



BUILDING SYSTEM

Building regulation advisory note

Circular	BS 06-003
Issued	13 April 2006
Related	

Changes to the Building Code of Australia 2006

The purpose of this note is to advise councils, private certifiers, developers and the community of the Building Code of Australia 2006 amendment, which takes effect on 1 May 2006.

Introduction

The Building Code of Australia (BCA) 2006 takes effect in NSW on 1 May 2006. Note that each annual amendment becomes a whole new edition of the BCA, identified by the year.

Any proposed building must comply with the edition of the BCA in force at the time that the application for a construction certificate or a complying development certificate is made. See clauses 145 and 136A respectively of the Environmental Planning and Assessment (EP&A) Regulation 2000.

Applications for construction and complying development certificates received on or after 1 May 2006 must comply with BCA 2006 except for the new energy efficiency provisions of Part J for commercial buildings (Classes 5 to 9), which are subject to a six-month transition period. (See further details below).

In summary, the changes to Volumes One and Two included in BCA 2006 are:

- minor technical and editorial changes
- major components, as detailed below, including:
 - update of referenced Australian and Australian/New Zealand Standards to include new and amended versions
 - new provisions for energy efficiency for commercial buildings (Classes 5 to 9)
 - enhanced energy efficiency provisions for residential buildings and parts (Classes 1, 2, 3 and 4)
 - new provisions for national testing regime for buildings in cyclonic areas.

Major components of the BCA 2006 amendment

REFERENCED STANDARDS

In Volumes One and Two, BCA 2006 references twelve revised editions and five amendments to Standards and other documents, including Standards in the following subject areas.

Fire resistance

New editions of AS 1530.4 (Fire resistance test for construction elements), AS 1905 Parts 1 and 2 (Fire doors and fire shutters) and AS 4072.1 (Protection of openings – penetrations) clarify testing criteria, including a reference (under AS 1530.4) to a short-form report for fire test results as an alternative to the unabridged fire test report currently required to document the fire resistance level (FRL) achieved by a product or assembly.

Fire fighting equipment

New editions of AS 2419.1 (Fire hydrants design and installation) and AS 2441 (Fire hose reels installation) include specific requirements for pump sets and a descriptive figure showing water supply reticulation respectively that are contained in the current BCA. Inclusion in the new editions of the Standards will allow the material to be removed from the BCA.

National plumbing code

Amendment to AS/NZS 3500 Part 4 and Part 5 (Plumbing – heated water and Plumbing – domestic installations) require the use of water flow restriction devices in a hot water supply system for food preparation and sanitary purposes in commercial and residential buildings under both Volume One and Volume Two, for the purposes of energy efficiency.

Volume One (Class 2 to 9 buildings)

ENERGY EFFICIENCY (PART J)

New provisions for energy efficiency of commercial buildings (Classes 5 to 9) form the major component of the amendments of BCA 2006.

The new provisions extend current requirements for Class 3 buildings to Class 5 to 9 buildings and include changes to performance requirements and verification methods, new and amended definitions and new Deemed-to-Satisfy (DTS) Provisions that cover:

- J1 Building fabric
- J2 External glazing
- J3 Building sealing
- J4 Air movement
- J5 Air conditioning and ventilation system
- J6 Artificial lighting and power
- J7 Hot water supply
- J8 Access for maintenance.

As with the holistic nature of all other aspects of the BCA, each element within the DTS Provision of Section J is designed to work as part of a system to ensure the building achieves the desired level of energy efficiency.

J1 Building fabric

Part J1 requires building measures that insulate or increase the capacity of the building fabric and structure to reduce heat flow, e.g. by added insulation or thermal mass. New requirements for commercial buildings (Classes 5 to 9) are based on the likelihood of the building being air-conditioned, with a higher energy use than in a residential building. Exemptions are given where a conditioned space is not likely.

The intent is to ensure that the construction around the conditioned spaces has sufficient levels of thermal performance to enhance the internal comfort levels of occupants within the building to reduce the need for conditioning.

J2 External glazing

Part J2 requires calculations to determine the properties required for glazing, taking into account glazing area, glazing thermal performance, solar orientation and external shading projections or shading devices. BCA 2006 introduces a second calculation method (Method 2) for glazing applicable to Class 5 to 9 buildings, which takes into account the impact of energy use in buildings that are likely to be air-conditioned for prolonged periods.

The glazing calculations can be done long hand or be automated using spreadsheet software such as the series of Glazing Calculators available on the Australian Building Code Board's website www.abcb.gov.au.

J3 Building sealing

The control of air leakage through the building envelope by attention to junctions such as walls with ceilings and treatment of penetrations, e.g. chimneys and exhaust fans has a major impact on the thermal performance of the building. The current requirements for building sealing are also applied to buildings of Classes 5 to 9, with a new provision inserted to apply sealing requirements for evaporative coolers in the same manner as for exhaust fans.

J4 Air movement

Part J4 requires ventilation openings to be designed to allow the interior of a residential building to take advantage of any natural breeze. Part J4 is applicable to buildings and parts of Class 2 and 4 but not to buildings of Class 3 and 5 to 9. Note that Part J4 is not applicable in NSW as BASIX provides for air movement in dwellings.

J5 Air conditioning and ventilation systems

Efficient design of air-conditioning and ventilation systems is an essential element of building environmental management. Based on the increasing demands for internal comfort and the corresponding energy use, there is a need to ensure systems that are installed use energy in an efficient manner.

The BCA provides a range of measures to remove poor practice and encourage efficient system design, including regulating energy consumption of fans and motors, insulation of ductwork, and the use of devices such as thermostats and time switches. With the application now extended to Class 5 to 9 buildings further measures are introduced for larger capacity systems, e.g. the use of outside air cycles, greater limitation on fan power and the regulation of further heat rejection devices likely to be used in such buildings.

J6 Artificial lighting and power

Lighting is responsible for a sizable proportion of the electrical energy used in a building. The inefficiencies of a traditional lighting system have a compounding effect—the extra electrical load increases the load on the air-conditioning system due to the additional heat created by the lighting. Accordingly, the establishment of minimum standards for the use of lighting energy is an important step in controlling building energy use.

The BCA provides measures for artificial lighting and power designed to curb inefficient energy use in the lighting systems in all building classifications (except in residential sole-occupancy units and, in NSW, BASIX provides for lighting requirements in dwellings). Measures include regulating the power used to provide the light level needed in a space and controlling the use of lighting and power with time switches, motion detectors, timers and daylight sensors, with the addition of specific application for occupancies of Class 5 to 9 buildings.

J7 Hot water supply

Part J7 aims to control the loss of heat from hot water systems and storage devices that heat and supply water by requiring compliance with AS/NZS 3500.4. The provisions are extended to buildings of Class 5 to 9 and a requirement added for the insulation of hot water supply piping.

A recent amendment to Section 8 of AS/NZS 3500.4 will require flow restriction devices on hot water supply for food preparation and sanitary purposes in all classes of buildings.

J8 Access for maintenance

The provisions for access for maintenance are extended to buildings of Class 5 to 9 and provide a broad set of criteria to ensure plant and equipment are readily accessible for easy maintenance. These provisions are intended to ensure this important function is an integral part of the building design prior to the building being approved for construction.

For NSW, Part J8 identifies the extent of energy-efficient equipment that is required (rather than Section I of the BCA) to ensure items regulated by NSW Section J can be accessed so that the building owner can ensure any necessary maintenance can be undertaken.

NSW Appendix to BCA 2006

The NSW Appendix to Volume One maintains the current two subsections J(A) and J(B) to regulate energy efficiency in different classes of buildings and incorporates references to the new provisions for commercial buildings (Classes 5 to 9). See Attachment A for illustrations of the J(A) and J(B) methods for regulating energy efficiency of buildings in NSW.

