



## BUILDING SYSTEM

Building regulation advisory note

<b>Circular</b>	BS 08–002
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<b>Related</b>	

# Building Code of Australia 2008 amendment

This circular is to advise local councils, accredited certifiers, relevant government agencies and industry practitioners of certain changes to the Building Code of Australia with the 2008 amendment and other BCA matters. The changes take effect in NSW from 1 May 2008.

## Background

The Building Code of Australia (BCA) is amended on an annual cycle with each new amendment beginning on 1 May of the relevant year. This circular provides a summary of the key changes of BCA 2008, which commenced in NSW on 1 May 2008.

BCA 2008 is given legal effect in NSW through the *Environmental Planning and Assessment Act 1979* (EP&A Act) and the Environmental Planning and Assessment Regulation 2000, which 'call-up' the BCA as amended from time-to-time.

While BCA 2008 does not contain any major reform outcomes, it is an important amendment as it incorporates changes identified through the 'Proposal For Change' process that were agreed to at the National Technical Summit 2007.

The 2008 amendment provides the opportunity to focus on issues of clarification and better understanding and application of the BCA, which is of considerable benefit to all stakeholders and end users of the BCA.

The Australian Building Code Board's (ABCB's) full List of Amendments (listing each individual change made under BCA 2008) can be found at the back of each volume of the BCA in both hard copy and electronic versions. The List of Amendments is also available from the ABCB's website at <http://www.abcb.gov.au>.

## Purpose of the BCA 2008 changes to the national provisions

The purpose of the 2008 amendment to the national provisions in both Volumes is to:

- update Australian Standards and other referenced documents
- include minor technical amendments for clarity and consistency
- include new (national) provisions for swimming pool water recirculation systems
- include lists of other Commonwealth, State and Territory legislation which may potentially affect buildings.

In addition, the purpose of the 2008 amendment to Volume One only (Class 2 to 9 buildings) is to:

- where smoke detectors would be unsuitable in the atmosphere, expand the permitted use of other types of detectors deemed suitable by the relevant Australian Standard
- clarify the provisions for service penetrations through building elements required to have a fire resistance level (FRL)
- amend door handle height requirements to align with AS 1428.1
- amend some BCA terms to align with current industry terminology.

## Purpose of the BCA 2008 changes to the NSW Appendix

The purpose of the 2008 amendment to the NSW Appendix in both Volumes is to:

- remove variations for swimming pool water recirculation and filtration systems (incorporated in national BCA)
- include lists of other legislation potentially affecting buildings in NSW (as per other states and territories)

In addition, the purpose of the 2008 amendment to the NSW Appendix in Volume One only is to:

- update reference to legislation for places of public entertainment
- clarify the application of specific requirements
- align certain NSW Variations with amended national provisions.

## Key changes to the national BCA provisions – both Volumes

### Referenced documents

#### *New editions and amendments*

Correction and other amendments to the existing Standard:

- AS/NZS 1170: Structural design actions, Part 1 Permanent, imposed and other actions
- AS 1288: Glass in buildings
- AS 2419: Fire hydrant installations, Part 1 System design, installation and commissioning (*Volume One only*)
- AS/NZS 3500: National plumbing and drainage
  - Part 3 Stormwater drainage
  - Part 5 Domestic installations (*Volume Two only*)
- AS 4055: Wind loads for housing (*Volume Two only*)
- AS 1289: Methods of testing soils for engineering purposes (*Volume Two only*).

More substantive changes:

- AS 1170: Structural design actions, Part 4 (2007) Earthquake actions in Australia (*new edition – referenced alongside the existing 1993 edition for a transition period of 12 months to allow industry to adapt to the new 2007 edition*)
- AS 3700: Masonry structures (*a new note indicates that the choice of earthquake loading standard (AS 1170.4) will affect the use of amendments to AS 3700, as Amendment 3 is only suitable for use with the 2007 edition of AS 1170.4*)
- AS 1860: Particleboard flooring, Part 2 Installation (*new 2006 edition*)
- AS 1926: Swimming pool safety, Part 3 Water recirculation and filtration systems (*a new reference in Volume One Part G and Volume Two Part 3.9.4*).

