equipment, or other danger not a falling hazard, additional guarding than is here specified may be essential for protection.</p> <p>1910.23(c)(3) Regardless of height, open-sided floors, walkways, platforms, or runways above or adjacent to dangerous equipment, pickling or galvanizing tanks, degreasing units, and similar hazards shall be guarded with a standard railing and toe board.</p>
<p>R 408.10215. Guards for other floor openings or platforms. Rule 215 (1)****</p> <p>(2) A hatchway, floor opening, or floor hole into which persons may accidentally walk or through which material may fall shall be guarded by 1 of the following:</p> <p>(a) A hinged floor opening covered as specified in rule 239 and equipped with standard barriers permanently attached thereto so as to leave only 1 exposed side. If the opening is not in use, the cover shall be closed or the exposed side shall be guarded at both top and intermediate positions by removable standard barriers.</p> <p>(b) A removable standard barrier with toe board on not more than 2 sides of the opening and fixed standard barriers with toe boards as specified in rules 231 and 233(2) on all other exposed sides. The removable standard barriers shall be kept in place when the opening is not in use and should preferably be hinged or mounted so as to be conveniently replaceable. A barrier may be omitted around the perimeter of a pit used for vehicle servicing, if a yellow caution line is installed around the perimeter of the pit. The line shall be 12 inches wide and maintained so as to be clearly visible.</p> <p>(c) A floor opening cover as specified in rule 239.</p> <p>(3) to (4)****</p> <p>(5) A temporary floor opening shall have a temporary barrier or shall be constantly attended by a person.</p> <p>(6) A floor hole or floor opening into which persons cannot accidentally walk, on account of fixed machines, equipment or walls, but tools or materials can fall on employees or equipment, shall be protected by a cover that leaves no openings more than 1 inch wide unless this opening is connected to a chute type device The cover shall be securely held in place to prevent tools or materials from falling through.</p>	<p>Equivalent</p> <p>1910.23 Guarding floor and wall openings and holes. 1910.23(a) "Protection for floor openings." 1910.23(a)(3) Every hatchway and chute floor opening shall be guarded by one of the following: 1910.23(a)(3)(i) Hinged floor opening cover of standard strength and construction equipped with standard railings or permanently attached thereto so as to leave only one exposed side. When the opening is not in use, the cover shall be closed or the exposed side shall be guarded at both top and intermediate positions by removable standard railings.</p> <p>1910.23(a)(3)(ii) A removable railing with toeboard on not more than two sides of the opening and fixed standard railings with toeboards on all other exposed sides. The removable railings shall be kept in place when the opening is not in use.</p> <p>1910.23(a)(4) Every skylight floor opening and hole shall be guarded by a standard skylight screen or a fixed standard railing on all exposed sides.</p> <p>1910.23(a)(5) Every pit and trapdoor floor opening, infrequently used, shall be guarded by a floor opening cover of standard strength and construction. While the cover is not in place, the pit or trap opening shall be constantly attended by someone or shall be protected on all exposed sides by removable standard railings.</p> <p>Equivalent</p> <p>No comparable OSHA provisions</p>

MIOSHA	OSHA
<p>(7) An area below a floor hole or floor opening, or wall hole or wall opening, where material is being lowered shall be guarded by a standard fixed or temporary barrier, or attended by a person.</p> <p>(8) A skylight less than 36 inches above a roof or floor shall be guarded by a standard barrier or skylight guard as prescribed in rules 231 or 240 on all exposed sides.</p>	<p>No comparable OSHA provisions</p>
<p>R 408.10217. Guards for wall openings, holes, and pits above floor or ground level.</p> <p>Rule 217. (1) A wall opening from which there is a drop of more than 4 feet or where a person is likely to fall on or into a hazard shall be equipped with a standard barrier or a wall opening screen as specified in R 408.10231 and R 408.10237. Where there is exposure below to falling materials, a toe board shall also be provided. If the barrier has to be removable, it should be hinged or mounted so as to be conveniently replaceable. When the opening is not in use for handling materials, the barrier shall be kept in position, even if there is a door covering the opening. Where a removable standard barrier is used, a grab handle, as specified in R 408.10237, shall be provided on each side of the opening, with its center approximately 4 feet above floor level.</p> <p>(2)****</p> <p>(3) A window wall opening which is along a stairway or at a stairway landing, floor, platform, or balcony and from which there is a drop of more than 4 feet and where the bottom of the opening is less than 3 feet above the stair tread, platform, floor, or landing shall be guarded by standard wall opening screens of a standard barrier as specified in R 408.10231 and R 408.10237. Where the window opening is less than 4 inches above the landing, floor, or platform, a standard toe board shall be provided as specified in R 408.10233.