

## BUILDING SYSTEM

Building regulation advisory note

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| <b>Circular</b> | BS 10 007                          |
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| <b>Related</b>  | BS 10 003, BS 10 004 and BS 10 005 |

# Building Code of Australia 2010 – key changes

This circular briefly outlines to councils, certifiers, industry practitioners and other stakeholders the key changes made to the Building Code of Australia in 2010 as they apply to NSW.

### Introduction

The Building Code of Australia (BCA) sets national standards to ensure building works maintain safety, amenity and sustainability for current and future communities. It contains technical requirements for the design and construction of buildings and other structures and covers matters such as structural soundness, fire resistance, access, services, energy efficiency and provisions for health and safety.

The BCA is produced and maintained by the Australian Building Codes Board (ABCB) with each state or territory referencing it in their respective legislation. It is given legal effect in NSW through the Environmental Planning and Assessment (EP&A) Act 1979 and EP&A Regulation 2000.

The BCA is amended annually with the new edition for each year commencing on 1 May. The commencement of BCA 2010 was advised to practitioners by the issue of Planning Circular BS 10 004.

This Circular provides information on some of the key changes made in BCA 2010 and relies on the reader having a working knowledge of the BCA.

### Information from ABCB

This circular is intended to supplement the following sources of information regarding the changes made with BCA 2010.

- The **ABCB's Lists of Amendments**, listing each individual change made under BCA 2010, are contained in the back of the respective volumes of the BCA.

- **ABCB Seminar presentations** on BCA 2010 can be downloaded from the ABCB website at [www.abcb.gov.au](http://www.abcb.gov.au) under Training/Events. Click 'BCA Seminars' and download 2 files on 2010 BCA seminar from 'Related Documents'. The Australian Institute of Refrigeration, Air conditioning and Heating's workshop on BCA Section J can be downloaded using the following link <http://www.airah.org.au/Content/NavigationMenu/Resources/DivisionMeetingPresentations/default.htm>

### The BCA 2010 amendment

#### Change of format

From the publication of BCA 2010, onwards, the two volumes of the BCA will be made up of 3 books:

- Volume One - deals with Class 2 to 9 buildings (i.e. multi-unit residential, commercial, industrial and public buildings).
- Volume One-Appendices - contains the variations and additions<sup>1</sup> of the States and Territories.
- Volume Two - deals with Class 1 and Class 10 buildings (i.e. housing provisions) and State and Territory variations and additions to Volume Two provisions.

<sup>1</sup> State and Territory variations may reflect their different climates, local practices, technical stringencies or policy positions, e.g. the use of BASIX in NSW for energy and water savings. Note that a strategy has now been adopted for reducing variations to achieve greater national consistency. Additions address regulatory aspects not covered by the BCA.

## Overview

The majority of the amendments contained in BCA 2010 relate to increases in energy efficiency for both residential and commercial/industrial buildings. The changes are to facilitate the introduction of reforms by the Council of Australian Governments (COAG).

The amendment also incorporates a number of other technical amendments, including those identified through the ABCB's Proposal for Change (PFC) process.

## Changes to Referenced Documents

### • New editions adopted

AS 1926 Swimming pool safety; Part 1 Safety barriers for swimming pools; and Part 2 Location of safety barriers for swimming pools – both 2007 editions, including Amendment 1.

AS 3959 Construction of buildings in bushfire-prone areas – 2009 edition.

### • Amendments adopted

AS 2293 Emergency escape lighting and exit signs for buildings; Part 1 System design, installation and operation - Amendment 1.

### • Deletion

AS 1170 Minimum design loads on structures; Part 4 – Earthquake loads 1993. Withdrawn as outdated and following the expiry of the agreed transition period to the 2007 edition.

## Changes to national BCA provisions and associated NSW Variations

### Assembly building definition and 'Class 6' building description

#### • National BCA Provisions (A1.1 and A3.2)

No changes are made to these provisions in BCA 2010. However, BCA 2009 included changes to the 'assembly building' definition; and the description of a Class 6 building that referred to specified bars and associated building types as assembly buildings.

#### • NSW Variations for Assembly building definition and 'Class 6' building description (NSW A1.1 and NSW A3.2)

In BCA 2010, NSW Variations have been made to the definition of assembly building and the description of a Class 6 building, to align with recent reforms made regarding entertainment venues in this State.