Classes 2 and 4—BASIX/BCA combination

In NSW, all dwellings must comply with BASIX and certain supporting provisions of the BCA. NSW subsection J(A) supports the requirements of BASIX, providing technical details for the installation of insulation, building sealing and services. It is applicable only to Class 2 buildings and Class 4 parts via direct reference to the appropriate national provisions.

New national provisions included in the direct references for Class 2 and 4 buildings are under:

- thermal insulation (Part J1), requirements for a thermal break between metal framing and specified external cladding of roofs and walls where a direct heat path is created
- building sealing (Part J3), requirements for a self closing damper to be installed in an evaporative cooler used in specified areas, in order to prevent the escape of conditioned air.

Class 3 and Classes 5 to 9

NSW subsection J(B), which applies to Class 3 buildings, has been extended by BCA 2006 to include provisions applicable to Class 5 to 9 buildings. This subsection continues to directly reference the national provisions for energy efficiency, except for minor variations included in

the NSW Appendix. Part J8 (Access for maintenance) has also been extended to Class 5 to 9 buildings.

The new national provisions for thermal insulation and building sealing for Class 2 and 4 (see above) are also applicable to Class 3 and Class 5 to 9 buildings and are included in NSW Subsection J(B) via direct reference to the national provisions.

Transition period for commercial buildings (Classes 5 to 9)

In NSW, a six-month transition period has been provided for the new provisions for energy efficiency of Class 5 to 9 buildings. This transition period is to assist education, training and up-skilling of practitioners, and for all stakeholders to become more familiar with the provisions.

The new provisions for Class 5 to 9 buildings will form part of BCA 2006 from 1 May 2006 and are available for use and application by building owners, developers and practitioners, and their use is encouraged from this date, wherever practicably possible. However, compliance with the provisions will not become mandatory until 1 November 2006. Reference to the transition period can be found in the 'History of Amendments' section of BCA 2006.

NATIONAL TESTING REGIME FOR BUILDINGS IN CYCLONIC AREAS (PART B1)

The addition of a new Specification B1.2 provides options for testing metal roof cladding and supports for cyclonic areas (wind regions C and D under AS/NZS 1170.2). The options are:

- AS/NZS 1170.2 Wind actions, or
- Specification B1.2.

The new Specification provides a testing regime that allows for a repeatable standard test, able to be performed by different testing laboratories on different test equipment for the purposes of national consistency.

The options for compliance have been given a two-year transition period after which compliance with Specification B1.2 will be the only option.

SPECIFICATIONS C1.10 AND C1.10A (SECTION C)

BCA 2006 marks the withdrawal of the transition period for alternative test methods for fire hazard properties of specified materials. Specification C1.10a will now become the only DTS Provision for flooring materials and coverings and wall and ceiling linings. The fire hazard properties of all other materials will continue to be regulated under Specification C1.10.

EMERGENCY LIGHTING IN PATIENT CARE AREAS (PART E4)

The application of emergency lighting requirements of Clause E4.2(g) has been clarified so that the requirement is only applicable to rooms that are greater than 120m² in floor area, within a patient care area.

Volume Two (Class 1 and 10 buildings and structures)

ENERGY EFFICIENCY (NSW PART 2.6 AND NSW PART 3.12.1)

Energy efficiency for Class 1 buildings in NSW continues to be controlled by a combination of BASIX and BCA. Therefore, new national BCA 2006 provisions specific to enhancing energy efficiency in houses are not applicable in NSW.

In NSW, all dwellings must comply with BASIX and certain supporting provisions of the BCA, which are contained in the NSW Appendices. The supporting provisions in the NSW Appendix provide technical details for the installation of insulation, building sealing and the insulation of pipe work to services. (See Attachment A for illustration of the BASIX/BCA combination).

The new national provisions for thermal insulation and building sealing referred to under 'Volume One (Class 2 and 4 buildings)' above are also applicable to Class 1 buildings in Volume Two. As the new provisions are amendments to those parts of the BCA applicable in NSW to support BASIX, the NSW Appendix includes the new clauses in its direct references to national clauses, as follows:

- thermal breaks—3.12.1.2 and 3.12.1.4
- evaporative coolers—3.12.3.6.

NATIONAL TESTING REGIME FOR BUILDINGS IN CYCLONIC AREAS (PART 3.10.1)

The national testing regime for buildings in cyclonic areas is added to Volume Two, as per Volume One – with the options for testing of metal roof cladding and supports in cyclonic areas provided in a new Table 3.10.1.

CONTROL AND CONSTRUCTION JOINTS IN EXTERNAL WALLS (PART 3.7.1)

Clause 3.7.1.5(c) exempts certain elements from the requirement of subclause (b) to protect openings in walls required to be fire-resisting. Control joints and construction joints have been added to the list of elements exempted.

OPENINGS IN SEPARATING WALLS (CLAUSE 3.7.1.8)

The new subclause (f) requires any opening in a masonry wall separating Class 1 buildings to achieve -/60/60 FRL. The new subclause permits openings, providing they are protected to achieve at least a -/60/60 FRL. The addition will facilitate, among other things, openings in masonry walls for services, cables and outlets.

WIND SPEED CATEGORIES (PART 1.1 AND PARTS 3.2 TO 3.6)

Under the definition of 'design wind speed' in 1.1.1, the N and C wind categories have been introduced to replace the current 'W' category in order to reflect current industry practices and terminology.

Subsequently, all references to wind speed categories throughout Volume Two have also been amended in Parts 3.2, 3.3, 3.4, 3.5 and 3.6.

Further information

The ABCB have produced detailed, informative handbooks on the energy efficiency provisions of BCA 2006 for both Volume One and Volume Two. The handbooks form part of the electronic material provided for delegates to the national and NSW regional seminars regarding BCA 2006.

Copies of the handbooks can be downloaded from the Australian Building Code Board's website www.abcb.gov.au under 'What's New?'

A copy of the Australian Building Code Board's 'List of Amendments', providing summaries of all changes to the BCA, is provided in Attachment B.

If you have enquiries in relation to the BCA 2006 amendment, please contact the Department's BCA Advisory Service between 9.30 am and 11.30 am Tuesdays, Wednesdays and Thursdays on 02 9228 6529.

Authorised by:

Alice Spizzo

Important note

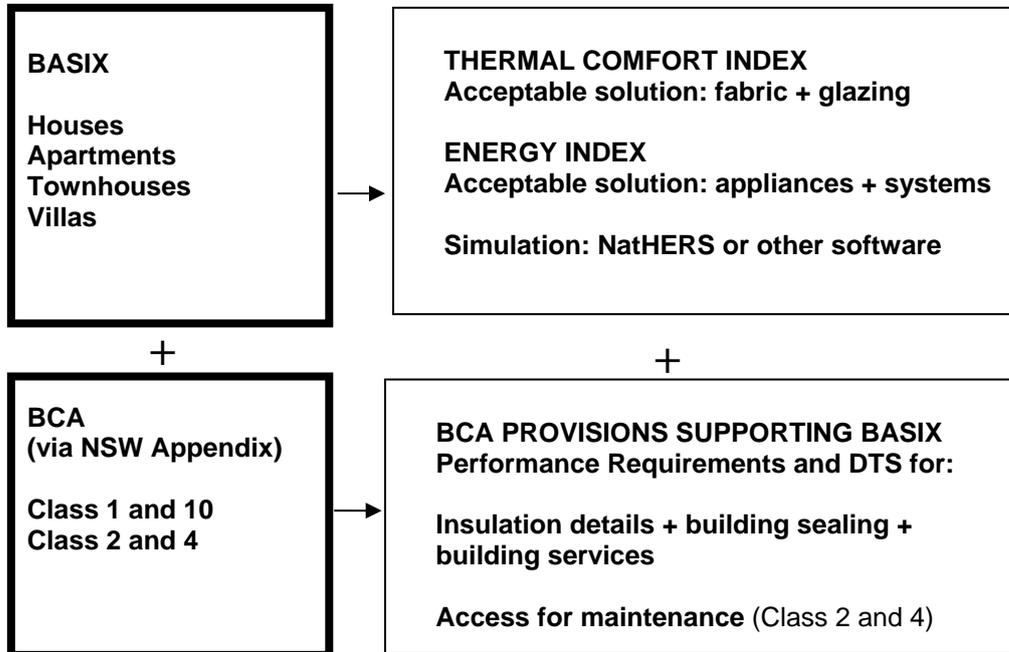
This circular does not constitute legal advice. Users are advised to seek professional advice and refer to the relevant legislation, as necessary, before taking action in relation to any matters covered by this circular.

