

**Width** (2010 CRC Sec. R 311.7.)

Stairways shall not be less than 36 inches wide. The handrail may enter a maximum of 4½ inches into this dimension.

**Dimensional Tolerances**

The largest tread depth or riser height within any stairway shall not exceed the smallest by more than 3/8 inch.

**Risers & Treads** (2010 CRC Sec. R 311.7.74)

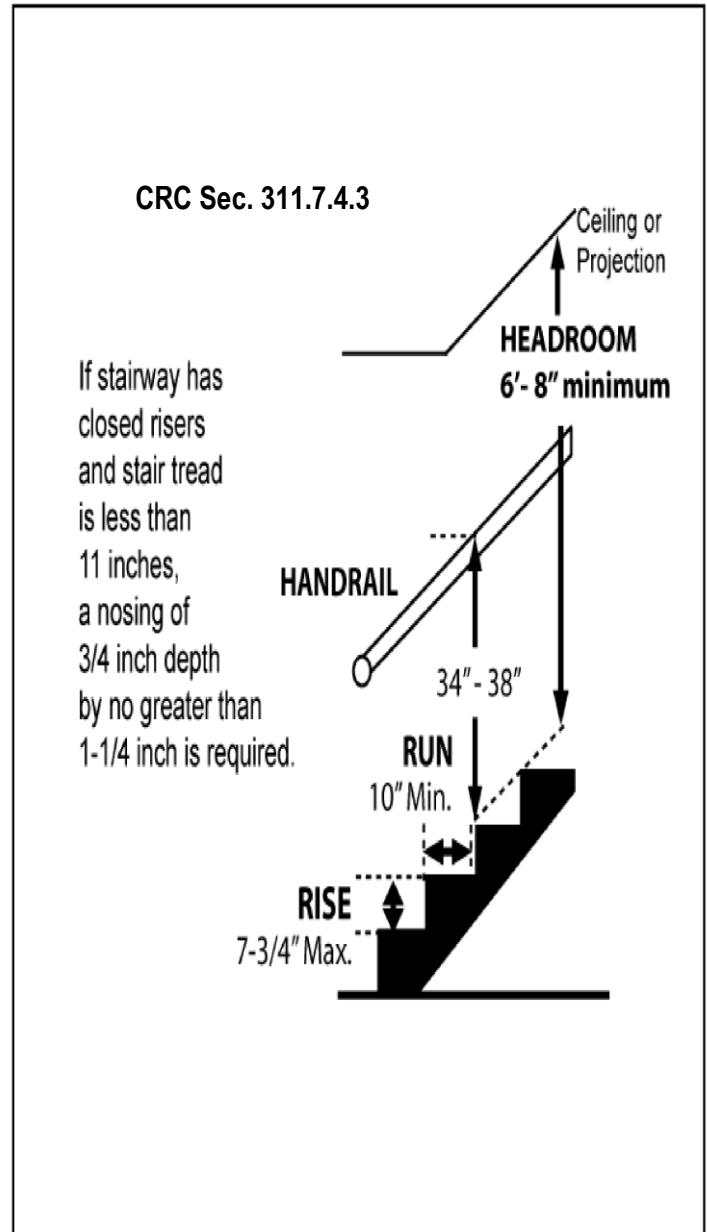
If you are building a new standard residential stairway (not a spiral), each step (or riser) can't be more than 7 ¾ inches high or less than 4 inches.

Treads are the flat surfaces that you step onto. For new stairs, the treads have to be a minimum of 10 inches deep from front to back (not counting the part underneath the nosing of the tread above). The exposed edge of the tread is called nosing, and the nosing must stick out at least ¾ inches, but not more than 1 ¼ inches.

The steps in a flight of stairs have to be even so that people don't trip. The code allows only 3/8 inch difference between the largest and the smallest rise, and only 3/8 inch difference between the largest and smallest tread measured from front to back.

**Headroom**

Every stairway shall have a headroom clearance of not less than 6 feet 8 inches. This is measured vertically from the sloped plane adjoining the tread nosings or from the floor surface of the landings.



## Handrails

### **Required at four or more risers.** (CRC Sec. R 311.7.7)

The top shall be placed not less than 34 inches, nor more than 38 inches above the nosing of the treads. Ends shall be returned or terminated in newel posts or safety terminals.

All required handrails shall be continuous for the full length of the stairs from a point directly above the top riser.

Exceptions:

□ Handrails may be interrupted by a newel post at a turn.

□ A volute, turnout or newel post is allowed over the lowest tread.

□ The outside diameter of a circular handrail may be no less than 1¼ inches and no greater than 2 inches. A non-circular must have a perimeter dimension of at least 4 inches and no greater than 6¼ inches. The maximum cross section is 2 ¼ inches. Type 1 rail.

