

Building Newsflash

Building Certifiers

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Acceptable Tolerances when Constructing Stairs

Purpose

The purpose of this Newsflash is to provide advice on acceptable tolerances when constructing stairs in class 1 buildings and class 10 buildings and structures.

Background

Prior to the introduction of Amendment 8 to Volume 2 of the Building Code of Australia (BCA), the 'Explanatory Information' in Part 3.9 contained a recommendation on acceptable tolerance values for stair dimensions.

With the introduction of Amendment 8 on 1 January 2001, those details were deleted on the basis that the adoption of tolerance allowances is more appropriately addressed within relevant Australian Standards for respective materials, and not the BCA. For example, there are tolerance allowances in AS 3700 (Masonry structures) for brickwork and in AS 2870 (Residential slabs and footings), for concrete.

However, as there is no 'Acceptable Construction Manual' for the design and construction of stairs in the BCA (i.e. Part 3.9 provides an 'Acceptable Construction Practice' option only) and no relevant Australian Standard, there is no longer a recommended acceptable tolerance for stairs.

Acceptable tolerances

The deleted 'Explanatory Information' previously provided by the BCA, suggested a 5mm variation on treads and goings as well as a 15mm variation on the height of the first and top riser would be acceptable. The tolerances were not intended to provide a means to accommodate poor workmanship or construction, but rather to allow for changes due to natural movement of materials and for unspecified floor finishes.

In many instances, a builder needs to make an allowance for variances in the thickness of common floor finishes. For example, it would not be uncommon for a builder to provide 15mm extra height for the first riser to allow for the installation of carpet by the owner after handover. Further, the thickness of the carpet and underlay will impact on the final riser height, as will a change in finish material should carpet not be used.

It is recommended that where an application for a stairway in a class 1 building or a class 10 building or structure is being assessed, the following tolerance values (refer to Figure 1) be applied where conditions such as movement of materials due to atmospheric moisture changes occur (i.e. cupping of timber stair treads) or where a change in adjacent floor covering specifications effect finished stair dimensions. The tolerances should not be applied to allow for poor construction practice.

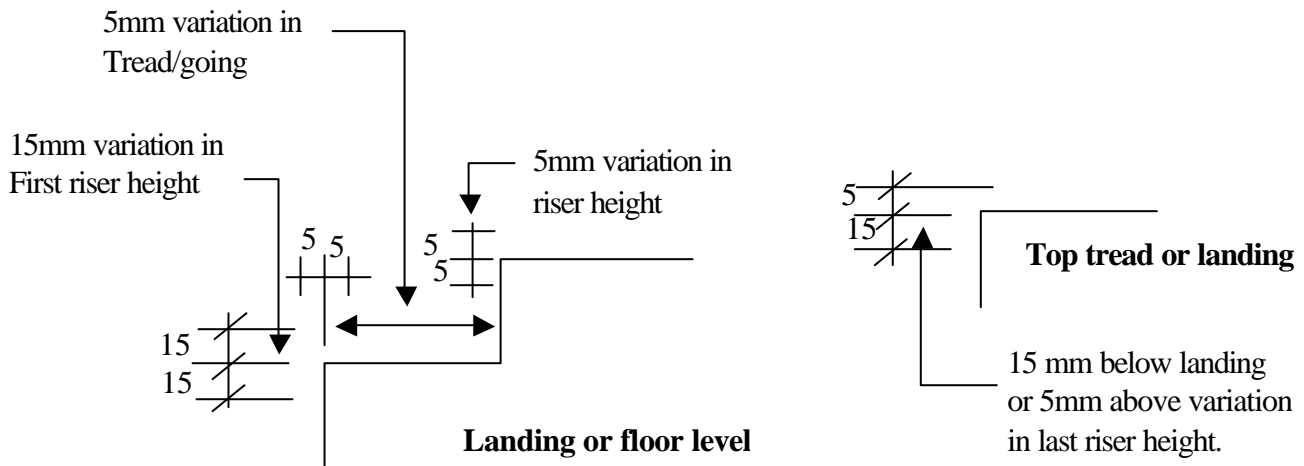


Figure 1
Tolerances in stairways