Crown copyright 2006
NSW Department of Planning
www.planning.nsw.gov.au
DOP 06_001

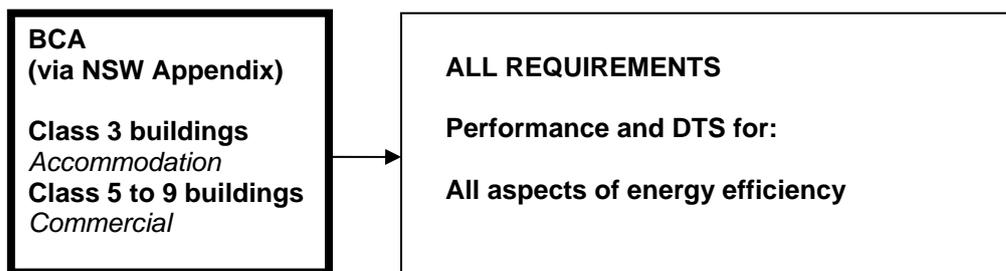
Disclaimer: While every reasonable effort has been made to ensure that this document is correct at the time of printing, the State of New South Wales, its agencies and employees, disclaim any and all liability to any person in respect of anything or the consequences of anything done or omitted to be done in reliance upon the whole or any part of this document.

ATTACHMENT A. OVERVIEW OF ENERGY EFFICIENCY IN NSW

1. BASIX/BCA Combination
Buildings and parts of Class 1, 2 and 4



2. BCA National Provisions (via NSW Appendix)
Buildings of Class 3 and Class 5 to 9



ATTACHMENT B. BCA 2006 LIST OF AMENDMENTS

Source: Australian Building Codes Board

VOLUME ONE**LIST OF AMENDMENTS**

This set of notes has been prepared by the Australian Building Codes Board to assist BCA users in identifying changes incorporated in the 2006 edition of Volume One of the BCA (BCA 2006).

The notes provide a description of major changes made from the previous edition of the BCA. If additional information is required to assist in understanding, interpreting or applying the provisions of BCA 2006, reference should be made to the Guide to the BCA.

While the Australian Building Codes Board has attempted to include all changes made from the previous edition of the BCA Volume One, the Board does not give any warranty nor accept any liability in relation to the contents of this list of amendments.

BCA Reference	Changes & Commentary
Section A	
A0.1	The term "History of Adoption" has been changed to "History of BCA Adoption" to be consistent with the changes to the division at the end of Volume One.
A0.10(b)	The word "directly" has been deleted because it was redundant and for consistency with A0.10(c).
A1.1	The following definitions have been inserted or amended:
Air-conditioning	Definition amended to clarify what spaces are not included for air-conditioning.
Annual energy consumption	Subclause (c) added to include space temperature range when equipment is operating.
Climate zone	Some local government areas in NSW have been changed and consequently, some of the climate zones have changed.
Conditioned space	The word "can" changed to "is likely to" for clarification. Subclause (b) added to include power input of air-conditioning systems for Class 7, 9 or 9b buildings.
Envelope	Amended to include other spaces that are exempted and to clarify that the defined term only applies to Section J.
Illumination power density	New definition inserted as part of extending the energy efficiency provisions to other Classes of buildings.
Motor input power	New definition inserted as part of extending the energy efficiency provisions to other Classes of buildings.
Motor shaft power	New definition inserted as part of extending the energy efficiency provisions to other Classes of buildings.
Outdoor air economy cycle	New definition inserted as part of the revised energy efficiency provisions for Class 2 and 3 buildings and Class 4 parts.
Service	Exclusion for carparks removed.
Solar Heat Gain Coefficient (SHGC)	Amended to clarify that it is applicable to both the glass and frame of glazing.
Total R-Value	Amended to clarify the definition.
Total U-Value	Minor technical corrections.
A3.2	In the definition of Class 2, the term "Sole-Occupancy Unit" has been italicised because it is a defined term.
Specification A1.3	The following referenced documents were inserted or amended in Table 1:
AS/NZS 1170.0	Reference to Specification B1.2 has been included as part of the cyclone testing regime.
AS/NZS 1170.2	Reference to Specification B1.2 has been included as part of the cyclone testing regime.
AS 1170.2	Reference to Specification B1.2 has been included as part of the cyclone testing regime.

BCA Reference	Changes & Commentary
AS 1288	Reference to AS 1288 "Glass in buildings – Selection and installation" updated to 2006 edition and the reference to C2.5 has been corrected to refer to Specification C2.5.
AS 1530.4	Reference to AS 1530 "Methods of fire tests on building materials, components and structures" Part 4 "Fire-resistance tests on elements of construction" updated to 2005 edition.
AS/NZS 1668.1	The reference to C2.5 has been corrected to refer to Specification C2.5.
AS 1670.1	Amdt 1, Nov 2005 to AS 1670 "Fire detection, warning, control and intercom systems – System design, installation and commissioning" Part 1 "Fire" referenced.
AS 1684.2	Reference to AS 1684 "Residential timber-framed construction" Part 2 "Non-cyclonic areas" updated to 2006 edition.
AS 1684.3	Reference to AS 1684 "Residential timber-framed construction" Part 3 "Cyclonic areas" updated to 2006 edition.
AS 1684.4	Reference to AS 1684 "Residential timber-framed construction" Part 4 "Simplified – non-cyclonic areas" updated to 2006 edition.
AS 1905.1	Reference to AS 1905 "Components for the protection of openings in fire-resistant walls" Part 1 "Fire-resistant doorsets" updated to 2005 edition.
AS 1905.2	Reference to AS 1905 "Components for the protection of openings in fire-resistant walls" Part 2 "Fire-resistant roller shutters" updated to 2005 edition.
AS 2049	Amdt 1, Nov 2005 to AS 2049 "Roof tiles" referenced.
AS 2050	Amdt 1, Dec 2005 to AS 2050 "Installation of roof tiles" referenced.
AS 2293.1	Reference to AS 2293 "Emergency escape lighting and exit signs for buildings" Part 1 "System design, installation and operation" updated to 2005 edition.
AS 2419.1	Reference to AS 2419 "Fire hydrant installations" Part 1 "System design, installation and commissioning" updated to 2005 edition.
AS 2441	Reference to AS 2441 "Installation of fire hose reels" updated to 2005 edition.
AS/NZS 3013	Reference to AS/NZS 3013 "Electrical installations — Classification of the fire and mechanical performance of wiring system elements" updated to 2005 edition.
AS/NZS 3500.3	Reference to AS/NZS 3500 "National plumbing and drainage" Part 3 "Stormwater drainage" updated to 2003 edition.
AS/NZS 3500.4	Amdt 1, Oct 2005 to AS/NZS 3500 "National plumbing and drainage" Part 4 "Heated water services" referenced.
AS 4072.1	Reference to AS 4072 "Components for the protection of openings in fire-resistant separating elements" Part 1 "Service penetrations and control joints" updated to 2005 edition.
AS/NZS 4600	Reference to AS 4600 "Cold-formed steel structures" updated to 2005 edition.
Section B	
B1.2(c)(ii)	The reference to the NT variation has been deleted as the NT are adopting the new Specification B1.2.
B1.2(c)(iii)	An additional provision referring to Specification B1.2 has been inserted to provide a national testing regime for cladding in cyclonic areas.
B1.2(c)(iv)	A reference to indicate what determines a cyclonic area has been included.
B1.3(b)	An additional provision referring to Specification B1.2 has been inserted to provide a national testing regime for cladding in cyclonic areas.
B1.3(b)	The reference to the NT variation has been deleted as the NT are adopting the new Specification B1.2.
B1.3(e)	An additional provision referring to Specification B1.2 has been inserted to provide a national testing regime for cladding in cyclonic areas.
B1.3(f)	A reference to indicate what determines a cyclonic area has been included.

