

# Summary of changes to Chapter 7.1

November 2020

The chapter has undergone a full review and has been updated with the assistance of a Task Group made up from members of the flat roofing industry, including manufacturers and contractors, and related trade bodies and NHBC Technical staff.

The Title of the Chapter has been changed from the current 'Flat roofs and balconies' to 'Flat roofs, Terraces and Balconies' to reflect the extended scope of the Chapter which now includes Terraces and Podiums.

The clauses within this new chapter are:

## 7.1.1 Definitions for this chapter

The Definitions and List of related sources of information have been extended to cover the increased scope of the Chapter.

## 7.1.2 Compliance

This details the various British and European Standards, as well as Trade Association guidance which are relevant and support the chapter.

## 7.1.3 Provision of information

This lists out what design and specification information should be issued to NHBC.

## 7.1.4 Flat roof, terrace and balcony general design

The various combinations of 'deck systems' and 'toppings' covering 'uninsulated', 'cold', 'warm', and 'inverted warm' constructions have been shown in a new illustrative format to make it easier to use.

## 7.1.5 Drainage

The order of some sections has changed with 'Drainage' being moved to the beginning of the Chapter to emphasise its importance in the design and construction. Drainage includes guidance on the use and interpretation of 'zero fall roofs' and how to maintain effective drainage on the completed waterproofing layer. New guidance has been introduced on the drainage of small balconies and terraces, which follows closely the advice given in the recently published BS 8579 on balconies, which NHBC helped to draft.

A clause has been added on carrying out a deck survey and having a formal handover between the deck erector and waterproofing contractor to ensure a fully drained waterproofed surface is achieved with no back falls.

## 7.1.6 Flat roof, terrace and balcony structural design

This clause has been updated and now includes guidance on short and long-term deflection and the effect on drainage.

## 7.1.7 Timber structure and deck

The guidance has been fully reviewed and contains more details on the durability requirements, with the structural elements of balconies having at least a 60-year service life.

## 7.1.8 Concrete decks

Further advice has been given on ensuring a cast in-situ concrete deck is adequately dried before a permanent waterproofing layer is installed, and on the need to carry out an adhesive bond test prior to laying an adhesive bonded waterproofing layer, together with a note warning that the bond can be affected by non-compatible liquid applied treatments used to help cure the concrete.

## 7.1.9 Profiled self-supporting metal decks

The section on 'profiled metal decks' has been expanded to cover 'profiled self-supporting metal decks' supporting 'warm' and 'Inverted warm' roof toppings. A new section has been added on 'Profiled self-supporting metal roofing' covering 'site assembled' insulated composite panels, including standing seam systems, and 'factory insulated panels'.

## 7.1.10 Profiled self-supporting metal roofing

This clause requires self-supporting metal roofing to be of adequate strength and durability, resisting water penetration into the building and providing suitable thermal and sound insulation.

## 7.1.11 Thermal insulation and vapour control

More in-depth guidance has been included on 'Thermal insulation and vapour control'

# Summary of changes to Chapter 7.1

November 2020

## 7.1.12 Waterproofing layer and surface treatments

The section on 'Waterproofing layer and surface treatments' has been revised to include more commonly used materials other than traditional bitumen membranes.

'Fully supported flat sheet hard metal roof' waterproofing designs has been included for the first time with illustrations on the preferred approach when using such waterproofing systems.

The need to check the integrity of the waterproofing layer has been included, either visually or electronically depending on the size and complexity of the roof, and for any test report to be made available to NHBC.

## 7.1.13 Green and biodiverse (brown) roofs - including roof gardens

Further guidance has been introduced into the section on 'Green and biodiverse roofs (brown roofs) - including roof gardens' including both 'warm' and 'inverted warm' green roof build-ups. Where the green roof topping is not provided by the waterproofing layer manufacturer/contractor the need for a formal handover between the waterproofing system contractor and the green roof contractor has been included together with a written confirmation of compatibility on the two systems being used together.

## 7.1.14 Blue roofs

A section on 'Blue roofs' has been introduced for the first time, with an emphasis on the need to have an effective water flow reduction layer and the effect of water penetration on the thermal insulation valve when using an inverted warm roof design over a warm roof design.

## 7.1.15 Raised podium

A new section dealing with 'Podiums' has been added to differentiate between 'raised podiums' which are dealt with under Chapter 7.1 and 'buried podiums' which are dealt with under Chapter 5.4 'waterproofing of basements and other below ground structures'.

## 7.1.16 Detailing of flat roofs

The illustrations in the section on 'detailing of flat roofs' have been reviewed and some minor changes have been made including adding an inverted warm roof drainage outlet to show the two levels at which roof drainage occurs.

## 7.1.17 Accessible thresholds and upstands

The section on 'accessible thresholds and upstands' has been amended to include insulated upstands and a clause added on not using waterproofing membrane as DPCs under load bearing walls and avoidance of forming hidden upstands within inaccessible cavities in cavity walls.

## 7.1.18 Parapets and guarding to terraces and balconies

The section on 'guarding' has been expanded to include illustrations and text on the design of copings and waterproofing to parapet walls and examples on how to fix balustrade posts through waterproofing layers without causing leakage through the waterproofing.