



# IRC Code Handout

## IRC Section R311.7.5: Stair Treads & Risers

**R311.7.5 Stair treads and risers:** Stair treads and riser shall meet the requirements of this section. For the purposes of this section, dimensions and dimensioned surfaces shall be exclusive of carpets, rugs or runners.

**R311.7.5.1 Risers:** The riser height shall be not more than  $7\frac{3}{4}$  inches (196 mm). 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  $\frac{3}{8}$  inches (9.5 mm). Risers shall be vertical or sloped from the underside of the nosing of the tread above at an angle not more than 30 degrees (0.51 rad) from the vertical. At open risers, openings located more than 30 inches (762 mm), as measured vertically, to the floor or grade below shall not permit the passages of 4-inch-diameter (102 mm) sphere.

### Exceptions:

1. The opening between adjacent treads is not limited on spiral stairways.
2. The riser height of spiral stairways shall be in accordance with Section R311.7.10.1.

**R311.7.5.2 Treads:** The tread depth shall be not less than 10 inches (254 mm). 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  $\frac{3}{8}$  inch (9.5 mm).

**R311.7.5.2.1 Winder treads:** Winder treads shall have a tread depth of not less than 10 inches (254 mm) measured between the vertical planes of the foremost projection of adjacent treads at the intersections with the walkline. Winder treads shall have a tread depth of not less than 6 inches (152 mm) 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  $\frac{3}{8}$  inch (9.5 mm).

Consistently shaped winders at the walkline shall be allowed within the same flight of stairs as rectangular treads and shall not be required to be within  $\frac{3}{8}$  inch (9.5 mm) of the rectangular tread depth.

### Exception:

The tread depth at spiral stairways shall be in accordance with Section R311.7.10.1.

**R311.7.5.3 Nosings:** Nosings at treads, landing and floors of stairways shall have a radius of curvature at the nosing not greater than  $\frac{9}{16}$  inch (14 mm) or a bevel not greater than  $\frac{1}{2}$  inch (12.7 mm). A nosing projection not less than  $\frac{3}{4}$  inch (19 mm) and not more than  $1\frac{1}{4}$  inches (32 mm) shall be provided on stairways. The greatest nosing projection shall not exceed the smallest nosing projection by more than  $\frac{3}{8}$  inch (9.5 mm) within a stairway.

### Exception:

A nosing projection is not required where the tread depth is not less than 11 inches (279 mm).

**R311.7.5.4 Exterior plastic composite stair treads:** Plastic composite exterior stair treads shall comply with the provisions of this section and Sections R507.2.2.

### Stairway Example

