
RESIDENTIAL DECK STAIRS INFORMATION

- This handout is intended only as a guide. It shall not be considered a complete set of requirements.
- Materials and installation must comply with the current Minnesota State Building Code and the manufacturers' installation specifications for each product.

- Approved corrosion-resistant flashing shall be applied shingle-fashion in such a manner as to prevent entry of water into the wall cavity or penetration of water to the building structural framing components. Self-adhered membranes used as flashing shall comply with AAMA 711. The flashing shall extend to the surface of the exterior wall finish. Approved corrosion-resistant flashing shall be installed at all of the following locations: (MRC R703.4)
 - Continuously above all projecting ledger boards.
 - Where exterior porches, decks, or stairs attach to a wall or floor assembly of wood-frame construction.

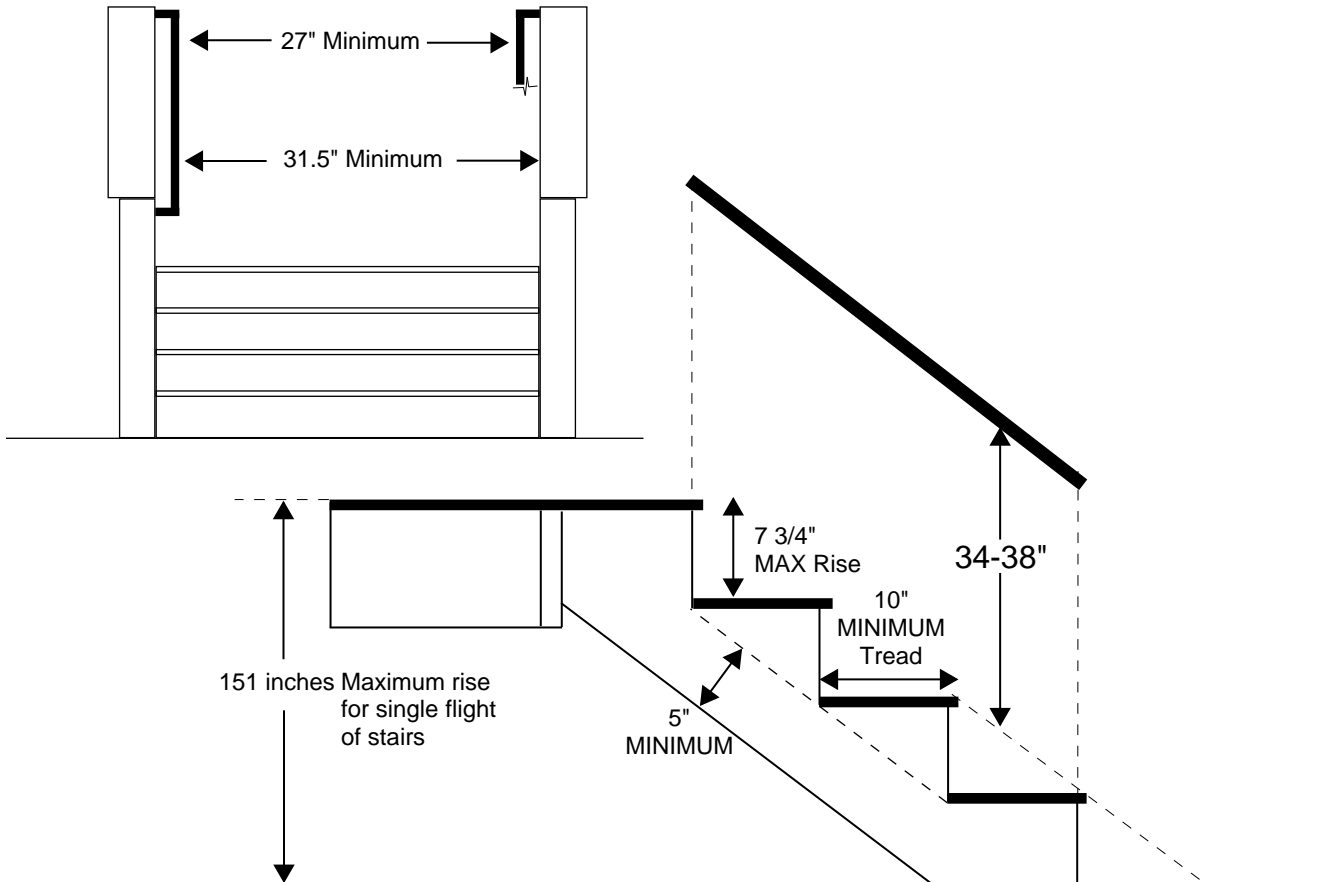
- Exterior stairways shall be provided with an artificial light source located in the immediate vicinity of the top landing of the stairway. Exterior stairways providing access to a basement from the outdoor grade level shall be provided with an artificial light source located at the bottom of the landing or stairway. (MRC 303.8)

- There shall be a landing or floor on each side of each exterior door. The width of each landing shall not be less than the door served. Every landing shall have a minimum dimension of 36 inches measured in the direction of travel. Exterior landings shall be permitted to have a slope not to exceed 1/4 unit vertical in 12 units horizontal (2-percent). (MRC R311.3)