BCA Reference	Changes & Commentary
Specification B1.2	A new specification has been included to provide a national testing regime for metal roof cladding in cyclonic areas.
Section C	
C1.10	Changed to remove a choice of options and require compliance with Specification C1.10a only for floor materials and floor covering and wall and ceiling linings. In other words, floor materials and floor coverings must comply with the required critical radiant flux and wall and ceiling linings must have the required material group number rather than have the option of complying with the AS/NZS 1530.3 tests referred to in Specification C1.10. At the time of the introduction of Specification C1.10a in July 2003, industry was advised that for a period of two years floor materials and floor covering, and wall and ceiling linings would be permitted to comply with either Specification 1.10 or Specification C1.10a. This was to allow industry time to test all materials in accordance with the new requirements. After this period, these materials would only be permitted to comply with Specification C1.10a. With the introduction of BCA 2006, this two year period has passed and the changes are in line with the advice given in 2003 and repeated in mid 2005.
Clause 5.1(e)(ii) of Specification C1.1	Typographical correction by adding the word "and" to the end of the provision to clarify that it is necessary to also comply with 5.1(f).
Clause 1 of Specification C1.10	Changed so that Specification C1.10 does not apply to floor materials and floor coverings, and wall and ceiling linings. These materials must now comply with Specification C1.10a.
Clause 2 of Specification C1.10	Consequential amendments made due to floor materials and floor coverings, and wall and ceiling linings now being required to comply with Specification C1.10a.
Clause 3 of Specification C1.10	Consequential amendments made due to floor materials and floor coverings, and wall and ceiling linings now being required to comply with Specification C1.10a.
Clause 4 of Specification C1.10	Consequential amendments made due to floor materials and floor coverings, and wall and ceiling linings now being required to comply with Specification C1.10a.
Clause 5 of Specification C1.10	For consistency with other blank Clauses in the BCA, the Clause heading has been deleted.
Clause 6 of Specification C1.10	For consistency with other blank Clauses in the BCA, the Clause heading has been deleted.
Clause 7 of Specification C1.10	For consistency with other blank Clauses in the BCA, the Clause heading has been deleted.
Clause 3.2(d)(ii)(A) of Specification C3.4	Typographical correction by deletion of one of the two references to AS 1670.1.
Section D	
Table D1.13	Typographical correction to delete the "0" after the entry for "carpark".
D1.17	The word "Clause" has been deleted from both (b)(i) and (iii). This term is not used when referring to another BCA provision.
Table D2.16a	Data in the table has been corrected to reflect research outcomes.
Section E	
E1.3	Amendments have been made due to the referencing of the revision of AS 2419.1. The matters deleted from the BCA are now included in AS 2419.1. The South Australia variation flag has been deleted.
E1.4	Amendments have been made due to the referencing of the revision of AS 2441. The matters deleted from the BCA are now included in AS 2441.
E4.2(g)(ii)	Clarification added that the provision applies only to rooms greater than 120 m ² in floor area within a patient care area.
E4.6	As a consequence of the BCA referencing the revised edition of AS 2293.1 which uses a pictograph of a moving man, the requirement to always include directional arrows on directional exit signs has been deleted.
Section F	
F1.7(a)	Removed italics from the word 'building' as this is not a defined term.

BCA Reference	Changes & Commentary
F1.7(d)(ii)	Changed for consistency with the provisions for slab and stall type urinals to require the floors of rooms containing wall hung urinals to be graded to a floor waste.
Section I	
Table I1.8	Reference to clause in Specification G3.8 corrected.
IO2	Limitation changed to extend to other Classes of buildings.
IF2.1	Limitation changed to extend to other Classes of buildings.
IP2.1	Limitation changed to extend to other Classes of buildings.
I2.1	Limitation changed to extend to other Classes of buildings.
I2.2	Minor technical changes.
Section J	
JO1	Deleted Limitation regarding the Class of building.
JF1	Deleted Limitation regarding the Class of building.
JP2	Limitation changed to extend to other Classes of buildings.
JV1	Minor technical corrections.
JV2	Amended to improve clarity. Extended to include other Classes of buildings.
JV2 Table	Minor change to headings and additional notes for clarity. Extended to include other Classes of buildings.
JV3	Amended to include more building Classes and restructuring for clarity.
Specification JV	
2.	Amended to extend to other Classes and uses of buildings and other minor technical corrections.
Table(s) 2a, 2b, 2c, 2d, 2e, 2f, 2g & 2h	New tables to extend to other Classes and uses of buildings.
PART J1	
J1.0	Changes to Clause references.
J1.1	Application changed to extend the Part to other Classes of buildings and exempt some situations.
J1.2	Minor technical corrections.
J1.3	Amended to include options for surface solar absorptance and thermal breaks in metal framed buildings and to include provisions for other Classes of buildings.
J1.4	Amended to extend to other Classes of buildings.
J1.5	Amended to include provisions for other Classes of buildings, restructured to provide most wall options in a tabular format, the inclusion of two wall insulation to glazing trading options and the inclusion of thermal breaks in metal framed buildings.
J1.6	Amended to include provisions for other Classes of buildings and provide a floor to wall insulation trading option and express required R-Values in tabular form.
PART J2	
J2.0	Changes to Clause references.
J2.1	Application changed to extend to other Classes of buildings and exempt some situations.
J2.2	Included to clarify the application of the two glazing methods in J2.3 and J2.4 to different Classes of buildings.
J2.3	Amended to remove frame factor as the Total U-Value is now required for the glazing system including the frame.
J2.4	Glazing method 2 has been added for Classes 5 to 9a and 9b buildings.
Figure J2.4	Amended to provide flexibility for designs where the window head is more than 0.5 m below the shading projection.