#### *Deleted references*

- AS 1691: Domestic oil fired appliances – installation (*outdated and no longer in use*)
- AS 4428: Fire detection, warning, control and intercom systems – control and indicating equipment
  - Part 1 Fire
  - Part 4 Intercommunication systems for emergency purposes
 (*no longer necessary due to BCA 2008 amendment to refer to AS 1670: Fire detection warning, control and intercom systems*) (*Volume One only*)

- CSIRO NBTC Bulletin 5: Earth-wall construction (4th edition) (*outdated, no longer available*)
- SSL Register of Accredited Products – Fire Protection Equipment (*deleted to eliminate reference to specific organisations in accordance with competition policy. See comments below*).

### Definitions (A1.1 and Part 1.1)

#### *Climate map*

Individual maps for each state and the Northern Territory (ACT is on the NSW map) are being made available from 1 May 2008 on the ABCB's website. The individual climate zone maps clearly identify specific locations, including the names of local government areas.

For NSW, a detail clearly delineates zones Sydney East and Sydney West.

#### *Definition of habitable room*

Clarification has been added that home theatre rooms are habitable rooms. This means that rooms for home theatres must meet all the requirements for habitable rooms such as light and ventilation, including the allowance for light and ventilation to be borrowed from an adjoining room.

### Reference to Scientific Services Laboratory (SSL) deleted (A2.2 and 1.2.2)

Previously listed as a suitable method of evidence of compliance with the BCA, listing of a product under the SSL ActivFire Scheme has been deleted to eliminate references to specific organisations and promote competitive neutrality.

It is important to note that the deletion of the ActivFire Scheme from the BCA was not due to its ineffectiveness.

ActivFire remains one of a number of suitable schemes available for surveillance testing of fire detection and alarm systems. If such a scheme is to be used, it is important that the scheme includes suitable measures to ensure the reliability and consistency of the equipment.

### Annual probability of exceedance – earthquakes (Tables B1.2b and 3.11.3b)

The BCA table for annual probability of exceedance for earthquake has been revised to relate to the newly referenced 2007 edition of the Earthquake Standard (AS 1170.4). The tables are used to determine the magnitude of the event that must be designed for using the Standard.

The main changes are for importance level 3 and level 4 buildings, such as hospitals and emergency services buildings that need to survive an earthquake and remain in operation (level 4); and schools, churches and theatres where people may congregate in large numbers (level 3).

An adjustment has also been made to importance level 1. Volume Two references only importance levels 1 and 2 for residential structures.

### **Swimming pool recirculation systems (G1.1 and 3.9.4.0)**

Provisions have been included in the national provisions for swimming pool water recirculation systems to safeguard people from drowning or injury due to suction by the system. The Deemed-to-Satisfy solution references AS 1926.3. The inclusion of these provisions has resulted from the consolidation of similar provisions in some state and territory Appendices, including those of NSW.

## **Additional key changes to the national BCA provisions – Volume One**

### **Determining type of construction when the top floor of a building contains a Class 4 part (C1.3)**

A new provision has been inserted to clarify the required type of construction of a building when a Class 4 part (a single flat in a commercial/industrial building) occupies part or all of a top storey of a building.

C1.3 indicates that the type of construction is determined partly on the basis of the classification of the top most storey applying to all storeys of a building. When a Class 4 part is on the top floor, the classification of either the adjacent part (if the top floor is shared with a part of another class) or the storey next below, is the classification used to determine the Type of construction in accordance with the clause, to ensure it is relevant to the whole building.

### **Openings for service installations (C3.15)**

The clause has been restructured under headings to clearly identify the different options for compliance.

The provisions for service penetrations through fire rated building elements in Subclause (a) have been revised to clarify that in a tested system, it is only where the service penetrates the building element that the requirement to be identical and protected in accordance with the tested prototype, is applicable.

Subclause (a)(ii), permits the deletion of the insulation criteria from a tested system under certain conditions and has also been amended to:

- only apply to metal piping systems; and
- clarify that no combustible building element or material can be located within 100 mm of the pipe for a distance of 2 m from the penetration.

### **Fire-isolated stairways and ramps (D1.3)**

Clarification has been added that the provision requiring certain exits to be fire-isolated only applies to stairways and ramps serving as required exits. These stairways and ramps connect storeys of a building to a road or open space.

