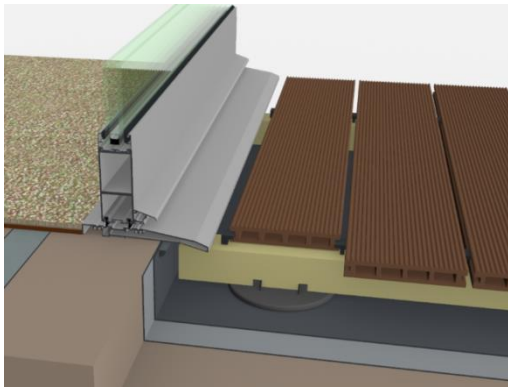


1. Introduction

The acceptable termination height of roof waterproofing at thresholds can be a cause for confusion, the purpose of this guidance note is to provide clarity based on industry standards, supplementary guidance and Best Practice at the time of publication.

The Building Regulations guide the reader to BS6229:2003 Code of Practice: *Flat roofs with continuously supported flexible waterproof coverings* which states where possible all waterproofing upstand heights should achieve a minimum of 150mm above the finished roof surface. This 150mm above the finished roof surface is the accepted height at which rainfall will not 'bounce' above the finished roof surface and wet the wall.



However, wherever a door access to the roof is provided this 150mm requirement creates a high step which can be a trip hazard. Whilst the provision of a step may be acceptable for a plant room for example, it is not generally acceptable where the doorway provides access to an external public space, terrace or balcony. Here the requirements Building Regulations Approved Document M: *access to and use of buildings* are unlikely to be met, and in circumstance such as these supplementary guidance has been created, which British Standards are yet to catch up with. Note: BS6229:2003 has been revised and is expected to be published during 2018.

2. NHBC Guidance

The NHBC provides insurance on buildings that may have podiums, balconies and/or terraces. They have therefore developed supplementary guidance for the design and termination of waterproofing systems at door thresholds where a level access is required. This guidance will inform parts of the forthcoming update of BS6229:2003. Following are extracts from **NHBC Standards, Part 7 roofs, Chapter 7.1 Flat roofs and balconies**

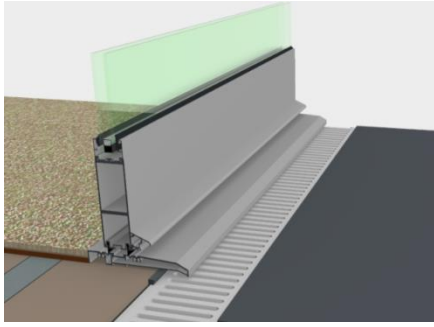
Principles

The design and construction of balcony thresholds with 'level access' should incorporate the following:

A door threshold with an upstand of not more than 15mm.

The 15mm threshold upstand is measured at the door position. Additional sloping transition elements, such as a small internal ramp and external sill, may be provided either side of the upstand. The maximum slope on ramps and sills should be 15 degrees.

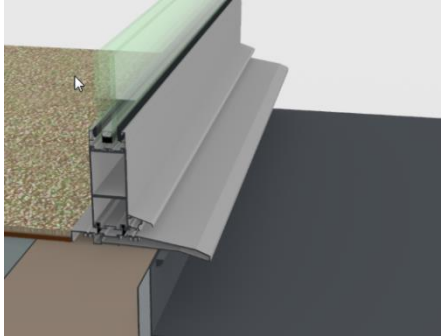
A door threshold with a minimum 45 mm projecting sill and drip



The sill should have a minimum 45mm overhang and drip to shed rainwater away from the interface between the waterproofing layer and the sill and to avoid reliance on exposed joint sealants and their limited design life.

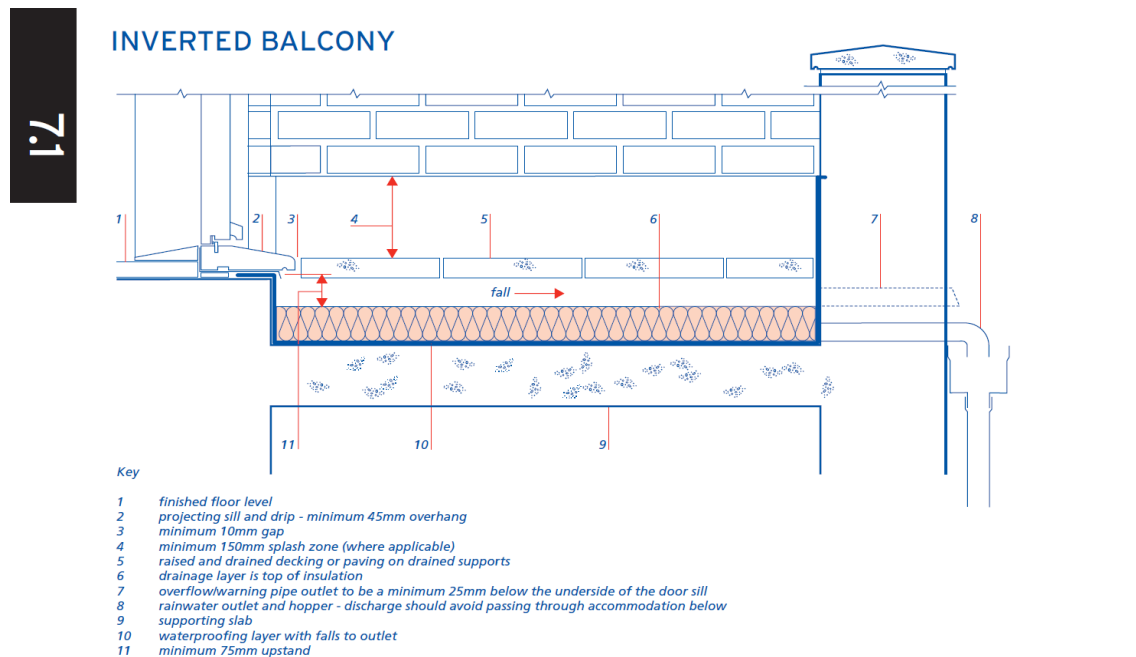
NHBC Standards, Part 7 roofs, Chapter 7.1 Flat roofs and balconies

