

DEPARTMENT OF LABOR AND ECONOMIC OPPORTUNITY

DIRECTOR'S OFFICE

CONSTRUCTION SAFETY AND HEALTH STANDARD

Filed with the secretary of state on March 22, 2021

These rules take effect immediately upon filing with the secretary of state unless adopted under section 33, 44, or 45a(6) of the administrative procedures act of 1969, 1969 PA 306, MCL 24.233, 24.244, or 24.245a. Rules adopted under these sections become effective 7 days after filing with the secretary of state.

(By authority conferred on the director of the department of labor and economic opportunity by sections 19 and 21 of the Michigan occupational safety and health act, 1974 PA 154, MCL 408.1019 and 408.1021, and Executive Reorganization Order Nos. 1996-2, 2003-1, 2008-4, 2011-4, and 2019-3, MCL 445.2001, 445.2011, 445.2025, 445.2030, and 125.1998)

R 408.42110, R 408.42149, R 408.42150, R 408.42154, R 408.42155, R 408.42156, and R 408.42157 of the Michigan Administrative Code are amended, as follows:

PART 21. GUARDING OF WALKING AND WORKING AREAS

R 408.42110 MIOSHA referenced standard.

Rule 2110. Michigan Occupational Safety and Health Administration (MIOSHA) Construction Safety Standard Part 22. "Signals, Signs, Tags, and Barricades," R 408.42201 to R 408.42243, is referenced in these rules. Up to 5 copies of this standard may be obtained at no charge from the Michigan Department of Labor and Economic Opportunity, MIOSHA, Standards and FOIA Section, 530 West Allegan Street, P.O. Box 30643, Lansing, Michigan, 48909-8143 or via the internet at: www.michigan.gov/mioshastandards. For quantities greater than 5, the cost, at the time of adoption of these rules, is 4 cents per page.

R 408.42149 Stairways.

Rule 2149. (1) A stairway shall be equipped with a stair railing or handrail as follows:

(a) A stairway which is not more than 44 inches (112 cm) wide and which has enclosed sides shall have a handrail on the right descending side.

(b) A stairway which is not more than 44 inches (112 cm) wide and which has 1 open side shall have a stair railing on the open side.

(c) A stairway which is not more than 44 inches (112 cm) wide and which has 2 open sides shall have a stair railing on each side.

(d) A stairway that is more than 44 inches (112 cm) wide shall have 1 handrail on each enclosed side and 1 stair rail on each open side.

(e) A stairway that is 88 or more inches (224 cm) wide shall have 1 handrail on each enclosed side, 1 stair rail on each open side, and 1 intermediate stair rail located in the middle of the stairway.

(2) Where a door or gate opens directly on a stairway more than 6 feet (1.8 m) in height and is used as a required means of egress, a stair landing shall be provided. The swing of the door shall not reduce the landing which leads to the stairway to less than 20 inches (51 cm) unless specified in another code.

R 408.42150 Guardrail specifications for scaffolding and catch platforms.

Rule 2150. (1) A guardrail for scaffolding and catch platforms shall consist of a top rail, intermediate rail, and supporting posts. The top rail shall have a smooth surface and shall be installed between 38 inches (97 cm) and 45 inches (114 cm) above the floor, ramp, platform, or runway. When conditions warrant, the height of the top edge may exceed the 45-inch (114 cm) height, provided the guardrail system meets all other criteria of this rule. The intermediate rail shall be located halfway between the top rail and the floor, ramp, platform, or runway. The top rail shall not overrun the terminal posts unless such a projection does not constitute a hazard.

(2) A top rail and its supporting posts shall be constructed of wood that is not less than 2- by 4-inch nominal size with a 1- by 6-inch or 2- by 4-inch nominal size intermediate rail. The construction and fastenings shall produce a guardrail capable of withstanding a 200-pound side thrust applied at the top rail. Other material may be used if the finished product has the 200-pound capability. A guardrail that is subject to additional loads shall be constructed of heavier stock and the supporting post shall be more closely spaced.

(3) Vertical supporting posts shall be placed not more than 8 feet (2.4 m) apart.

(4) Banding steel shall not be used for guardrail construction.

(5) Welded re-steel members shall not be used for guardrail construction.

R 408.42154 Runway and ramp specifications.

Rule 2154. (1) A ramp or runway that is used exclusively by employees as a means of access to or egress from a walking or working surface shall comply with all of the following provisions:

(a) Be capable of supporting not less than 2 times the maximum intended load.

(b) Consist of a minimum of two 2-inch by 10-inch nominal size planks placed side by side or other material of equal width that provides equivalent strength if guardrails are not required.

(c) Consist of a minimum of three 2-inch by 10-inch nominal size planks placed side by side or other material of equal width that provides equivalent strength if guardrails are required.

(d) Not be constructed steeper than the ratio of 1 foot of vertical rise to 2 feet (0.6 m) of horizontal run.

(e) Have a slip-resistant surface or have cleats that are not more than 2 inches by 4 inches nominal size and which are uniformly spaced not more than 24 inches (61 cm) apart.

(f) Be constructed to avoid excessive deflection and springing action.

(g) Be secured at each end to prevent displacement.