### **Summary:**

□ Stairways must have a handrail if the stairway has four or more risers.

□ Handrails may project over stairs by 4½ inches maximum on each side of the stairway.

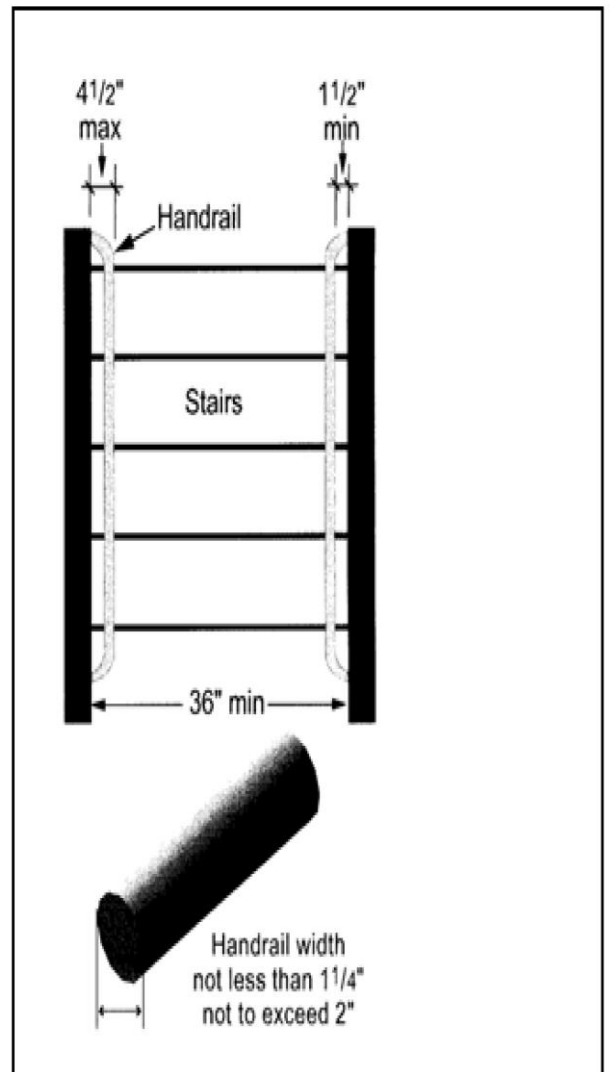
□ Handrails must be continuous for the full length of the stairs. They must run back into the wall or butt into a post so that purse straps and clothing won't get caught behind them and cause a fall

□ Handrails attached to the wall must have a space between the wall and the rail of at least 1½ inches to provide a graspable surface.

□ Handrails on the open side of a stairway must meet guard requirements.(CRC Sec. R 312). For occupancies in group R-3 guards whose top rail also serves as a handrail shall have height not less than 34 inches and not more than 38 inches measured vertically from the leading edge of the stair tread nosing.

□ The height of handrails is measured straight up from the nosing of the tread to the top of the handrail. A handrail along a wall must be between 34 to 38 inches high.

□ A round handrail must have diameter no smaller than 1¼ inch and no larger than 2 inches, so that it can be easily and securely gripped. Other handrail shapes are allowed if the perimeter dimension is at least 4 inches and no more than 6¼ inches , with a cross section dimension not more than 2¼ inches.



## Illumination

All interior and exterior stairways must be illuminated.

### Guardrails (CRC R312.1)

A guard shall be located along open-sided walking surfaces, including stairs, ramps and landings, that are located more than 30 inches measured vertically to the floor or grade below at any point within 36 inches horizontally to the edge of the open side. Insect screening shall not be considered as a *guard*.

Guards on interior stairs must have some kind of a pattern, so that a 4 3/8 inch sphere can't pass through. However, all exterior guards along raised floors, landing, porches, decks, and balconies must have intermediate rails or ornamental closures that do not allow passage of a 4 inch sphere.

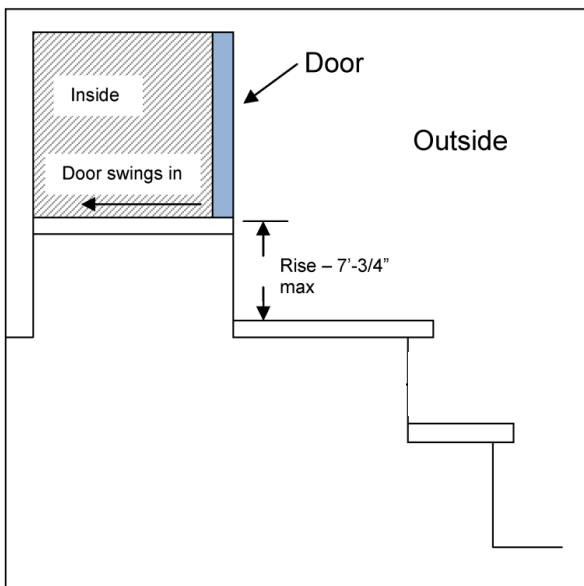
At the bottom edge of a guard along a series of steps, the space between the tread, riser and the guard must be small enough to prevent a 6 inch sphere from getting through.

