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TECHNICAL BULLETIN

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

This document provides clarification on the requirements for exit doors, stairways, landings, and handrails in one- and two-family dwellings and townhouses. *Residential Code of New York State (RCNYS)* Section R311.4 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 R311.4.3 requires a floor or landing 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, with an exception that the landing at main exit doorways may be as much as 8 ¼ inches lower than 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 R311.5 and include winders, spiral stairs, circular stairs, and bulkhead enclosure stairs. Stairways, which are not winders, spiral, circular or bulkhead enclosures, 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 R311.5.6 requires stairways having four 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 handrails adjacent to walls. Handrails must be continuous from a point above the top riser to a point above the lowest riser of each flight of stairs. The section of a stairway leading from one landing to the next is a flight of stairs. Exceptions to Section R311.5.6.2 involving newel posts are:

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

This section allow a newel post to be attached to the first riser in front of the tread, or the newel post can be attached to the face of the bottom riser with half of its base resting on the bottom tread, or the newel post can be entirely on the tread. This applies to the newel post on a landing and handrails are not required on landings.

Continuous handrails are required for winders on the side where the tread is narrower. 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 1/4 to 2 inches in diameter. If they are not circular the perimeter of the sides must total 4 to 6 1/4 inches with a maximum cross-section dimension of 2 1/4 inches. When the total perimeter of the sides exceeds 6 1/4 inches, a graspable finger recess complying with section R311.5.6.3 must be provided on both sides of the handrail. There are no dimensional provisions for newels.

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 R311.4.3. 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 directly 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 Section R310.1.1, then Section R311.5, stairways, 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 R311.5.8.2 exempts the bulkhead from the requirements of Sections R311.5.4, landings, R311.5, stairways, and R311.5.6, handrails, when the bulkhead stairway is covered by a bulkhead enclosure with hinged doors.

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