Davis Langdon

BUILDING CODE OF AUSTRALIA 2009

CBA Darling Walk Fitout Assessment | 16 February 2010

Global property & construction consultants

Project Contacts

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DL Quality System

Job Number:	250172	Revision Number:	B	Issue Date:	16-Feb-2010
Checked By:	Bruno Scenna	Author:	Charles Slack-Smith		
Distribution:	All				

Revision History

Rev No.	Date	Revision Details	Author	Verifier
A	18/9/2009	BCA Assessment of DA plans for fitout	CSS	AB
B	16/2/2010	Revised format for Dept of Planning	CSS	BS

1. EXECUTIVE SUMMARY

These works constitute the internal refurbishment and fitout of the CBA Darling Walk building, as part of an integrated fitout with the base building construction works.

This report serves as an assessment of the fitout works against the Building Code of Australia for the fitout works proposed as part of this development, and does not include an assessment of the base building or a detailed review of the fire engineering as its expected that a review of the fitout by the base building fire engineer will also occur prior to issue of the Construction Certificate for thee internal refurbishment works.

2. INTRODUCTION

Property Description

The report is for the assessment of the fitout works proposed to the building as indicated on the plans to some areas of the basement levels and ground floor as well as the integrated fitout of Levels 1 to 8 of the building to assess compliance with the Building Code of Australia 2009 ("BCA"). A summary of all relevant clauses of the BCA is attached under Appendix 1.

The report is prepared based on a visual inspection of the premises/review of the developed documentation and the information provided by the client and is intended for their use only.

Reporting Team

The information contained within this report was prepared by Charles Slack-Smith Accredited Certifier Grade A1 (BPB 0378) from Davis Langdon.

Current Legislation

The applicable legislation governing the design of buildings is the Environmental Planning and Assessment Act 1979.

3. BUILDING DESCRIPTION

The Project

This project is the integrated fitout of the building for the use of CBA, and involves some minor works to the basement levels, minimal works to ground floor and the fitout for office use of the remaining levels of the building.

Building Description

Building Use:	Office, Retail, POPE and Carparking
Class of Occupancy:	Class 5, 6, 7a & 9b (POPE)
Type of Construction:	Type A
Rise in Storeys:	Nine (9)
Levels Contained:	Nine (9)
Effective Height:	30.75m approx

Documentation Assessed

This report is based on the following architectural plans issued for assessment:

Description	Drawing No.	Date
Basement 2 Plan	AI-N-B2	21/8/2009
Basement 1 Plan	AI-N-B1	21/8/2009
Ground Floor Plan	AI-N-00	21/8/2009
Level 1 Plan	AI-N-1	21/8/2009
Level 2 Plan	AI-N-2	21/8/2009
Level 3 Plan	AI-N-3	21/8/2009
Level 4 Plan	AI-N-4	21/8/2009
Level 5 Plan	AI-N-5	21/8/2009
Level 6 Plan	AI-N-6	21/8/2009
Level 7 Plan	AI-N-7	21/8/2009
Level 8 Plan	AI-N-8	21/8/2009

4. CONCLUSIONS

The purpose of this submission is to advise that we have undertaken a preliminary assessment of the architectural drawings submitted with the Development Application against the provisions of the Building Code of Australia 2009 as per the requirements under Clause 145 of the Environmental Planning & Assessment Regulation 2000.

Compliance with the BCA for these specific works will be able to be achieved by a combination of compliance with the deemed-to-satisfy (DTS) provisions and the base building fire engineering parameters in accordance with Clause A0.5 of the BCA, suitably prepared by an Accredited Fire Safety Engineer to achieve compliance with the performance provisions of the BCA.

Notwithstanding the above comments we note that specific detailed compliance with the Building Code of Australia 2009 is not a prescribed head of consideration under Section 79C of the Environmental Planning & Assessment Act 1979 and accordingly, we trust that the determination of the development application will not be subject to the assessment of any technical matters under the State's building regulations.

In this regard and pursuant to Clause 54 (4) of the Environmental Planning & Assessment Regulation 2000, we trust that the Consent Authority will not require any additional information in the determination of the development application for technical BCA matters that will be assessed at the Construction Certificate stage.

I wish to confirm that matters pertaining to compliance with the Building Code of Australia (BCA) 2009 will be suitably assessed by the appointed Certifying Authority prior to the issue of the construction certificate in accordance with Clause 98 of the Environmental Planning and Assessment Regulations 2000.

5. STATEMENT REGARDING FIRE ENGINEERING

I herby confirm that at this stage there is no additional Fire engineering required as part of the fitout works to the building, the base building fire engineering is met for this design / proposed development.