</p> <p>(4) A temporary wall opening shall have barriers and toe boards as specified in R 408.10231 to R 408.10233.</p> <p>(5) Where there is a hazard of materials falling through a wall hole, where the lower edge of the near side of the hole is less than 4 inches above the floor, and where the far side of the hole is more than 4 feet above the next lower level, the hole shall be protected by a standard toe board or an enclosing screen either of solid construction or as specified in R 408.10233 and R 408.10237.</p> <p>(6) If a wall hole has an unrestricted height of 48 inches or more, is more than 12 inches in width, the near side is less than 42 inches above the floor level, and the far side of the hole more than 4 feet above the next lower level, the hole shall be protected to the height of a standard barrier.</p> <p>(7) Where a stairway or ladder landing ends in direct proximity to hazards, detour guards shall be installed or used to protect employees against contact with such hazards.</p>	<p>1910.23 Guarding floor and wall openings and holes. 1910.23(b) "Protection for wall openings and holes."</p> <p>1910.23(b)(1) Every wall opening from which there is a drop of more than 4 feet shall be guarded by one of the following:</p> <p>1910.23(b)(1)(i) Rail, roller, picket fence, half door, or equivalent barrier. Where there is exposure below to falling materials, a removable toe board or the equivalent shall also be provided. When the opening is not in use for handling materials, the guard shall be kept in position regardless of a door on the opening. In addition, a grab handle shall be provided on each side of the opening with its center approximately 4 feet above floor level and of standard strength and mounting.</p> <p>Equivalent</p> <p>1910.23(b)(1)(ii) Extension platform onto which materials can be hoisted for handling, and which shall have side rails or equivalent guards of standard specifications.</p> <p>1910.23(b)(3) Every window wall opening at a stairway landing, floor, platform, or balcony, from which there is a drop of more than 4 feet, and where the bottom of the opening is less than 3 feet above the platform or landing, shall be guarded by standard slats, standard grill work (as specified in paragraph (e)(11) of this section), or standard railing.</p> <p>Where the window opening is below the landing, or platform, a standard toe board shall be provided.</p> <p>1910.23(b)(4) Every temporary wall opening shall have adequate guards but these need not be of standard construction.</p> <p>1910.23(b)(5) Where there is a hazard of materials falling through a wall hole, and the lower edge of the near side of the hole is less than 4 inches above the floor, and the far side of the hole more than 5 feet above the next lower level, the hole shall be protected by a standard toeboard, or an enclosing screen either of solid construction, or as specified in paragraph (e)(11) of this section.</p>

MIOSHA	OSHA
<p>R 408.10219. Open tanks or vats. Rule 219. When the top of an open tank or vat that contains a hazardous substance is less than 36 inches from the floor, platform, or ground level and is not otherwise guarded to prevent an employee from falling into a tank or vat, it shall have a barrier erected to a height of not less than 36 inches above the floor, platform or ground level on all exposed sides.</p>	<p>No comparable OSHA provision</p>
<p>R 408.10220. Access to other elevations. Rule 220. (1) One of the following shall be used to gain access to another elevation of more than 16 inches: (a) Flight of stairs. (b) Fixed industrial stairs. (c) Ramp. (d) Fixed ladder. (e) A portable ladder as prescribed in the general industry safety standards commission standard, Part 4. Portable Ladders, being R 408.10401 to R 408.10456 of the Michigan Administrative Code, may be used for temporary access to another elevation. (2) After the effective date of this part, a winding stairway shall not be installed except for limited usage or secondary access. A winding stair may be installed on a tank or other round structure with a diameter of not less than 5 feet.</p>	<p>No comparable OSHA provision</p>
<p>R 408.10221. Stairway railings and guards. Rule 221. .(1)**** (2) A winding stairway shall be equipped with a handrail offset to prevent walking on portions of the treads having a width of less than 6 inches. A winding stairway existing at the effective date of this rule is exempted from this requirement. Future alterations shall comply with this rule.</p>	<p>Equivalent</p> <p>1910.23 Guarding floor and wall openings and holes. 1910.23(d) "Stairway railings and guards." Winding stairs shall be equipped with a handrail offset to prevent walking on all portions of the treads having width less than 6 inches.</p>

MIOSHA	OSHA