BCA Reference	Changes & Commentary
J2.5	Minor technical corrections.
PART J3	
J3.0	Changes to Clause references.
J3.1	Application changed to extend to other Classes of buildings and exempt some situations.
J3.4	Exemptions added for open front shops, cafes and restaurants.
J3.7	Additional clause requiring evaporative coolers to have sealing dampers in some situations.
PART J4	
J4.0	Changes to Clause references.
J4.2	Amended to provide an alternative in Region D severe tropical cyclone areas and minor changes for clarity.
PART J5	
J5.0	Changes to Clause references.
J5.1	Application clause has been removed as provisions apply to all Classes of buildings.
J5.2(a)	For an air-conditioning system - Amended to require outside air and return air motorised dampers to close, to limit the amount of power fan motors may use, exempt certain plant from the fan motor requirement, extend the provisions to other Classes of buildings, and minor changes for clarity or technical correctness.
J5.2(b)	For a mechanical ventilation system - Amended to require an energy reclaiming system or outside air modulating system in certain circumstances, exempt certain plant, extend the provisions to other Classes of buildings including specific requirements for carpark ventilation systems, and minor changes for clarity or technical correctness.
J5.2(c)	Exemptions to (a) and (b) restructured and an exemption for systems operating in a smoke hazard management mode and for essential ventilation added.
J5.4	Amended to replace the maximum pump motor power to water flow ratio with a maximum pump motor shaft power, to include provisions for fans on closed circuit coolers and evaporative condenser, to tabulate and extend the energy efficiency ratio and minor changes for clarity or technical correctness.
J5.5	Amended to exclude systems of less than 1,000 L/s air flow and systems needed for safe operation.
PART J6	
J6.0	Changes to Clause references.
J6.1	Minor change in clause structure.
J6.2	Subclauses (a) and (b) have been amended to extend the provisions to other Classes of buildings, and minor changes for clarity or technical correctness. New provisions, including tables, inserted to cover the illumination power density requirements for Class 5, 6, 7, 8, 9a and 9b buildings. Existing subclause (c) renumbered (f) and amended to cover other Classes of buildings. The concession for lighting provided for safe movement in accordance with F4.4 has been deleted because it is unnecessary.
J6.3(c) to (g), J6.4 and J6.5	New clauses and sub-clauses added as a result of extending the provisions to other Classes of buildings. They include how lighting is to be switched, external lighting, decorative and display lighting and a requirement for time switch control of boiling water units.
J6.6	New provision inserted for boiling water units. This provision has been included in Part J6 as it is the power to the unit that is being regulated.
PART J7	
J7.0	Changes to Clause references.
J7.1	Application clause has been removed as provisions apply to all Classes of buildings.
J7.2	Minor amendment for clarity.

BCA Reference	Changes & Commentary
PART J Specifications	
Specification J1.2	Minor changes for clarity or technical correctness.
Table 2b of Specification J1.2	Typographical correction of "450 slope" to "45° slope", 4 times.
Specification J1.5	Minor changes for clarity or technical correctness.
Specification J5.2	Amended to include provisions for flexible ductwork, to increase the Total R-Value to include the effect of the air film and for clarity or technical correctness.
Specification J5.4	Amended to include provisions for tanks and vessels and heat exchangers.
Specification J6	Amended as part of extending the provisions to other Classes of buildings and outside of buildings.
ACT Appendix	
ACT Table 1	The reference to "National Occupational Health and Safety Commission Code of Practice for the Safe Removal of Asbestos" has been deleted. Reference to AS/NZS 1530.3 deleted. Reference to ACT A2.103 corrected to refer to ACT2.102.
ACT AO2(a)	Sub-clause deleted. Consequently, the remaining subclauses have been renumbered.
ACT AF2.1	Clause deleted. Consequently, the previous ACT AF2.2 and ACT AF2.3 have been renumbered.
ACT AP2.1	Clause deleted. Consequently, the previous ACT AP2.2 and ACT AP2.3 have been renumbered.
ACT A2.0	Due to the deletion of clauses as referred to above, consequential changes have been made to the clauses referred to in ACT A2.0.
ACT A2.101	Clause deleted. Consequently, the previous ACT A2.102 and ACT A2.103 have been renumbered.
ACT D1.101	Reference to "Fire Brigade Act" updated to "Emergencies ACT 2004"
NSW Appendix	
NSW Section J	The notes at the beginning of the Section have been amended.
NSW J(A)P1	The Performance Requirement and its application have been amended.
Application of NSW J(A)P2	The application of NSW J(A)P2 has been amended.
NSW J(A)1.1	Amended to include provisions for alterations and additions to existing buildings and to state that the Deemed-to-Satisfy Provisions of the Part apply to thermal breaks in all Class 2 buildings and Class 4 parts.
NSW J(A)1.2	Amended to include provisions for thermal breaks to be provided between external cladding and framing.
NSW J(B)1	Amended to include provisions for Class 5 to 9 buildings in accordance with the national BCA.
NSW J(B)1.6	Amended so that the provision only applies to Class 3 buildings. Class 5 to 9 buildings are to comply with the national BCA.
NT Appendix	
NT B1.2	Deleted as a consequence of the inclusion of a national testing regime for metal roof cladding in cyclonic areas.
NT B1.3	Deleted as a consequence of the inclusion of a national testing regime for metal roof cladding in cyclonic areas.
NT Specification B1.2	Deleted as a consequence of the inclusion of a national testing regime for metal roof cladding in cyclonic areas.
NT Addition to Specification B1.2	Note to clause 2 added and addition of clauses 3 and 4 for NT.

BCA Reference	Changes & Commentary
SA Appendix	
SA E1.3	With the referencing of the 2005 edition of AS 2419.1, this provision has been deleted.
SA G5.1	New provision inserted setting out the application of Part G5 in South Australia.
SA J3.1	New provision inserted setting out the application of Part J3 in South Australia.
SA J3.3	Replaced by SA J3.3(a) requiring roof lights in Class 5 to 9 buildings to be sealed or capable of being sealed when serving a conditioned space or a habitable room.
SA J3.4	Amended to include separate provisions for external windows and doors in Class 2 and 3 buildings and Class 4 parts of buildings and Class 5 to 9 buildings.
SA J3.5	Amended to require exhaust fans to be fitted with a sealing device when serving a conditioned space or habitable room.
SA J3.6	Replaced by SA J3.6(a) requiring roofs, external walls, external floors and openings such as windows and doors in Class 5 to 9 buildings to minimise air leakage.
SA J3.7	New provision inserted dealing with evaporative coolers.
Tas Appendix	
Tas H122.2(a)	The term "centre-based child care facility" has been italicised because it is a defined term.
Tas H122.6(d)	New subclause inserted.
Tas H122.9(f)	New subclause inserted.
Tas H122.16 (c)	New subclause inserted. The existing subclause (c) has been renumbered (d).
Vic Appendix	
Section I	Variation deleted.
Vic application to JO1	Provision deleted.
Vic application to JF1	Provision deleted.
Vic application to JP2	Provision deleted.
Vic JV2	Variation deleted.
Clause 2 of Vic Specification JV	Variation deleted.
Vic J1.1	Variation amended to include Class 5 to 9 buildings.
Vic J2.0	References to other provisions amended due to the inclusion of energy efficiency measures for Class 5 to 9 buildings.
Vic J2.1	Variation amended to include Class 5 to 9 buildings.
Vic J3.1	Variation amended to include Class 5 to 9 buildings.
Vic J4.0	References to other provisions amended due to the inclusion of energy efficiency measures for Class 5 to 9 buildings.
Vic J5.0	References to other provisions amended due to the inclusion of energy efficiency measures for Class 5 to 9 buildings.
Vic J5.1	Variation deleted.
Vic J6.0	References to other provisions amended due to the inclusion of energy efficiency measures for Class 5 to 9 buildings.
Vic J6.1	Variation deleted.
Vic Part J8	Variation deleted.
History of BCA Adoption	
3.0	The Table setting out the adoption dates of BCA 2005 has been amended to include the Queensland adoption date of 1 May 2005.
4.0	Clause 4.0 and Table 4.0 have been added in order to set out the adoption dates of the 2006 edition of the BCA in each State and Territory and to summarise the purpose of the changes from BCA 2005.

VOLUME TWO

BCA 2006 - HOUSING PROVISIONS

This set of notes has been prepared by the Australian Building Codes Board to assist BCA users in identifying changes incorporated in the 2006 edition of the Housing Provisions (Volume Two) of the BCA (BCA 2006).

The notes provide a description of major changes made from the previous edition of the BCA.

While the Australian Building Codes Board has attempted to include all major changes from the previous edition of the BCA 2006 Housing Provisions, the Board does not give any warranty nor accept any liability in relation to the contents of this list of amendments.