### Landings (CRC R311.7.5)

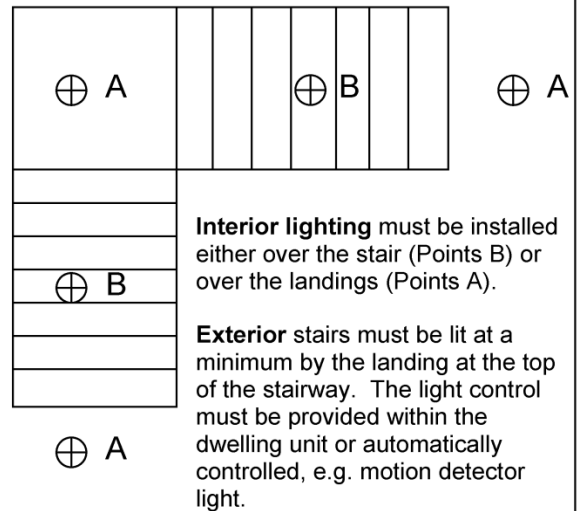
There shall be a floor or landing at the top and bottom of each stairway.

Exception:

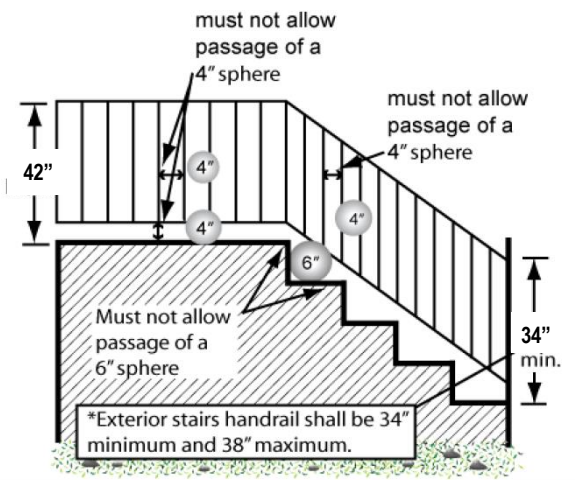
A floor or landing is not required at the top of an interior flight of stairs, including stairs in an enclosed garage, provided a door does not swing over the stairs. A flight of stairs shall not have a vertical rise larger than 12 feet between floor levels or landings. The width of each landing shall not be less than the width of the stairway served. Every landing shall have a minimum dimension of 36 inches measured in the direction of travel.



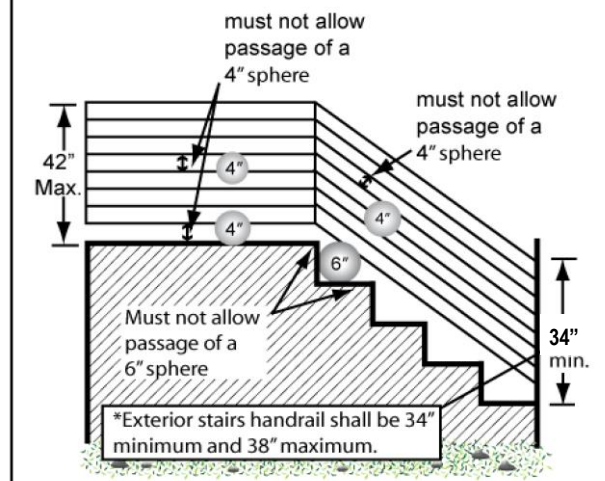
## Stairway Lighting [2007 CEC 210.70]



### Guardrail with vertical pattern



### Guardrail with horizontal pattern



## Winder Stairs

Stairways that turn a corner, with treads that are narrow on one end and wider at the other, are called winder stairs. Winder treads shall have a minimum tread depth of 10 inches measured between the vertical planes of the foremost projection of adjacent treads at the intersections with the walkline. Winder treads shall have a minimum tread depth of 6 inches at any point within the clear width of the stair. Within any flight of stairs, the largest winder tread depth at the walkline shall not exceed the smallest winder tread by more than 3/8 inch.

## Spiral Stairs

Spiral stairway treads must be at least 7 1/2 inches deep measured 12 inches out from where they are the narrowest. The risers can't be more than 9 1/2 inches high. The minimum width of a spiral stairway from the center pole to the outside edge of the tread is 26 inches. Each spiral stair tread must be identical. Headroom may be 6 feet 6 inches minimum