<p>R 408.10227. Fixed industrial stairs and platforms. Rule 227.(1) to (1)(b)****</p> <p>(c) A vertical clearance of not less than 7 feet from any tread nose to an overhead object. Projections such as pipes, raceways, air ducts or fixtures between 5 and 7 feet above the tread nose are permissible if guarded and marked.</p> <p>(d) The tread and riser as prescribed in subrule (2) of rule 223. A tread shall have a slip resistant surface.</p> <p>(2) Where a stair platform is used, its width shall be not less than a width of the stair nor shall its length be less than 30 inches measured in the direction of travel.</p> <p>(3) A stair railing with intermediate rail shall be installed on any open side of a fixed industrial stair and platform. A handrail shall be installed on not less than 1 side of a closed fixed industrial stair, preferably on the right descending side. The railing and handrail shall be installed on stairs of 4 or more risers.</p> <p>(4) A flight of stairs installed after the effective date of this rule shall consist of not more than a 12 foot continuous rise. An intermediate platform as prescribed in subrule (2) shall be used to provide relief where more than a 12 foot rise is necessary to reach the next level.</p>	<p>Equivalent</p> <p>1910.24 Fixed industrial stairs 1910.24(i) "Vertical clearance." Vertical clearance above any stair tread to an overhead obstruction shall be at least 7 feet measured from the leading edge of the tread.</p> <p>1910.24(f) "Stair treads." All treads shall be reasonably slip-resistant and the nosings shall be of nonslip finish. Welded bar grating treads without nosings are acceptable providing the leading edge can be readily identified by personnel descending the stairway and provided the tread is serrated or is of definite nonslip design. Rise height and tread width shall be uniform throughout any flight of stairs including any foundation structure used as one or more treads of the stairs.</p> <p>1910.24(g) "Stairway platforms." Stairway platforms shall be no less than the width of a stairway and a minimum of 30 inches in length measured in the direction of travel.</p> <p>1910.24(h) "Railings and handrails." Standard railings shall be provided on the open sides of all exposed stairways and stair platforms. Handrails shall be provided on at least one side of closed stairways preferably on the right side descending. Stair railings and handrails shall be installed in accordance with the provisions of 1910.23.</p>
<p>R 408.10228. Alternating tread-type fixed industrial stair. Rule 228. (1) An alternating tread-type fixed industrial stair shall have a series of treads or steps attached to a center support rail in an alternating manner so that a user of the stairs does not have both feet at the same level at the same time. The center support rail shall be installed at an angle of between 50 and 70 degrees from the horizontal.</p> <p>(2) Stair rails shall be provided on both sides of alternating tread-type stairs and be of such a configuration to provide an adequate handhold for an employee who grasps the rail or rails to avoid falling.</p> <p>(3) A minimum distance of 6 inches shall be provided between the stair rail and any other object.</p> <p>(4) A minimum of 12 inches shall be provided between the stair rails of an adjacent alternating tread-type stair.</p> <p>(5) An alternating tread-type stair shall comply with all of the following provisions:</p> <p>(a) Be designed and constructed to carry a load which is not less than 5 times the normal live load, but not less than 1,000 pounds.</p> <p>(b) Have a minimum overall width of 22 inches.</p> <p>(c) Have a minimum width of 17 inches, not to exceed 24 inches between the handrails.</p>	<p>No comparable OSHA provision</p>

MIOSHA	OSHA
<p>(d) Each tread of an alternating tread-type stair shall have all of the following:</p> <ul style="list-style-type: none"> (i) A minimum overall length of 8 inches. (ii) A minimum width of 7 inches at the nose. (iii) A maximum rise of 12 inches to the next tread surface of the alternating tread. (iv) A minimum of 5 inches of projected tread surface between consecutive treads. This projected distance shall be measured horizontally between the noses on consecutive stairs. (v) A slip-resistant surface. <p>(e) Have a vertical clearance of not less than 7 feet from any tread nose to an overhead object. Projections such as pipes, raceways, air ducts, or fixtures between 5 and 7 feet above a tread nose are permissible if guarded and marked.</p> <p>(6) Where a stair platform or landing is used, its width shall not be less than the width of the stair or less than 30 inches in length measured in the direction of travel. The initial tread of the stair shall begin at the same elevation as the platform or landing.</p> <p>(7) A flight of alternating tread-type stairs shall consist of not more than a 20-foot continuous rise. An intermediate platform, as prescribed in subrule (6) of this rule, shall be used to provide relief where more than a 20-foot rise is necessary to reach the next level.</p> <p>(8) An example of an alternating tread-type stair is shown as follows:</p> <p style="text-align: center;">See Figure 1 Alternating Tread-type Stair</p>	<p>No comparable OSHA provisions</p>
<p>R 408.10230. Removable standard barrier specification. Rule 230. A removable standard barrier may be used in place of a standard barrier if the removable standard barrier, and any component thereof, is capable of withstanding a load of not less than 200 pounds applied in any direction, except vertically upward when a minimum lift of 6 inches is required for removal.</p>	<p>No comparable OSHA provision</p>