BCA Reference	Changes & Commentary
Preface	
ABCB Important Disclaimer	The ABCB disclaimer has been amended to refer to the Explanatory Information rather than the Guide to the BCA which relates to Volume One, not Volume Two.
Section 1	
1.0.2	The term "Housing Provisions" has been italicised because it is a defined term.
1.0.10(b)	The word "directly" has been deleted because it was redundant and for consistency with 1.0.10(c).
Part 1.1	
Figure 1.1.4	The climate zones map has been amended to include some minor changes to the zones in NSW.
Table 1.1.2	Some local Government areas in NSW have been changed and consequently, some of the climate zones have changed.
Table 1.1.1	As part of the conversion from the W to the N and C categories for wind speeds, the reference to W has been removed. The wind speeds were included in BCA 96 eight years ago and the industry is now familiar with the N & C categories. The BCA has been updated to current industry practices and terminology. The Table has been amended to reflect new wind speed categories.
Definition of Housing Provisions	Reference to 1996 deleted to reflect current edition of the BCA.
1.1.8	Additional information in the form of a disclaimer has been inserted dealing with Explanatory Information.
Part 1.4	
Table 1.4.1	The following referenced documents were inserted or amended:
AS 1288	Reference to AS 1288 "Glass in buildings" – "Selection and Installation" updated to 2006 edition.
AS 1530.4	Reference to AS 1530.4 "Methods for fire tests on building materials, components and structures" Part 4 "Fire-resistance tests on elements of construction" updated to 2005 edition.
AS 1684.2	Reference to AS 1684 "Residential timber-framed construction" Part 2 "Non-Cyclonic areas" updated to 2006 edition.
AS 1684.3	Reference to AS 1684 "Residential timber-framed construction" Part 3 "Cyclonic areas" updated to 2006 edition.
AS 1684.4	Reference to AS 1684 "Residential timber-framed construction" Part 4 "Simplified – non-cyclonic areas" updated to 2006 edition.
AS 2049	Amdt 1, Nov 2005 to AS 2049 "Roof tiles" referenced.
AS 2050	Amdt 1, Dec 2005 to AS 2050 "Installation of roof tiles" referenced.

AS/NZS 3500.3	Reference to AS/NZS 3500 "National plumbing and drainage" Part 3 "Stormwater drainage" updated to 2003 edition.
AS/NZS 3500.4	Amdt 1, Oct 2005 to AS/NZS 3500 "National plumbing and drainage" Part 4 "Heated water services" referenced.
AS 4055	Reference to 2006 edition of AS 4055 "Wind loads for housing" included as an alternative to the 1992 edition. It is proposed that a transition period of at least 12 months be allowed when both editions of AS 4055 will be referenced to allow industry to become familiar with the 2006 edition.
AS 4600	Reference to AS 4600 "Cold-formed steel structures" updated to 2005 edition.
NASH Standard	Reference to NASH Standard "Residential and low-rise steel framing" Part 1 "Design criteria" included.
NSW Rural Fire Service and PlanningNSW State & Territory Variation	Change to reference version of "Planning for bushfire protection" in force under the EP&A Act.
AS 1056.1 State & Territory Variation	1991 edition of AS 1056 "Storage water heaters" Part 1 "General Requirements" referenced as a South Australian variation.
AS 4234 State & Territory Variation	1994 edition of AS 4234 "Solar water heaters – Domestic and heat pump – Calculation of energy consumption" referenced as a South Australian variation.
AS 4552 State & Territory Variation	2000 edition of AS 4552 "Gas water heaters" (including Amdt 1, April 2001, Amdt 2, August 2002 and Amdt 3, May 2003) referenced as a South Australian variation.
BCA 2005 State & Territory Variation	BCA 2005 referenced in Northern Territory, Queensland and Tasmanian variations to retain Pre-BCA 2006 Energy Efficiency provisions in those jurisdictions.
Section 2	
P2.1.1 State & Territory Variation	QLD has amended their Termite Management requirement and corresponding Explanatory Information.
P2.6.2 State & Territory Variation	New South Australian Performance Requirement dealing with services.
V2.6 Expl. information	Explanatory information amended to remove references to specific software.
V2.6.1 State & Territory Variation	Victorian variation inserted.
V2.6.2.1	The existing Verification Method has been deleted and replaced with a single requirement for houses to achieve an energy rating of 5 Stars. As a consequence, the South Australian and Queensland variation has also been deleted.
V2.6.2.1 Expl. information	Explanatory Information amended for grammatical reasons.
V2.6.2.1 State & Territory Variation	Victorian variation inserted.
Table V2.6.1	Table V2.6.1 has been deleted because it is no longer relevant to the amended Verification Method V2.6.2.1.
Table V2.6.1 Expl. Information	The Explanatory Information following Table V2.6.1 has been deleted because it is no longer relevant to the amended Verification Method V2.6.2.1.

V2.6.2.2(b)	Subclause V2.6.2.2(b) has been amended to include those items from Table V2.6.2 that are to be modelled as per the proposed building.
Table V2.6.2	Those items that are to be modelled as per the proposed building have been deleted from Table V2.6.2. The table has also been reformatted so that the items are in the same order as they occur in the Deemed-to-Satisfy Provisions.
V2.6.2.3 State & Territory Variation	New South Australian variation inserted setting out a Verification Method for heated water services.
V2.6.2.2(a) State & Territory Variation	Victorian variation inserted.
Part 3.1	
3.1.2.0	AS/NZS 3500.3 has been referenced to replace AS/NZS 3500.3.2 (Typographical correction).
3.1.2.1	AS/NZS 3500.3 has been referenced to replace AS/NZS 3500.3.2 (Typographical correction).
3.1.3.0 State & Territory Variation	QLD has amended their Termite Management requirement.
3.1.3.2 State & Territory Variation	QLD has amended their Termite Management requirement and corresponding Explanatory Information.
Table 3.1.3.1 State & Territory Variation	QLD has amended their Termite Management requirement.
Part 3.2	
Table 3.2.5.2	As part of the conversion from the W to the N and C categories for wind speeds, the reference to "W33" in the table title has been amended to "N2".
Part 3.3	
3.3.1.1(b)	As part of the conversion from the W to the N and C categories for wind speeds, the reference to "W41" has been changed to "N3".
Figure 3.3.1.2	As part of the conversion from the W to the N and C categories for wind speeds, the reference to "W41" has been changed to "N3".
Table a to Figure 3.3.1.2	As part of the conversion from the W to the N and C categories for wind speeds, the two references to "W33" have been changed to "N2" and the reference to "W41" has been changed to "N3".
3.3.1.2(e)(v)	As part of the conversion from the W to the N and C categories for wind speeds, the reference to "W33" has been changed to "N2".
Table a to Figure 3.3.1.3	As part of the conversion from the W to the N and C categories for wind speeds, the two references to "W33" have been changed to "N2" and the two references to "W41" have been changed to "N3".
3.3.2.1(b)	As part of the conversion from the W to the N and C categories for wind speeds, the reference to "W41" has been changed to "N3". A similar change has also been made to the Explanatory Information.
Table 3.3.2.3	As part of the conversion from the W to the N and C categories for wind speeds, the reference to "W33" has been changed to "N2" and the reference to "W41" has been changed to "N3".
3.3.3.1(a)	As part of the conversion from the W wind speeds to the N and C categories, the reference to "W41" has been amended to "N3". A similar amendment has also been made to the Explanatory Information.