In the NSW Variations, the definition of assembly building, amongst other things, excludes specific reference to live entertainment or dance floors in bar areas. Consequentially, the NSW 'Class 6' building description deletes the reference to a 'bar area that is not an assembly building' and replaces it with a simple reference to a 'bar'.

**Note:** These changes do not alter the need to classify a building according to its intended use. If a building's principal purpose is for the assembly of people for entertainment, recreational or sporting purposes, Class 9b is likely to be the relevant classification under the BCA.

## Large isolated buildings

### • National BCA Provisions

(C2.3 and Table E2.2a)

The requirements for smoke hazard management (SHM) in large isolated buildings have been relocated from Part C2 to Table E2.2a in Part E2. The change is largely as a result of recognising that SHM is a Part E2 matter under the BCA, not a Part C2 matter.

### • NSW Variations for Large isolated buildings (NSW C2.3 and NSW Table E2.2a)

The previous NSW variation to C2.3 regarding SHM for specified large isolated buildings, has been relocated to Table E2.2a.

**Note:** The ABCB issued a subscriber alert in April 2010 to correct an error in this NSW Variation. The alert corrected the wording of hard copies of BCA 2010, while the DVD and web-based BCA were corrected electronically prior to release. See Planning Circular BS 10 003 for further details.

## Bushfire protection

### • National BCA Provisions (Part G5 and Parts 2.3 and 3.7)

BCA 2010 adopts the 2009 edition of AS 3959 Construction in bushfire prone areas. In line with the new edition, the application of the BCA has been extended to include a Class 10a building or deck that is associated with a residential building (Class 1, 2 or 3).

In Volume Two, the Acceptable Construction Practice (ACP) for bushfire protection has been deleted as it was comprised largely of extracts from AS 3959, the Acceptable Construction Manual (ACM).

### • NSW Variations for Bushfire protection (NSW Part G5 and NSW 3.7.4.0)

For alignment with the national provisions, the application of each volume has been extended to Class 10a buildings and decks; and in Volume Two, the NSW ACP has been deleted.

In NSW, the 2009 edition of AS 3959 is applicable, except in a flame zone where a new NSW Variation replaces Section 9 Construction for Bushfire Attack Level FZ (BAL-FZ). The new variation requires buildings proposed to be built in a flame zone to meet the specific conditions of development consent that result from the NSW planning process.

The NSW Variations referring to modifications under the EP&A Act and the Rural Fires Act are maintained.

**Note:** The Rural Fire Service (RFS) has produced an Addendum Appendix 3 to Planning for Bushfire Protection (PBP) 2006 to replace the existing Appendix 3. The Addendum (2010) is intended to align PBP with the BCA and the requirements for the BALs of AS 3959-2009. PBP, including the addendum, is applicable during the planning stage of developments in bushfire prone areas and is available on the RFS website at [www.rfs.nsw.gov.au](http://www.rfs.nsw.gov.au) under 'Publications'.

### Energy efficiency

- **National BCA Provisions** (*Section J and Part 3.12*)

Amendments to the BCA energy efficiency provisions increase the stringency of the requirements for both residential and commercial buildings, in line with COAG reforms. The adoption of these provisions varies in each jurisdiction and in NSW, variations apply.

For the reduction of greenhouse gas emissions, new provisions have been added for both residential and commercial buildings, that energy to heat a building must be obtained from a renewable source or a source with low greenhouse gas intensity, and the application of the requirements has been extended to include the heating of swimming pools and spa systems.

**Residential buildings** – A major change for residential buildings is the 6 star rating required for thermal comfort/building fabric. The ABCB's Protocol for House Energy Rating Software indicates that the rating is that achieved under the Nationwide House Energy Rating Scheme (NatHERS).

A simulation path (using software that complies with the ABCB's Protocol) has been included in the Deemed-to-Satisfy<sup>2</sup> (DTS) provisions, alongside the traditional elemental path (a path of following individual DTS provisions).

Because the simulation path can only address the thermal comfort components of a building, all other components must be addressed by following the elemental path.

