Landings for Deck Stairs

Q Am I required to pour a concrete landing at the bottom of deck stairs, or can I use gravel, flagstone, or pavers?

A Glenn Mathewson, a building inspector in Westminster, Colo., responds: As far back as my code library goes — to the 1952 Uniform Building Code — stairway regulations always mention landings. In the most recent version of today's most widely adopted residential building code, the 2009 International Residential Code, "landings" are included in the description of a stairway. Plus, Section R311.7.5 of the 2009 IRC requires a landing at the top and the bottom of all stairs. While this is clear, argument and confusion exist about what exactly constitutes a "landing."

The IRC doesn't intend to specifically ban any material or method of construction as long as it can satisfy the purpose of the particular code section. The intuitive purpose for a landing's existence would be to provide a safe place for a person to complete an ascent or descent of a stairway. To this end, IRC Section R311.7.6 limits the slope of the walking surface of a landing to a maximum of 1/4 inch of rise for 12 inches of horizontal distance (**Figure 1**). As far as the average eye can distinguish, this slope would seem flat.

Beyond that requirement, the IRC does not establish what materials can be used as a landing. However, to satisfy a maximum-slope requirement, the slope must be verifiable. Loose gravel, dirt, or grass cannot feasibly have its slope measured. Plus, the unstable and slippery aspects of those materials would likely result in poor performance as a landing.

On the other hand, solid, flat, and stable materials, such as concrete, flagstone, pavers, or brick, can be installed with a measurable slope and will not usually shift under the weight of an off-balance person completing a stairway descent. Likewise, at the top landing, these materials will help prevent a slip and an unplanned trip down the stairs.

Figure 1. Stair landings must be at least as wide as the stair and at least 3 feet deep. They must provide a safe exit from the stair and may not slope more than 1/4 inch per foot.

Figure 2. Wide stairs are subject to the same landing requirements as narrow ones.

Related to this topic, IRC Section R311.7.5 requires all landings to be as wide as the stairway served. For average-width stairways, providing a good, solid landing is not very difficult. For wide or cascading stairways, however, a large landing can be somewhat of an eyesore (**Figure 2**). Unfortunately, there is no code-compliant way to avoid a wide landing when a wide stairway is designed.

As with many questions related to building codes, the answers are not black and white. As long as the intent of the code is satisfied by the installation, many shades of gray can be acceptable. ❖

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