A balcony upstand of minimum 75mm below the underside of the threshold.



The balcony upstand height is measured from the level at which rainfall is drained to the underside of the projecting sill, which may not be the waterproofing layer. For example, with an inverted roof the drainage level would be the top of the Water Flow Reducing Layer and not the waterproofing layer below (see diagram below).

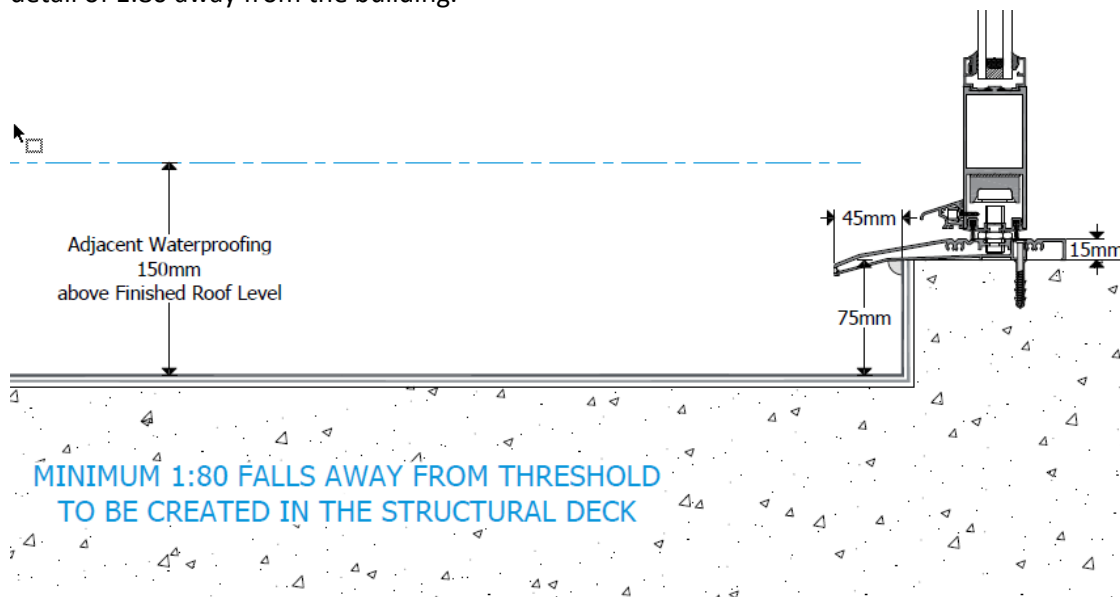
When designing flat roof or balconies to these principles falls should be in accordance with NHBC guidance, and NFRC/LRWA Zero Falls guidance.



Critical to ensuring waterproofing integrity is the interface between the EPDM seal beneath the door cill and the waterproofing, including the compatibility of both products.

3. Trafficked Waterproofing

Where the waterproofing is also the trafficked surface the termination must be a minimum of 75mm under a protected sill as detailed in NHBC guidelines and the deck have a minimum fall away from this detail of 1:80 away from the building.



4. Conclusion

Whilst British Standards will invariably always lag behind industry innovation and development other bodies such as NHBC and BBA work with industry to develop Best Practice guidelines to meet design and client demands. Following this Best Practice advice will ensure that the likes of the NBHC will insure correctly designed and constructed building, however, ultimately it is the decision whether or not to guarantee any threshold lies with the individual manufacturer.

LRWA was founded in 1979, and consists of the UK's leading manufacturers of liquid roof coatings and related material suppliers. It aims to raise awareness about the technical and financial benefits of specifying liquid applied roofing systems and to establish both product and installation standard to ensure optimum performance is achieved; to this end LRWA has been involved in the writing of European Technical Approvals as the official body in conjunction with the BBA and EOTA.

Whilst every effort has been made to ensure the accuracy of the information contained in this publication, it must be emphasised that the Association has itself not verified the information by independent testing: for this reason and because the Association has no control over the precise circumstances in which it will be used the Association, its officers, employees and members can accept no liability arising out of its use, whether by members of the Association or otherwise. The publication is of a technical nature only and makes no attempt to state or conform to building regulations or other legal requirements; compliance with these must be the individual user's own responsibility.