



## *CLMA Technical Bulletin*

# *Considering Guards and Handrails: Simplifying the Not-so-Simple*

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Building codes – and common sense – require guards on elevated decks, and handrails on stairways and ramps. Although the terms “guard” and “handrail” are commonly used in the same sentences and the same conversations, it should be recognized that guards are intended to serve one safety-related function and handrails serve quite a different safety-related function.

For one- and two-family homes and townhouses, the International Residential Code states that guards are intended to minimize the possibility of a fall from an elevated walking surface to a lower level.<sup>1</sup> Handrails are intended for grasping by the hand for guidance and support.<sup>2</sup>

The code states that guards are required along the open side(s) of walking surfaces, including stairs, ramps, and landings wherever the surface adjacent to the deck is more than 30 inches below the walking surface. Guards along the open sides of stairs are required to be a minimum of 34 inches tall, measured from the nose of the stair tread, and guards on the open sides of other walking surfaces are required to be a minimum of 36 inches tall.<sup>3</sup> All required guards must be designed and constructed to withstand outward forces to prevent falls from the elevated walking surface.

Handrails are required on at least one side of stairs with four or more risers and required on ramps with a slope greater than 1 unit vertical in 12 units horizontal. Handrails are to be not less than 34 inches and not more than 38 inches above the nose of the stair tread or the surface of the ramp. Handrails are required to be continuous with the full length of the flight of stairs and the full length of a ramp. Handrails must meet prescribed requirements for graspability (shape, and minimum and maximum circumference) and be mounted within specific distances to a wall (or to a guard). In order to provide support or guidance for human ambulatory activities, handrails must be designed to withstand forces in all directions.<sup>4</sup>

It is possible to design a guard to serve as a handrail. If a guard is designed to serve as a handrail, the guard’s top rail is required to meet handrail requirements.

This simplified explanation of guards and handrails DOES NOT include all the requirements for guards and handrails. Applicable building codes and design professionals should be consulted for requirements applicable to guards and handrails.

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<sup>1</sup> 2015 International Residential Code, International Code Council, [www.iccsafe.org](http://www.iccsafe.org), Guard definition: GUARD. 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.

<sup>2</sup> 2015 International Residential Code, International Code Council, [www.iccsafe.org](http://www.iccsafe.org), Handrail definition: HANDRAIL. A horizontal or sloping rail intended for grasping by the hand for guidance or support.

<sup>3</sup> 2015 International Residential Code, International Code Council, [www.iccsafe.org](http://www.iccsafe.org), Section R312.

<sup>4</sup> 2015 International Residential Code, International Code Council, [www.iccsafe.org](http://www.iccsafe.org), Sections R311.7.8 and R311.8.

## **CLMA**

*The Composite Lumber Manufacturers Association is the national trade association representing the manufacturers and suppliers of composite lumber to the residential and commercial building construction markets.*

*For over 10 years, CLMA has advanced the growth of the composite deck and railing industry through proactive technical, advocacy, and awareness efforts.*

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