- Exterior landings, decks, balconies, stairs and similar facilities shall be positively anchored to the primary structure to resist both vertical and lateral forces or be designed to be self-supporting. Attachment shall not be accomplished by use of toenails or nails subject to withdrawal. (MRC R311.5)

- Stairways shall not be less than 36 inches in clear width at all points above the permitted hand-rail height and below the required headroom height. Handrails shall not project more than 4.5 inches on either side of the stairway and the minimum clear width of the stairway at and below the handrail height, including treads and landings, shall not be less than 31-1/2 inches where a handrail is installed on one side and 27 inches where handrails are provided on both sides. (MRC R311.7.1.2)

Exception: The width of spiral stairways shall be in accordance with Section MRC R311.7.10.1.

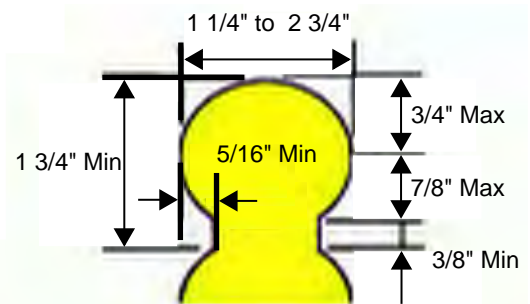
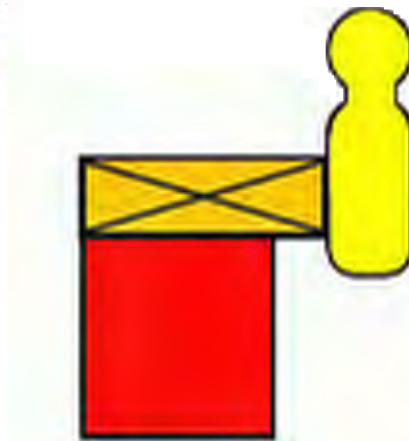


- A flight of stairs shall not have a vertical rise larger than 151 inches between floor levels or landings. (MRC R311.7.3)
- The maximum riser height shall be 7-3/4 inches. The riser shall be measured vertically between leading edges of the adjacent treads. The greatest riser height within any flight of stairs shall not exceed the smallest by more than 3/8 inch. Risers shall be vertical or sloped from the underside of the nosing of the tread above at an angle not more than 30 degrees from the vertical. Open risers are permitted provided that the opening between treads on risers located more than 30" above the floor do not permit the passage of a 4-inch-diameter sphere. (MRC R311.7.5.1)

Exception:

- The opening between adjacent treads is not limited on spiral staircases.
- The riser height of spiral stairways shall be in accordance with Section R311.7.10.1.
- The minimum tread depth shall be 10 inches. The tread depth shall be measured horizontally between the vertical planes of the foremost projection of adjacent treads and at a right angle to the tread's leading edge. The greatest tread depth within any flight of stairs shall not exceed the smallest by more than 3/8 inch. (MRC R311.7.5.2)

- Handrails shall be provided on at least one side of each continuous run of treads or flight with four or more risers. Handrails to comply with MRC R311.7.8 for mounting height, continuity and grip-size. (MRC R311.7.8)
- Handrail height, measured vertically from the sloped plane adjoining the tread nosing, or finish surface of ramp slope, shall be not less than 34 inches and not more than 38 inches. (MRC R311.7.8.1)
- Handrails adjacent to a wall shall have a space of not less than 1-1/2 inch between the wall and the handrails. (MRC R311.7.8.3)
- Handrails for stairways shall be continuous for the full length of the flight, from a point directly above the top riser of the flight to a point directly above the lowest riser of the flight. Handrail ends shall be returned or shall terminate in newel posts or safety terminals. (MRC R311.7.8.4)



- Guards shall be located along the open sides of floors, stairs, ramps, and landings that are located more than 30 inches measured vertically to the floor or grade below. Insect screening shall not be considered as a guard. (MRC R312.1.1)
- Required guards at open-sided walking surfaces, including stairs, porches, balconies or landings, shall be not less than 36 inches high measured vertically above the adjacent walking surface, or the line connecting the leading edges of the treads. (MRC R312.1.2)

Exceptions:

- Guards on the open sides of stairs shall have a height not less than 34 inches measured vertically from a line connecting the leading edges of the treads.
- Where the top of the guard also serves as a handrail on the open sides of stairs, the top of the guard shall not be less than 34 inches and not more than 38 inches measured vertically from a line connecting the leading edges of the treads.

- Required guards shall not have openings from the walking surface to the required guard height which allow passage of a sphere 4 inches in diameter. (MRC R312.1.3)

Exceptions:

- The triangular openings at the open side of stair, formed by the riser, tread and bottom rail of a guard, shall not allow passage of a sphere 6 inches in diameter.
- Guards on the open side of stairs shall not have openings which allow passage of a sphere 4 3/8 inches in diameter.

- Plastic composite exterior guards shall comply with the requirements of Section R317.4. (MRC R312.1.4)

