

## STAIR, LANDING AND RAILING DESIGN REQUIREMENTS

# HAND & GUARDRAILS

International Residential Code for One & Two Family Dwellings

### INTERIOR HANDRAIL REQUIREMENTS:

**H**andrails having minimum and maximum heights of 30 inches and 38 inches (762 mm and 965 mm) respectively, measured vertically from the nosing of the treads, shall be provided on at least one side of stairways of 30 inches (762 mm) or more in height. Spiral stairways and winders shall have the required handrail located on the outside radius. All required handrails shall be continuous the full length of the stairs excluding the landings. Ends shall be returned or shall terminate in newel posts or safety terminals. Handrails projecting from a wall shall have a space of not less than 1-1/2" inches (38 mm) between the wall and the handrail.

#### Exceptions:

1. Handrails may be interrupted by a newel post at a turn.
2. The use of a volute, turnout or starting easing shall be allowed over the lowest tread.
3. Handrails may be interrupted within the width of a tread where the wall configuration changes.

**H**andrail grip size: Handrails shall have either a circular cross section with a diameter of 1-1/4 (32 mm) to 2 inches (51 mm), or a noncircular cross section with a perimeter dimension of at least 4 inches (102 mm) but not more than 6-1/4 inches (159 mm) and a largest cross section dimension not exceeding 2-3/4 inches (69.9 mm). Edges shall have a minimum radius of 1/8 inch (32 mm).

**P**orches, Balconies or raised floor surfaces located more than 30 inches (762 mm) above the floor or grade below shall have guardrails not less than 36 inches (914 mm) in height. Open sides of stairs with a total rise of more than 30 inches (726 mm) above the floor or grade below, shall have guardrails not less than 34 inches (864 mm) in height measured vertically from the nosing of the treads.

#### Exceptions:

1. Interior open stairways that are equal to or less than 12 feet in height, the guardrails shall not be less than 30 inches (762 mm) in height measured vertically from the nosing of the treads.

**R**equired guardrails on open sides of stairways, raised floor areas, balconies and porches shall have intermediate rails or ornamental closures which do not allow passage of an object 4 inches (102 mm) or more in diameter (See Figure 1.)

#### Exceptions:

1. The triangular openings formed by the riser, tread and bottom rail of a guard at the open side of a stairway, may be of such a size that a sphere 6 inches (153 mm) cannot pass through.

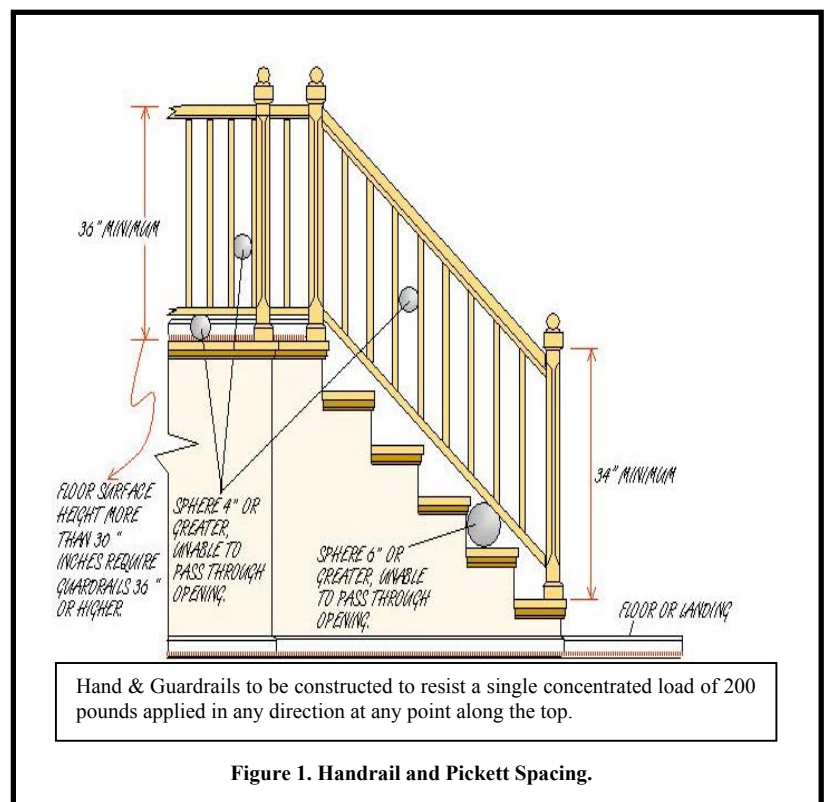


Figure 1. Handrail and Picket Spacing.