- (h) Not be used for the storage of materials or equipment.
- (i) Be maintained free of debris, other loose materials, and slip or trip hazards.
- (2) A ramp or runway used by employees with wheelbarrows shall comply with both of the following provisions:
 - (a) Be constructed and used as prescribed in subrule (1)(a), (d), (e), (f), (g), (h), and (i) of this rule.
 - (b) Consist of three 2-inch by 10-inch nominal size planks placed side by side or other material of equal width that provides equivalent strength.
- (3) A ramp or runway used by concrete buggies, forklift trucks, or other motorized material handling equipment shall comply with all of the following provisions:
 - (a) Be capable of supporting not less than 4 times the maximum intended load.
 - (b) Be not less than 5 feet (1.5 m) wide.
 - (c) Be constructed and used as prescribed in subrule (1)(a), (d), (f), (g), (h), and (i) of this rule.
 - (4) A ramp or runway constructed of 2 or more planks placed side by side shall have the planks securely fastened together.

R 408.42155 Specifications for stair rail.

Rule 2155. (1) A stair railing shall consist of a stair rail, a vertical support, and an intermediate rail or its equivalent to prevent an employee from falling through the opening between the stair rail and the stairs. The stair rail shall parallel the slope of the stairway.

(2) A stair rail shall be smooth, made of 2- by 4-inch nominal-sized lumber, and constructed in a manner to withstand a side thrust of not less than 200 pounds. The height of a stair rail shall be as follows:

(a) A stair rail that is installed after March 15, 1991, shall be not less than 36 inches (91.5 cm) from the upper surface of the stair rail system to the surface of the tread and in line with the face of the riser at the forward edge of the tread.

(b) A stair rail that is installed before March 15, 1991, shall be not less than 30 inches (76 cm) nor more than 34 inches (86 cm) from the upper surface of the stair rail system to the surface of the tread and in line with the face of the riser at the forward edge of the tread.

(3) The vertical post shall be constructed of not less than 2- by 4-inch nominal-sized lumber and shall be spaced not more than 6 feet (1.8 m) apart.

(4) An intermediate rail or midrail shall be constructed of not less than 1- by 6-inch or 2- by 4-inch nominal-sized lumber and shall be installed midway between the stair rail and the treads.

(5) Screens, mesh, intermediate vertical members, or equivalent intermediate structural members shall be provided between the top rail of the stair rail system and the stairway steps.

(6) Screens or mesh, when used, shall extend from the top rail to the stairway step and along the entire opening between the top rail supports.

(7) When intermediate vertical members, such as balusters, are used between posts, they shall be not more than 19 inches (48 cm) apart.

(8) Other structural members, when used, shall be installed such that there are no openings in the stair rail system that are more than 19 inches (48 cm) wide.

(9) A stair rail shall not have protruding nails or rough or sharp corners and shall not constitute a projection hazard.

(10) Other material may be used if the stair railing meets the 200-pound side thrust requirement.

(11) A stairway that has 4 or more risers or rises more than 30 inches (76 cm), whichever is less, shall be equipped with at least 1 handrail and at least 1 stair rail system along each unprotected side or edge. When the top edge of a stair rail system also serves as a handrail, R 408.42156(3) applies.

(12) Winding and spiral stairways shall be equipped with a handrail that is sufficiently offset to prevent walking on those portions of the stairways where the tread width is less than 6 inches (15 cm).

R 408.42156 Handrail specifications.

Rule 2156. (1) A handrail shall be of a configuration that provides a handhold when grasped to avoid a fall and shall follow the slope of the stairway.

(2) A handrail shall be vertically installed not more than 37 inches (94 cm), nor less than 30 inches (76 cm), above the front edge of the treads.

(3) When the top edge of a stair rail system also serves as a handrail, the height of the top edge shall be not more than 37 inches (94 cm) nor less than 36 inches (91.5 cm) from the upper surface of the stair rail system to the surface of the tread and in line with the face of the riser at the forward edge of the tread.

(4) A handrail shall have a smooth surface along the top and sides and the ends shall not present a projection hazard.

(5) Handrails that will not be a permanent part of the structure being built shall have a minimum clearance of 3 inches (8 cm) between the handrail and walls, stair rail systems, and other objects.

(6) The ends of stair rail systems and handrails shall be constructed so as not to constitute a projection hazard.

R 408.42157 Temporary stairways.

Rule 2157. (1) All wooden components that are necessary to construct and guard a temporary stairway shall be of construction-grade lumber.

(2) The minimum width of a temporary stairway shall be 22 inches (56 cm).

(3) The total vertical rise of a temporary stairway shall not be more than 12 feet (3.7 m), unless stair platforms are provided.

(4) The rise shall be not less than 6 inches (15 cm) nor more than 8 inches (20 cm).

(5) The ratio of rise to tread width shall be uniform for all sets of stairs.

(6) The sides of a temporary stairway shall be guarded as required by R 408.42155 and R 408.42156, except that a stairway used as access to material storage trailers is required to be guarded on only 1 side.

(7) If used during construction, permanent steel or other metal stairways and landings with hollow pan-type treads that are to be filled with concrete or other materials shall be filled to the level of the nosing with solid material. This requirement shall not apply during the period of actual construction of the stairways. Metal landings shall be secured in place before filling. Such temporary treads and landings shall be replaced when worn below the level of the top edge of the pan.

(8) A stairway shall be free of hazardous projections, such as nails, sharp top rails, and handrail projections.

(9) A stairway shall have a minimum vertical clearance of 7 feet (2.1 m) from any overhead object, unless the overhead object is padded and caution signs or paint is used on the object, as prescribed in Construction Safety Standard Part 22. "Signals, Signs, Tags, and Barricades," as referenced in R 408.42110.

(10) Except during stairway construction, foot traffic is prohibited on skeleton metal stairs where permanent treads or landings are to be installed at a later date, unless the stairs are fitted with secured temporary treads and landings long enough to cover the entire tread or landing area.

(11) Treads for temporary service shall be made of wood or other solid material and shall be installed the full width and depth of the stair.