For example, stairways and ramps between different levels within a storey are not serving as required exits and therefore are not included in the provision.

### **Operation of latch (D2.21)**

The provisions for the operation of door latches has been amended by restructuring to clarify that the provisions for Class 9b assembly buildings are a requirement and not a concession to the general requirements. Additionally, the maximum height of door handles has been changed from 1.2 m to 1.1 m for consistency with the height range in AS 1428.1 for people with disabilities.

### **Signs on doors (D2.23)**

The provisions setting out the requirements for signs on certain types of fire safety doors has been amended to simplify the types of signs to be provided and to ensure the sign is placed in an appropriate position where it can be seen and read when needed.

### **Fire control centres (Specification E1.8)**

The Specification setting out the details of fire control centres has been restructured to clarify the application of provisions. The term 'fire control centre' includes those that are required to be in a dedicated room. Therefore, any provisions which are applicable to 'fire control centres' are automatically applicable to 'fire control rooms' (Clauses 1 to 5). Provisions that are applicable only to 'fire control rooms' are identified specifically (Clauses 6 to 12).

### **Fire safety terminology (Specification G3.8 and other provisions as shown)**

A few fire safety terms have been updated to align with language commonly used by industry and in the relevant Australian Standards:

- fire indicator board is changed to 'fire indicator panel'
- optical, with respect to a smoke detector is changed to 'photoelectric'
- visible warning signs is changed to 'visual warning devices'
- Action signal is changed to 'evacuation signal'
- EVAC AREA is changed to 'EVACUATE'
- Emergency warning and intercommunication system (EWIS) is changed to 'sound systems and intercom systems for emergency purposes'. (Also referenced in C2.13, EP4.3, E4.9, G3.8).

### **Smoke detection (Various provisions)**

Due to changes in the types of detectors now available, the provisions permitting the use of a heat detector when a smoke detector would be unsuitable in the atmosphere are amended to allow the use of any type of detector deemed suitable by AS 1670.1.

### **Smoke hazard management in shopping centres (Table E2.2b - Class 6 buildings)**

The provisions for smoke hazard management in shopping centres have been amended to clarify the application to the whole compartment; and to add criteria for smoke separation from the rest of the fire compartment, to areas of other classifications

and specified Class 6 areas that are granted concessions.

### **Waste management in Class 9c buildings (F2.8)**

The requirement for an appliance for the disinfecting of pans has been extended to give the option of providing 'adequate' means for disposal of receptacles. The provision does not specify what facilities must be used to permit other valid alternatives.

In determining the acceptability of disposal methods, consideration should be given to other relevant requirements. In NSW, regulations under the Department of Health and the NSW Code of Practice – Plumbing and Drainage, will also need to be satisfied.

### **Ceiling height above stairs, ramps (F3.1)**

A ceiling height of 2 m above stairways has been included in F3.1 for consistency with Volume Two. The method of measurement vertically from the nosing line to the ceiling is also included.

### **Energy efficiency (Section J)**

Following requests from industry, Verification Method JV2 using a stated value has been deleted from the listed methods of verifying and demonstrating compliance with the Performance Requirements.

Experience has shown that the application of JV2 can result in widely varying outcomes, confirmed by testing using the BESTEST comparison method. For this reason, JV2 has been removed from BCA 2008.

## **Additional key changes to the national BCA provisions – Volume Two**

### **Subsoil drains (3.1.2.4)**

The provisions have been revised to allow more flexibility in order to be appropriate for all soil types and to allow solutions based on local practices that have been proven to work. The explanatory information has been amended to reflect advice of AS/NZS 3500.

### **Vertical articulation joints (3.3.1.8)**

Subclause (b) has been amended to clarify that articulation joints are to be located 'between masonry elements', i.e. the 10 mm gap is not required at doors or window frames.

Subclause (e) now clarifies that sealing of joints in single skin masonry is only required if the masonry is required to be weatherproof.

Subclause (f) is amended to state that articulation joints may not be used adjacent to arched openings.

### **Roof tiling – sarking (3.5.1.2)**

Requirements for the installation of sarking under tiled roofs have been inserted (new subclauses (f), (g) and (h)) - including a table based on the pitch of the roof and the length of the rafters (Table 3.5.1.1b).