<p>R 408.10231. Standard barrier specifications. Rule 231. (1) to (2)****</p> <p>(3) The anchoring and framing of all members of a standard barrier shall be constructed so that the completed barrier is capable of withstanding a load of not less than 200 pounds applied in any direction at any point.</p> <p>(4) Where a standard barrier is likely to receive heavy stresses from crowds, trucking, or materials, the standard barrier shall be constructed to withstand these loads.</p> <p>(5) A standard barrier shall not have protruding objects or sharp edges which might be hazardous.</p> <p>(6) If a rail-type system is used as a standard barrier, all of the following requirements shall be compiled with:</p> <p>(a) The barrier shall consist of a top rail, intermediate rail or rails, and supporting posts.</p>	<p>Equivalent</p> <p>1910.23 Guarding floor and wall openings and holes. 1910.23(e) "Railing, toe boards, and cover specifications." 1910.23(e)(3)(v)(b) A strength to withstand at least the minimum requirement of 200 pounds top rail pressure.</p>

MIOSHA	OSHA
<p>(b) to (c)****</p> <p>(d) The intermediate rail shall be located halfway between the top rail and the floor, ramp, platform, runway, or other walking or working surface. If the distance between the top rail and the intermediate rail would be more than 24 inches, additional intermediate rails shall be installed to assure that the distances between intermediate rails, the lowest intermediate rail and the walking or working surface, and the highest intermediate rail and the top rail are not more than 24 inches.</p> <p>(e) Screen, paneling, or other equivalent material of sufficient strength to meet the requirements of subrule (3) of this rule may be used between the top rail and the walking or working surface.</p>	<p>Equivalent</p> <p>1910.23 Guarding floor and wall openings and holes. 1910.23(e) "Railing, toe boards, and cover specifications." 1910.23(e)(1) The intermediate rail shall be approximately halfway between the top rail and the floor, platform, runway, or ramp.</p>
<p>R 408.10232. Temporary barriers.</p> <p>Rule 232. (1) A temporary barrier shall consist of a freestanding frame of stanchions 42 inches high with a top and midrail of 2 x 4's, pipe, rope, or chain.</p> <p>(2) A temporary barrier shall be identified by a warning device including but not limited to a light, flags, or colors to warn persons of a hazardous area.</p>	<p>1910.23 Guarding floor and wall openings and holes. 1910.23(a) "Protection for floor openings." 1910.23(a)(7) Every temporary floor opening shall have standard railings, or shall be constantly attended by someone.</p> <p>1910.23(b) "Protection for wall openings and holes." 1910.23b(4) Every temporary wall opening shall have adequate guards but these need not be of standard construction.</p>
<p>R 408.10236. Clearance for handrail and stair railings.</p> <p>Rule 236. (1) A handrail, stair railing, and the top of a standard barrier used as a railing shall be provided with a clearance of not less than 1 1/2 inches between the handrail or railing and any other object.</p> <p>(2) A handrail or stair railing that exists before the effective date of this part may have a clearance of not less than 1 1/4 inches between the handrail or stair railing and any other object.</p>	<p>1910.23 Guarding floor and wall openings and holes. 1910.23(e) "Railing, toe boards, and cover specifications." 1910.23(e)(6) All handrails and railings shall be provided with a clearance of not less than 3 inches between the handrail or railing and any other object.</p>
<p>R 408.10237. Wall opening grab handles and screens.</p> <p>Rule 237. (1)****</p> <p>(2) A grab rail that exists before September 15, 1971, may have a clearance of less than 3 inches, but not less than 1 1/2 inches, between the grab rail and any other object.</p> <p>(3)****</p>	<p>Equivalent</p> <p>No comparable OSHA provision</p> <p>Equivalent</p>

MIOSHA	OSHA
<p>R 408.10239. Floor opening and floor hole covers. Rule 239. (1) A floor opening and floor hole cover shall be of any material or construction that will support at least 3 times the normal load, except that when located in a plant roadway, it shall be designed to carry a truck rear axle load of 24,000 pounds.</p> <p>(2)****</p>	<p>1910.23 Guarding floor and wall openings and holes. 1910.23(e) "Railing, toe boards, and cover specifications." 1910.23(e)(7)(ii) Manhole covers and their supports, when located in plant roadways, shall comply with local standard highway requirements if any; otherwise, they shall be designed to carry a truck rear-axle load of at least 20,000 pounds.</p> <p>Equivalent</p>
<p>R 408.10241. Maintenance. Rule 241. Floors, platform stair treads and landings shall be maintained free of broken, worn, splintered or loose pieces that would constitute a tripping or falling hazard. Material used for repair of these components shall meet the design strength of the component.</p>	<p>1910.22 General requirements. 1910.22(a) "Housekeeping." 1910.22(a)(1) All places of employment, passageways, storerooms, and service rooms shall be kept clean and orderly and in a sanitary condition.</p> <p>1910.22(a)(2) The floor of every workroom shall be maintained in a clean and, so far as possible, a dry condition. Where wet processes are used, drainage shall be maintained, and false floors, platforms, mats, or other dry standing places should be provided where practicable.</p> <p>1910.22(a)(3) To facilitate cleaning, every floor, working place, and passageway shall be kept free from protruding nails, splinters, holes, or loose boards</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.