For the thermal comfort components the following applications apply:

- Volume One - requires use of the simulation path for the sole-occupancy units of a Class 2 building or Class 4 part (see J0.1).
- Volume Two - provides an option to use either a simulation or an elemental approach for Class 1 and 10 buildings (see 3.12.0).

**Commercial buildings** - The stringency of requirements for a range of measures, including building fabric, glazing, building sealing, services, and artificial lighting have been incrementally increased. A new requirement is introduced for certain buildings to monitor the energy consumed by certain services.

These new provisions can be met using the options of simulation as a Verification Method<sup>3</sup> or the DTS elemental approach.

- **NSW Variations for Energy efficiency** (*NSW Section J and NSW Part 3.12*)

**Residential buildings** - In NSW, BASIX will continue to be the predominant control for energy efficiency in residential buildings, with certain BCA provisions also being applicable as specified in the NSW Appendix.

The NSW Appendix to each BCA Volume identifies that for residential buildings only (Classes 1, 2 and 4) the provisions of BCA 2009 will apply for the BASIX/BCA package for energy efficiency. Practitioners will need to refer to BCA 2009 to ensure compliance. See also the BASIX website [www.basix.nsw.gov.au](http://www.basix.nsw.gov.au)

Retaining BCA 2009 for the energy efficiency of residential buildings in NSW allows for the upgrading of the BASIX/BCA package, while complying with the COAG requirement for the new provisions to be implemented by 2011.

**Commercial buildings** - NSW Subsection J (B) requires Class 3 and Classes 5 to 9 buildings to comply with the national provisions of BCA 2010 for commercial buildings, as described above. The NSW variation for access to maintenance (NSW J8.2) is maintained for consistency with NSW legislation.

<sup>2</sup>

The BCA is a performance-based document and only compliance with the performance requirements is mandatory. The 'deemed-to-satisfy provisions' are a set of prescriptive methodologies covering materials, components, design and construction methods, which, if used, will be deemed to comply with the performance requirements of the BCA.

<sup>3</sup> 'Verification methods' are means by which an approval authority can be satisfied that a building solution complies with the relevant performance requirements of the BCA.

## Some Other Key Changes to the BCA

- **Safety barriers to swimming pools** (*G1.1 and Part 3.9.3.0*)

BCA 2010 makes a number of changes to the provisions for safety barriers.

The 2007 edition of AS 1926.2 is referenced. However, the BCA also includes a new provision that overrides that of the Standard, to prevent the use of child resistant doorsets in any barrier to an outdoor swimming pool. Consequently, a door cannot be installed in such a barrier.

Another new provision controls the swing of a door in a wall enclosing an indoor swimming pool, requiring the door to swing away from the pool area.

**Note:** There is a drafting inconsistency in the NSW Variations to these provisions in BCA 2010. See Planning Circular BS 10 005 for information on the intended application of the provisions.

- **Natural lighting from roof lights** (*Part F4 and 3.8.4.2*)

The provisions for the light transmitting area required for natural lighting have been divided into separate requirements for windows and roof lights. The new specific requirement for roof lights is for 3% of the floor area, in recognition of the enhanced light-transmitting ability of a glazed element mounted in the roof. The requirement for windows now excludes roof lights and remains at 10% of the floor area.

To clarify the angles of installation of a roof light to which the new provisions apply, the definition of roof light is extended to also apply to natural lighting requirements.

- **Nickel Sulphide glass** (*B1.4*)

To reduce the risk of glass failure from nickel sulphide inclusions in the glass, new provisions are applicable to vertical and sloped overhead glass assemblies at specified heights above the ground.

Options for compliance include the use, (subject to certain parameters) of heat strengthened glass, laminated safety glass or toughened safety glass.

- **Corrosion protection** (*Table 3.5.1.1a*)

The Table of corrosion protection requirements for sheet roofing has been revised to align with the changes to the corrosion protection of built-in structural steel members that were included in BCA 2009. This amendment increases the consistency of corrosion protection requirements in the BCA and better reflects

currently available products and industry practice.

### Further information

Note: This and other Department of Planning Building Circulars are published on the web at <http://www.planning.nsw.gov.au/circulars/building>

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### Important note

This circular does not constitute legal advice. The information is provided as a basic summary only. Users are advised to seek professional advice and refer to the relevant legislation, as necessary, before taking action in relation to any matters covered by this circular.

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