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TECHNICAL BULLETIN

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Source Document: 19NYCRR 1220 - *Residential Code of New York State (RCNYS)*

Topic: Residential exit doors, stairways, landings, handrails and guards.

This document provides clarification on the requirements for exit doors, stairways, landings, handrails and guards in one- and two-family dwellings and townhouses. *Residential Code of New York State (RCNYS)* section R311 requires one side-hinged exit door not less than 3 feet in width and 6 feet 8 inches in height, openable from the inside without the use of a key or special knowledge or effort, that provides direct access to the exterior without requiring travel through the garage. Other exterior hinged or sliding doors do not have to comply with these requirements.

Section R312 requires a floor or landing at the top and bottom of each stairway and on each side of each exterior door. The exception provides that on all exterior doors, except the required main exit door, where there are two or fewer risers, a landing is not required. Section R312.1.2 also provides that at the required main exit door, the landing be no more than 1 ½ inches lower than the top of the threshold, while landings at all other exterior doorways may be as much as 8 ¼ inches lower than the threshold. However, the State Fire Prevention and Building Code Council amended this section in 19 NYCRR section 1220.3, effective July 10, 2003, as follows:

Landings at required exit doors. In lieu of compliance with section R312.1.2 of the Residential Code of New York State, an exit door required by section R311.1 of the Residential Code of New York State may have an exterior landing which is not more than 8 ¼ inches (209 mm) below the top of the threshold.

With this amendment, there is no longer a requirement that the level of the landing outside the required main exit door be limited to no more than 1 ½ inches below the threshold.

Additionally, landings have to be at least as wide as the door or stairway and at least 36 inches long measured in the direction of travel.

Stairways are regulated by section R314 and include winders, spiral stairs, circular stairs, and bulkhead enclosure stairs. Stairways shall be not less than 36 inches in clear width at all points above the handrail height and the handrail may project no more than 4 ½ inches on either side of the stairway. Thus, the minimum clear width of a stairway at or below the handrail, when one is required, is 31 ½ inches, and 27 inches where two are required. Stair trim, stringers and other features may reduce the stairway width as long as they do not extend beyond the allowable handrail projection. There is a width exception for spiral stairways. The maximum riser height is 8 ¼ inches and the minimum tread depth is 9 inches.

Open risers are permitted provided the vertical opening between treads does not permit the passage of a 4-inch-diameter sphere in stairways which have a rise exceeding 30 inches. The minimum headroom is 6 feet, 8 inches measured vertically from a sloped plane along the tread nosings or from the floor or landing surface.

RCNYS section R315 requires stairways having two or more risers to have at least one handrail, at a height of between 34 and 38 inches above the nosing. There must be a clearance of at least 1 ½ inches behind wall mounted handrails. Handrails must be continuous from a point above the top riser to a point above the lowest riser of each flight of stairs. This would allow a newel post to be attached to the face of the bottom riser, with half of its base resting on the bottom tread. Exceptions to R315.1 involving newel posts are contained in the original ICC version of the code and have been issued as a clarification to the RCNYS and are effective as follows:

Exceptions:

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

The section of a stairway leading from one landing to the next is a flight of stairs. Therefore, handrails are not required on landings. Continuous handrails are required on the side of where the tread is narrower for winders. The maximum variation in riser height and tread width is 3/8 inches to maintain uniformity in the flight. Handrail grips may be circular, 1 ¼ to 2 inches in diameter. If they are not circular the perimeter of the sides must total 4 to 6 ¼ inches with a maximum cross-section dimension of 2 ¼ inches. When the total perimeter of the sides exceeds 6 ¼ inches, a graspable finger recess complying with section R315.2 must be provided on both sides of the handrail. There are no dimensional provisions for newels.

Guards are required by section R316 for open sides of stairways, porches, balconies or raised floor surfaces located more than 30 inches above the floor or grade below, except for open sides of a flight of stairs with a total rise of 30 inches or less, although handrails are still required when there are two or more risers. Guards protecting floor surfaces must be 36 inches in height, while guards for stairs must be 34 inches in height measured vertically from the tread nosing. A guard may also serve as the required handrail (34 to 38 inches high) provided the top rail meets the requirements for grip size. The guard must have intermediate rails or ornamental closures that do not allow the passage of a 4-inch diameter sphere. The triangular openings formed by the riser, tread and bottom rail of the guard must be sized to prevent the passage of a 6-inch sphere.

Landings are required on the exterior side of a sliding glass door when served by a stair having more than two risers. A 6-0 x 6-8 sliding door (even if it is an emergency escape and rescue opening required in a sleeping room) is still a door and requires a landing per section R312.1.2. Considering only the operable part of the sliding door, the width of the landing does not need exceed 36 inches. It would also be permitted to install a guard on the exterior of the sliding door in lieu of the required landing and stairs when the door threshold is more than 30 inches above grade.

RCNYS section R310, entitled “Emergency Escape and Rescue Openings,” includes section R310.3 which addresses bulkhead enclosures (“bilco” type doors). This section requires bulkhead enclosures to provide direct access to the basement. This part does not preclude the installation of an insulated side hinged door at the bottom. In addition to the requirement for the minimum net clear opening with the bulkhead door panels in the fully open position required by R310.1.1, section R314.9 is applicable. Since the bulkhead is an emergency escape and rescue opening, it does not serve as part of the required building egress (section R311). The last part of section R314.9 exempts the bulkhead from the

requirements of sections R312, landings, R314, stairways, and R315, handrails, when the bulkhead stairway is covered by a bulkhead enclosure with hinged doors.

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