3.3.3.2(e)(i)	As part of the conversion from the W wind speeds to the N and C categories, the reference to "W33" has been amended to "N2".
Table a of Figure 3.3.3.1	As part of the conversion from the W wind speeds to the N and C categories, the reference to "W28-W41" has been amended to "N1-N3".
3.3.3.3(b)	As part of the conversion from the W wind speeds to the N and C categories, the reference to "W28 or W33" has been amended to "N1 or N2".
Table a of Figure 3.3.3.5	As part of the conversion from the W wind speeds to the N and C categories, the reference to "W41" in the table heading has been amended to "N3".
3.3.5.1(b)	As part of the conversion from the W wind speeds to the N and C categories, the reference to "W41" in the clause has been amended to "N3".
Part 3.4	
3.4.2.0	A compliance option has been provided for cold-formed metal framing with the inclusion of the NASH Standard for residential and low-rise steel framing.
3.4.2.1(a)	A compliance option has been provided for cold-formed metal framing with the inclusion of the NASH Standard for residential and low-rise steel framing.
3.4.3.0	As part of the conversion from the W wind speeds to the N and C categories, in the Explanatory Information note 2, the reference to "W41" has been amended to "N3".
3.4.4.1(a)(i)	As part of the conversion from the W wind speeds to the N and C categories, the reference to "W41" in the clause has been amended to "N3".
3.4.4.3(b)	As the term floor area is not being used as defined, it is no longer italicised.
Part 3.5	
3.5.1.1(a)	As part of the conversion from the W wind speeds to the N and C categories, the reference to "W41" in the table heading has been amended to "N3".
Figure 3.5.1.1	As part of the conversion from the W wind speeds to the N and C categories, the reference to "W33" has been amended to "N2". The reference to W41 has been changed to N3 and the reference to "W33-W41" has been amended to "N2-N3".
Table 3.5.1.1	The table has been amended for consistency with Table 3.3.3.1, 3.4.2.2 and Table 3.4.4.2 regarding the environment categories for corrosion protection.
3.5.2.0	AS/NZS 3500.3 has been referenced to replace AS/NZS 3500.3.2 (Typographical correction).
3.5.3.1(a)	As part of the conversion from the W wind speeds to the N and C categories, the reference to "W41" has been amended to "N3". A similar amendment has also been made to the Explanatory Information.
Table 3.5.3.1	As part of the conversion from the W wind speeds to the N and C categories, the reference to "W28" has been amended to "N1", the reference to "W33" has been amended to "N2" and the reference to "W41" has been amended to "N3".
Table 3.5.3.3	As part of the conversion from the W wind speeds to the N and C categories, the two references to "W28" have been amended to "N1", the two references to "W33" have been amended to "N2" and the two references to "W41" have been amended to "N3".
Part 3.6	
3.6.1(a)	As part of the conversion from the W wind speeds to the N and C categories, the reference to "W41" has been amended to "N3".
Table 3.6.1	As part of the conversion from the W wind speeds to the N and C categories, the reference to "W28" has been amended to "N1", the reference to "W33" has been amended to "N2" and the reference to "W41" has been amended to "N3".
Part 3.7	
3.7.1.5(c)	Control joints have been added to the list of building elements that need not comply with the requirements for the protection of openings set out in 3.7.1.5(b).

3.7.1.8(f)	New provision added allowing openings in masonry separating walls between Class 1 buildings provided they have an FRL of not less than -/60/60.
3.7.3.3	Explanatory Information – specific references to individual states and territories have been removed due to changes to the energy efficiency provisions.
3.7.4.2 State & Territory Variation	South Australian variation inserted. Includes explanatory information.
Part 3.8	
3.8.1	The 'Appropriate Performance Requirements' box has been amended to include reference to 1.0.10.
Explanatory Information to 3.8.1.14	In Note 5, the spelling of "drainage" has been corrected.
Part 3.9	
Table 3.9.2.1	Data in table has been corrected to reflect research outcomes.
Part 3.10	
3.10.1.0(d)	A compliance option has been provided for cold-formed metal framing with the inclusion of the NASH Standard for residential and low-rise steel framing.
3.10.1.0 (f)	New clause inserted to provide a national testing regime for metal roof cladding in cyclonic areas and corresponding Explanatory Information.
3.10.1.0(f) State & Territory Variation	The provision has been deleted because the testing of metal roof cladding in cyclonic areas is now included in the main BCA. A note applicable to the Northern Territory has been added allowing products tested to the previous NT provisions to be acceptable.
Part 3.11	
3.11.3(c)	Due to the referencing of the 2006 edition of AS 4055, a reference to that standard has been included. For clarity, the provisions for wind, snow and earthquake actions have been placed in separate sub clauses.
3.11.4	The term "design codes" has been changed to "design standards".
3.11.5	The term "design codes" has been changed to "design standards".
3.11.5(b)	Due to the referencing of both the 1992 and the 2006 editions of AS 4055, to clarify the intent, reference has been made to the 1992 edition of AS 4055.
Part 3.12	
3.12	The following definitions have been inserted or amended:
Solar Heat Gain Coefficient (SHGC)	A definition for SHGC has been inserted to clarify the use of this term in Clause 3.12.1.3 and Part 3.12.2.
Total R-Value	The definition of Total R-Value has been amended to clarify that it includes the R-Values of building materials and insulation materials.
Total U-Value	Minor amendments have been made to the definition of Total U-Value to improve its intended technical meaning.
3.12.0 Expl. Information	Explanatory information has been deleted because it is not relevant to the amended Deemed-to-Satisfy Provisions in Part 3.12.
3.12.1	Amended to clarify that 3.12.1.6 applies to a Class 1 building with an attached Class 10a building.
3.12.1.1(a) Expl. Information	The Explanatory Information following 3.12.1.1(a) has been deleted because it no longer accurately represents the requirements in Part 3.12.1 for thermal insulation.

3.12.1.1(b)(i) Expl. Information	The Explanatory Information following 3.12.1.1(b)(i) has been amended to clarify that the R-Value attributed to reflective insulation is dependant upon the adjoining airspace.
3.12.1.1(c)	Subclause 3.12.1.1(c) has been amended editorially.
3.12.1.1(c)(ii) Expl. Information	Item 1 of the Explanatory Information following Subclause 3.12.1.1(c)(ii) has been amended to clarify that the R-Value attributed to reflective insulation is dependant upon the adjoining airspace. Item 2 has been amended to clarify that care should be taken when installing ceiling insulation near light transformers.
3.12.1.2(a)	The format of Subclause 3.12.1.2(a) has been modified so that it is compatible with the remainder of the clause.
3.12.1.2(b)	Replaced with a new clause with a modified concession for roofs with a low solar absorptance, (i.e. light colour) and a minimum level of ventilation.
Table 3.12.1.1	The minimum Total R-Values in Table 3.12.1.1 have been increased as a consequence of increasing the stringency of the energy efficiency provisions.
Table 3.12.1.1 Expl. Information	The climate zones applicable to the roof space ventilation option have been inserted into Item 1 to ensure that there is no misunderstanding about where this option applies. The clauses referenced in Item 4 of the Explanatory Information following Table 3.12.1.1 have been updated. Reference to ASTM E903 has been inserted into item 5 to clarify the standard used to determine the solar absorptance values provided.
3.12.1.2(c)	New provision has been inserted to address the thermal bridging that occurs in certain forms of roof construction.
3.12.1.2(d)	The existing provision has been renumbered 3.12.1.2(d) and a minor grammatical correction carried out.
Figure 3.12.1.1	The numbers in Figure 3.12.1.1 have been modified to coincide with the new numbers in Table 3.12.1.1. Diagram (b) has been modified so that the roof batten is not shown to be timber and is therefore compatible with the reference to it in 2.12.1.2(d). Note 2 has been amended to clarify where roof insulation may be installed. Note 4 has been amended to clarify that the Total R-Value given for Figure 3.12.1.1(c) does not include sheet insulation.
3.12.1.2(d) Expl. Information	Item 2 of the Explanatory Information following 3.12.1.2(d) has been expanded to provide more information about the installation of thermal breaks. Item 3 has been amended to provide more information on the location of insulation. Item 4 has been amended to clarify that condensation problems may be associated with different types of insulation and to clarify that the R-Value attributed to reflective insulation is dependant upon the adjoining airspace. An additional note has been added to the table to assist in determining the applicable direction of heat flow.
3.12.1.3	Amended to capture roof lights that represent a larger percentage of floor area.
Table 3.12.1.2	Amended to capture roof lights that represent a larger percentage of floor area.
3.12.1.4(a)	The format of 3.12.1.4(a) has been modified so that it is compatible with the remainder of the clause. The amended subclause also now explicitly states that the provisions do not apply to glazing.
3.12.1.4(b)	Deleted and replaced with a new concession for houses in climate zones 1 and 2.
Table 3.12.1.3	Existing Table 3.12.1.3 has been deleted and replaced with a new table that prescribes the options available for the treatment of each part of an external wall.
Figure 3.12.1.2	The existing Figure 3.12.1.2 has been deleted and replaced with a new figure that illustrates the method of determining the compliance of shading projections.

