



Building Standards and Codes

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TECHNICAL BULLETIN

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Source Document: 19 NYCRR Part 1220 – Residential Construction
19 NYCRR Part 1226 – Property Maintenance²

Topic: Residential Exit Doors, Stairways, Landings, Handrails, and Guards

This document provides clarification of the requirements for exit doors, stairways, landings, handrails, and guards in newly constructed one- and two-family dwellings and townhouses not more than three stories above grade plane in height.

The 2015 International Residential Code (2015 IRC), as modified by the 2017 Uniform Code Supplement (the Supplement), regulates:

the construction, alteration, movement, enlargement, replacement, repair, equipment, use and occupancy, location, removal and demolition of:

- 1. detached one- and two-family dwellings and townhouses not more than three stories above grade plane in height with a separate means of egress and their accessory structures not more than three stories above grade plane in height,*
- 2. one-family dwellings converted to owner occupied bed and breakfast dwellings with five or fewer guest rooms and their accessory structures not more than three stories above grade plane in height, and*
- 3. plumbing, mechanical, and fuel gas systems and appliances servicing these structures.*

Exit Door requirements can be found in Section R311.2 of the 2015 IRC, according to which, at least one side-hinged egress door that provides a “clear width of not less than 32 inches” and has a “clear height of ... not less than 78 inches” shall be provided in each dwelling unit. This door shall operate from the inside “without the use of a key or special knowledge or effort.” This door shall provide direct access to the exterior without requiring travel through a garage. “Other doors shall not be required to comply with these minimum dimensions.”

Stairway requirements can be found in Section R311.7 of the 2015 IRC, which indicates that “stairways shall be not less than 36 inches (914 mm) in clear width at all points above the permitted handrail height” and “the headroom in stairways shall be not less than 6 feet 8 inches...”

According to Section R311.7.5.1 of the 2015 IRC, as amended by the Supplement, “the riser height shall be not more than 8-1/4 inches ... Open risers are permitted provided that the openings [between the treads] located more than 30 inches (762 mm), as measured vertically, to the floor or grade below do not permit the passage of a 4-inch-diameter (102 mm) sphere.” And according to Section 311.7.5.2 of the 2015 IRC, as amended by the Supplement, “the tread depth shall be not less than 9 inches.”

Several exceptions are provided for spiral stairs in Section R311.7.10 of the 2015 IRC.

¹ The “Code Effective Date” for this Technical Bulletin is October 31, 2017, which is the effective date of the current version of the New York State Uniform Fire Prevention and Building Code (the Uniform Code).

² The 2015 International Residential Code (2015 IRC) is a publication incorporated by reference in 19 NYCRR Part 1220, The 2015 International Property Maintenance Code (2015 IPMC) is a publication incorporated by reference in 19 NYCRR Part 1226. The 2017 Uniform Code Supplement is a publication incorporated by reference in 19 NYCRR Parts 1219 through 1228. The 2015 IRC and 2015 IPMC, as amended by the 2017 Uniform Code Supplement, are all part of the Uniform Code.

Landing requirements can be found in Sections R311.3 and R311.7.6 of the 2015 IRC. According to Section R311.3, *“there shall be a landing or floor on each side of each exterior door.”* (Emphasis added). Per Section R311.3.1, *“landings or finished floors at the required egress door shall be not more than 1½ inches (38 mm) lower than the top of the threshold.”* The landing may be as much as 7¾ inches lower than the threshold in two instances:

1. the required egress door does not swing over it, or
2. *“doors other than the required egress door.”* (See Sections R311.3.1 and R311.3.2).

Landings must be at least as wide as the door served and at least *“36 inches measured in the direction of travel.”* (See Section R311.3).

Section R311.7.6 of the 2015 IRC requires that *“a floor or landing [be provided] at the top and bottom of each stairway. The width perpendicular to the direction of travel shall be not less than the width of the flight served ... and where the stairway has a straight run, the depth in the direction of travel shall be not less than 36 inches”* (emphasis added). Except that a *“landing is not required at the top of an interior flight of stairs ... provided that a door does not swing over the stairs;”* and that *“a top landing is not required where a stairway of not more than two risers is located on the exterior side of the door, provided that the door does not swing over the stairway.”* (See the exception to Section R311.3.2).

Handrail requirements can be found in Sections R311.7.8 and R311.8.3 of the 2015 IRC which indicate that *“handrails shall be provided on not less than one side of each continuous run of treads or flight with four or more risers”* and *“on not less than one side of ramps exceeding a slope of one unit vertical in 12 units horizontal.”* The handrail shall be mounted at a height of 34 to 38 inches *“measured vertically from the sloped plane adjoining the tread nosing.”* (See Section R311.7.8.1).

The grip-size of the handrail may be Type I, with either a circular cross section of a minimum diameter of 1¼ inches and a maximum diameter of 2 inches, or a non-circular cross section with a perimeter dimension between 4 and 6¼ inches and a cross section of not more than 2¼ inches. Type II handrails with a perimeter greater than 6¼ inches are also permitted when a graspable finger recess area meeting the requirements of section R311.7.8.3 is provided on both sides of the profile. *“Handrails adjacent to a wall shall have a space of not less than 1½ inches (38 mm) between the wall and the handrails”* per Section R311.7.8.2. Also, according to the same section, handrails must be continuous from a point directly above the top riser to a point directly above the lowest riser of the flight of stairs, with the following exceptions:

1. *Handrails shall be permitted to be interrupted by a newel post at the turn.*
2. *The use of a volute, turnout, starting easing or starting newel shall be allowed over the lowest tread.*

Guard³ requirements are found in Section R312 of the 2015 IRC, which requires guards to be installed *“along open-sided walking surfaces, including stairs, ramps and landings, that are located more than 30-inches (762 mm) measured vertically to the floor or grade below at any point within 36 inches (914 mm) horizontally to the edge of the open side.”*

- On stairs, the minimum guard height is 34-inches measured vertically above the line connecting the leading edges of the tread and *“where the top of the guard serves as a handrail on the open sides of stairs, the top of the guard shall be not less than 34 inches (864 mm) and not more than 38 inches (965 mm).”* The openings within the guard shall not allow the passage of a 4 3/8 inch diameter sphere, and the opening *“formed by the riser, tread and bottom rail of a guard, shall not allow passage of a sphere 6 inches (153 mm) in diameter.”*
- On landings, porches and other open-sided walking surfaces, the minimum guard height is 36-inches and openings within that height shall not allow the passage of a 4-inch diameter sphere.

The information provided in this Technical Bulletin applies to newly constructed residential structures governed by the 2015 IRC. Repairs, alterations, changes of occupancy, additions and relocations are subject to the requirements of Appendix J of the 2015 IRC. Exit doors, stairs, landings, handrails, and guards in existing buildings are to be maintained per the applicable requirements of the 2015 International Property Maintenance Code.

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³ Section R202 of the 2015 IRC defines “guard” as *“a building component or a system of building components located near the open sides of elevated walking surfaces that minimizes the possibility of a fall from the walking surface to the lower level.”*