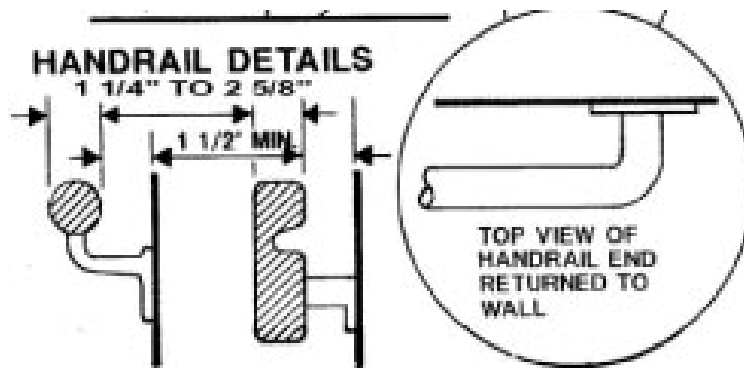




The following are requirements from the MN State Building Code R311, R312.

Handrails.

- Handrails having minimum and maximum heights of 34" and 38", respectively, measured vertically from the nosing of the treads, shall be provided on at least one side of stairways.
- All required handrails shall be continuous the full length of the stairs with four or more risers from a point directly above the top riser of a flight to a point directly above the lowest riser of the flight.
- Ends shall be returned or shall terminate in newel posts or safety terminals.
- Handrails adjacent to a wall shall have a space of not less than 1.5" between the wall and the handrail. Handrails may be interrupted by a newel post at a turn.
- The use of volute, turnout, or starting easing is allowed over the lowest tread.
- Design live load 200 lbs.



Handrail Grip Size.

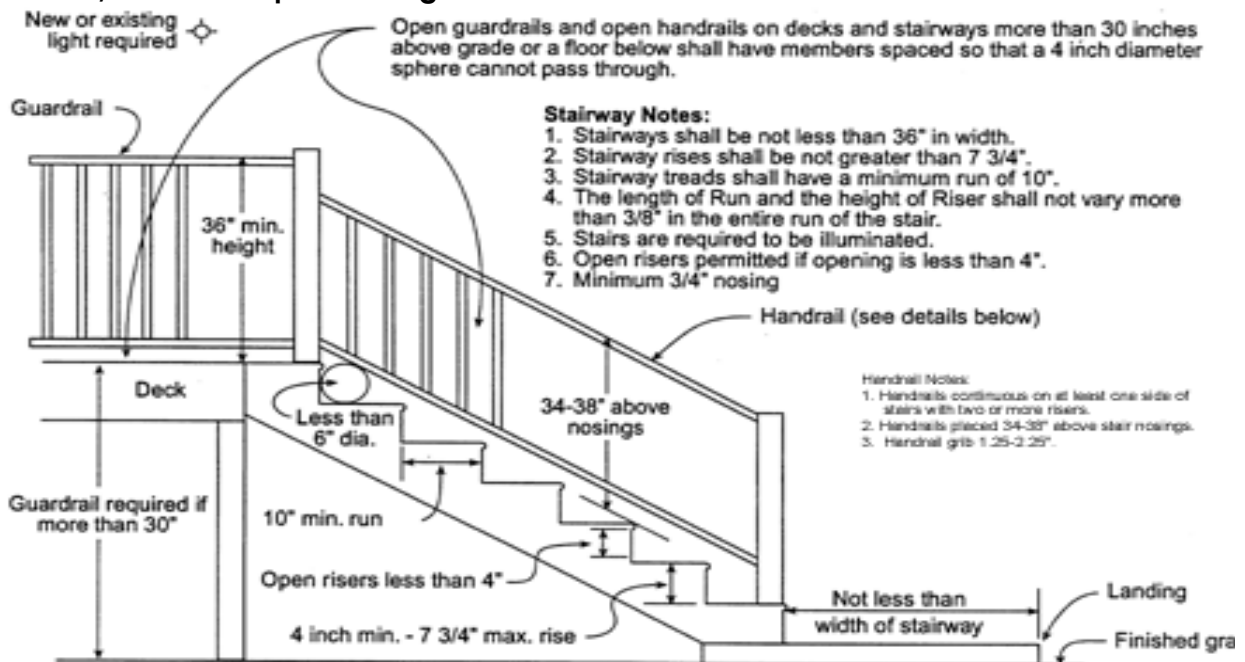
- The handgrip portion of handrails shall have a circular cross section of 1-1/4" minimum to 2-5/8" maximum.
- Other handrail shapes that provide an equivalent grasping surface are permissible.
- Edges shall have a minimum radius of 1/8".

Guards Required.

- Porches, balconies or raised floor surfaces located more than 30" above the floor or grade below shall have guards not less than 36" in height.
- Open sides of stairs with a total rise of more than 30" above the floor or grade below shall have guards not less than 34" in height measured vertically from the nosing of the treads.
- Design live load 200 lbs.

Guard Opening Limitations.

- Required guards on open sides of stairways, raised floor areas, balconies, and porches shall have intermediate rails or ornamental closures that do not allow passage of a sphere 4" diameter, except the triangular openings formed by the riser, tread, and bottom rail of a guard at the open side of a stairway are permitted to be of a size such that a 6" sphere cannot pass through.
- Openings for required guards on the sides of stair treads shall not allow a sphere 4-3/8 inches to pass through



Stairways

- Stairways shall not be less than 36" in clear width at all points above the permitted handrail height and below the required headroom height.
- The maximum riser height shall be 7 3/4" and minimum tread depth shall be 10". The riser height shall be measured vertically between leading edges of the adjacent treads. 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 walking surface of treads and landings of a stairway shall have a max slope of one unit vertical in 48 units horizontal (2%).
- The greatest riser height within any flight of stairs shall not exceed the smallest by more than 3/8". The greatest tread depth within any flight of stairs shall not exceed the smallest by more than 3/8". Open risers are permitted, provided that the opening between treads does not permit the passage of a 4" dia. sphere.
- The minimum headroom in all parts of the stairway shall not be less than 6'-8" measured vertically from the sloped plane adjoining the tread nosing or from the floor surface of the landing or platform.

(This information is only to be used as a general guideline for building and does not contain all requirements.)