Figure 3.12.1.2 Expl. Information	The Explanatory Information following Figure 3.12.1.2 has been amended for grammatical reasons.
3.12.1.4(c)	New provisions inserted to allow the under-performance of external walls to be compensated by the over-performance of glazing.
3.12.1.4(c) Expl. Information	An example of the application of 3.12.1.4(c) has been provided in the Explanatory Information following the subclause.
3.12.1.4(d)	New provision inserted to address the thermal bridging that occurs in certain forms of wall construction.
3.12.1.4(d) Expl. Information	Explanatory Information has been inserted after Subclause 3.12.1.4(d) to provide more information about the installation of thermal breaks.
3.12.1.4(e)	The previous 3.12.1.4(c) has been renumbered 3.12.1.4(e) and minor grammatical changes made.
Figure 3.12.1.3	The numbers in Figure 3.12.1.3 have been modified to coincide with the new numbers in Table 3.12.1.3.
Figure 3.12.1.3 Expl. Information	The table in item 2 of the Explanatory information following Figure 3.12.1.3 has been updated for technical correctness and to include a value for the R-Value added by reflective insulation in a cavity masonry wall. Item 3 has been deleted because it was causing some confusion and was not considered necessary. Minor editorial changes have been made to the renumbered item 4. Item 6 has been deleted because this information is covered in the Explanatory information following 3.12.1.1(c)(i).
3.12.1.5(a)	Reworded as a consequence of increasing the stringency of the requirements for suspended floors.
Table 3.12.1.4	Table 3.12.1.4 has been inserted to detail the minimum Total R-Values required by suspended floors in certain climate zones.
Table 3.12.1.4 Expl. Information	Item 1 in the Explanatory information following Table 3.12.1.4 has been amended to clarify when the perimeter of a subfloor is considered enclosed. New item 3 has been inserted to clarify what is meant by an "in-slab heating system".
Figure 3.12.1.4	Figure 3.12.1.4 has been modified to coincide with the new numbers in Table 3.12.1.4.
Figure 3.12.1.4 Expl. Information	A minor grammatical change has been made to item 3 of the Explanatory Information following Figure 3.12.1.4.
3.12.1.5(d) Expl. Information	A minor grammatical change has been made to the Explanatory Information following Subclause 3.12.1.5(d).
Figure 3.12.1.5	The existing Figure 3.12.1.5 has been replaced with a new figure which more clearly shows the correct installation of slab edge insulation. The note to this figure has also been deleted and replaced with Explanatory Information.
Figure 3.12.1.5 Expl. Information	Explanatory Information has been inserted following Figure 3.12.15 to advise of the need to ensure that any termite barrier is compatible with the slab edge insulation.
3.12.1.6(c)	Deleted and replaced with a concession for attached Class 10a buildings in climate zones 4 and 5.
3.12.1.6 Expl. Information	The Explanatory Information following Clause 3.12.1.6 has been amended to include an explanation of the concession in Subclause 3.12.1.6(c).
3.12.2.1	Deleted and replaced with completely new glazing provisions.
3.12.2.1 Expl. Information	The existing Explanatory Information following 3.12.2.1 has been deleted because it is not relevant to the new glazing provisions.
Table 3.12.2.1	Deleted and replaced with a new table which lists glazing constants for conductance and solar heat gain.

Table 3.12.2.1 Expl. Information	The existing Explanatory Information following Table 3.12.2.1 has been deleted and replaced with new Explanatory Information which explains some of the terminology used in the Table 3.12.2.1.
3.12.2.1(b) Expl. Information	Explanatory Information has been inserted to provide guidance on obtaining the U-Values and SHGC's for glazing.
Table 3.12.2.2	Table 3.12.2.2 has been inserted to provide the solar exposure factors for use in the formula in 3.12.2.1(b)(ii).
Figure 3.12.2.1	Existing Figure 3.12.2.1 has been deleted and replaced with a new orientation sector diagram.
Figure 3.12.2.1 Expl. Information	The existing Explanatory Information following Figure 3.12.2.1 has been deleted because it is not relevant to the new Figure 3.12.2.1.
Figure 3.12.2.2	The existing Figure 3.12.2.2 has been deleted and replaced with a new figure showing how to measure the effective width (P) and effective height (H) of shading.
3.12.2.2	Clause 3.12.2.2 has been rewritten as a consequence of the changes to Clause 3.12.2.1.
3.12.2.2 Expl. Information	The Explanatory Information following 3.12.2.2 has been modified as a consequence of the changes to 3.12.2.2.
3.12.3 State & Territory Variation	South Australian variation inserted. Includes explanatory information.
3.12.3.2	A number of minor changes have been made for grammatical reasons.
3.12.3.4 State & Territory Variation	South Australian variation inserted.
3.12.3.5	A minor change has been made for grammatical reasons.
3.12.3.6	New provision inserted to prescribe the requirements for dampers on evaporative coolers.
3.12.4.1(a)	Modified as a consequence of the changes to Table 3.12.4.1.
3.12.4.1(c)	New provision inserted to provide a concession for buildings in Region D severe tropical cyclone areas.
Table 3.12.4.1	Table 3.12.4.1 has been modified to ensure that the defined term for "floor area" is not applied to the calculation of ventilation opening areas and to ensure that the requirements of Part 3.8.5 are applied to buildings in climate zones 6, 7 and 8.
3.12.4.3	A minor change has been made to clarify its application.
Table 3.12.5.1	Minor corrections have been made to the title in Table 3.12.5.1.
Table 3.12.5.2	Table 3.12.5.2 has been modified for consistency with Table 3a of Specification J5.2 of Volume One.
3.12.5.4 State & Territory Variation	South Australian variation inserted. Includes explanatory information.
ACT Appendix	
ACT Part 2.1	ACT Part 2.1 has been deleted. Consequently, all following Parts have been renumbered.
ACT Part 5.1	ACT Part 5.1 has been deleted.
Other Legislation affecting buildings	Reference to the administration authority being the ACT Planning and Land Authority updated.
SA Appendix	

SA 2	New Part inserted in Appendix dealing with water efficiency.
Vic Appendix	
Vic 1.2.1	Variation amended.
Vic 1.2.2	Variation amended.
Vic Table 2	Table amended.
History of BCA Adoption	
2.0 (b)	Typographical errors amended.
Table 3.0	The Table setting out the adoption dates of BCA 2005 has been amended to include the Queensland adoption date of 1 May 2005.
4.0	Clause 4.0 and Table 4.0 have been added in order to set out the adoption dates of the 2006 edition of the BCA in each State and Territory and to summarise the purpose of the changes from BCA 2005.