### **Bathroom and ensuite glazing (3.6.4.5)**

Subclause (c) has been amended to allow ordinary annealed glass, including mirror, to be used in lieu of safety glass, provided a fixed vanity or bench within specified dimensions is located in front of the glass.

The fixed vanity or bench is considered to protect people against falling into the glass and injuring themselves and is consistent with AS 1288.

### **Fire separation (Part 3.7 – various clauses)**

Figure 3.7.1.3 consolidates the previous two parts into one and adds a new diagram (c) with the roof gutter on top of an external wall; and identification of where non-combustible material is to be located.

The intent of the amended figure is to identify the extent of the fire resisting external wall. The location of flashings and framing is indicative only.

The exemption from fire separation provided by 3.7.1.6(d) for carports near a boundary, has been extended to add polycarbonate roofing to the list of exemptions.

### **Definition of 'shower area, enclosed' (3.8.1)**

Information previously contained in the explanatory information has been moved into the definition to describe what is and what is not considered to be an enclosed shower area.

### **Required facilities (3.8.3.2)**

New explanatory information has been included, consistent with Volume One, to clarify that a kitchen sink or wash basin must be separate from a laundry washtub.

### **Wind region map (Figure 3.10.1.4)**

The map has been amended to be consistent with AS/NZS 1170.2 Amendment 1: 2005, so that the Acceptable Construction Manual (the Standard) and the Acceptable Construction Practice are consistent.

## **Key changes to the NSW Appendices in both Volumes**

### **Swimming pool water recirculation (NSW Part G1 and NSW 1)**

The NSW provisions for swimming pool water recirculation and filtration systems have been deleted, due to the inclusion of consolidated provisions in the national BCA.

### **Footnote – other legislation**

A new footnote listing other legislation that could potentially affect the design and construction of buildings is included. All administrations, including the Commonwealth, have included or updated such a footnote as the first step in a consolidation project that is part of the Variations Reduction Strategy.

It should be noted that the list is not comprehensive. It is provided as an indicative guide only and should not be relied upon as a substitute for further research to determine other relevant building standards in individual circumstances.

## Additional key changes to the NSW Appendix in Volume One

### Operation of latch (NSW D2.21)

Provisions for places of public entertainment have been redrafted to align with changes in the national provisions, as above (operation of latch); and in subclause (c)(iii) to address an issue of re-entry to the building arising as a consequence of recent changes made by the Department of Health, prohibiting smoking inside specified premises.

### Stages and backstages (NSW Table E2.2b)

Application of the provisions for smoke hazard management over stages has been clarified, following identification of differences in interpretation. A new subclause clarifies the method of determining the floor area of any stage in a building where a proscenium wall separates the stage from the auditorium.

### Places of public entertainment legislation (NSW H101.1)

The reference to legislation has been updated to refer to the EP&A Act, following the transfer of functions from the *Local Government Act 1993*.

## Further information

### ABCB's Energy Efficiency Handbook

The ABCB have produced a handbook on the application of the BCA energy efficiency provisions to new building work associated with existing buildings, such as alterations or additions.

The EP&A Act applies the BCA to new buildings and new building work carried out on existing buildings. The handbook contains guidance on the general approach to be taken when applying the BCA energy efficiency provisions to such building work. The new work may be an extension, alteration, refurbishment or change of classification/use.

The handbook titled *Applying energy efficiency provisions to new building work associated with existing Class 2 to 9 buildings* has been developed to assist informed decision-making when applying the energy efficiency provisions to new building work associated with existing buildings.

The handbook should be read and applied in conjunction with the EP&A Act and Regulation and does not replace or override any legislation.

For subscribers to the ABCB's BCA, the handbook is available under 'E-Docs' after log-in, and for non-subscribers, the publication can be purchased from the 'online shop' on the ABCB website at <http://www.abcb.gov.au>.

### ABCB's List of Amendments

As previously mentioned, this circular provides a summary only of the key changes of BCA 2008.

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

### Authorised by:

Chris Johnson  
Executive Director, Special Projects

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### Important note

This circular does not constitute legal advice. 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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