Should this become required through the Design and Construction Certificate stage, this will be assessed and dealt with by the Accredited Certifier and PCA for the development under Clause 145 of the EP & A Regulations.

Appendix 1

BCA Provisions for Fitout Works

The following is a clause-by-clause assessment of the architectural drawings against the deemed-to-satisfy provisions of the BCA 2009.

Notes:

✓	The building complies with this clause.
CR	Design statement (or other means) required from appropriate persons that the building will comply with this clause at the design stage & completion of the project.
Noted	This clause is for information.

Section B: Structural Provisions

Icon	Clause	Reference	Comment
	B1.4	***Materials and forms of construction***	
Noted		New materials and forms of construction are to be designed to the following Australian Standards as applicable: (a) AS 3700 (b) AS 3600 (c) AS 4100 (d) AS 1288 or AS 2047 (e) AS 1562.1 (f) AS 1720.1 (g) AS 3660.1	Design Statement of compliance is to be received at the CC stage of the Development to ensure compliance is able to be achieved

Section C: Fire Provisions

Part C1 – Fire Resistance and Stability

Icon	Clause	Reference	Comment
	C1.8	***Lightweight construction***	
CR		Lightweight construction may be used if it is in compliance with Specification C1.8.	Design Statement of compliance is to be received at the CC stage of the Development to ensure compliance is able to be achieved
	C1.10	***Fire hazard properties***	
CR		Materials and assemblies used in the building must comply with the requirements of Specification C1.10. In the case of a sarking material the Flammability Index shall not be more than 5. Floor materials – Critical Radiant Flux of not less than 2.2 Wall and Ceiling materials – Either Group 1 or 2 material If unsprinklered additional requirements apply, as well as lift finishes, and fire isolated exits have different requirements	Design Statement of compliance is to be received at the CC stage of the Development to ensure compliance is able to be achieved

Icon	Clause	Reference	Comment
	C1.12	***Non-combustible materials***	
Noted		The following materials may be used where non-combustible materials are required: 1. Plasterboard. 2. Perforated gypsum. 3. Fibrous-plaster sheeting to AS 2185. 4. Fibre-reinforced cement sheeting. 5. Pre-finished metal sheeting. 6. Bonded laminated materials.	

Part C3 – Protection of Openings

Icon	Clause	Reference	Comment
	C3.12	***Openings in floors for services***	
CR		To be enclosed in a fire rated shaft with a FRL in accordance with Specification C1.1 or protected by Clause C3.15 of BCA	Design Statement or certification at OC stage is to be received to ensure compliance is able to be achieved
	C3.13	***Openings in shafts***	
CR		Openings in ventilating, pipe, garbage or other service shaft to be protected by:- -/60/30 fire doors / hoppers / access panel.	Design Statement or certification at OC stage is to be received to ensure compliance is able to be achieved
	C3.15	***Openings for service installations***	
CR		Electrical, plumbing mechanical ventilation shafts etc not to impair the FRL of rated members.	Design Statement or certification at OC stage is to be received to ensure compliance is able to be achieved

Specification C1.10 – Early Fire Hazard Indices

Icon	Clause	Reference	Comment
	4	***Class 2, 3 and 9 Buildings***	
CR		Further specific provisions relate to POPE for NSW for closed back seats, screens, curtains, blinds or similar decor.	

Specification C1.10a – Fire Hazard Properties – Floors, Walls and Ceilings

Icon	Clause	Reference	Comment
	2	***Floor materials and floor coverings***	
CR		A floor material or floor covering must have (a) a Critical radiant heat flux not less than that listed in Table 1; and (b) in a building not protected by a sprinkler system complying with specification E1.5, a maximum smoke development rate of 750 percent-minutes.	Design Statement or certification at OC stage is to be received to ensure compliance is able to be achieved
	3	***Walls and ceilings***	
CR		A material used as a finish, surface, lining or attachment to a wall or ceiling must be a Group 1, 2 or 3 material used in accordance with Table 2 and for a building not protected by a sprinkler system complying with specification E1.5, have - (i) a smoke growth rate of not more than 100; or (ii) an average specific extinction area less than 250m^2/kg.	Design Statement or certification at OC stage is to be received to ensure compliance is able to be achieved
	4	***Lift cars***	
CR		In a lift car, the floor materials and floor coverings must have a Critical radiant heat flux not less than 2.2 and wall and ceiling linings must be a Group 1 or Group 2 material in accordance with Clause 3(b).	Design Statement or certification at OC stage is to be received to ensure compliance is able to be achieved

Section D: Access and Egress

Part D1 – Provision for Escape

Icon	Clause	Reference	Comment
	D1.2	***Number of exits required***	
✔		The number of exits is to be designed to satisfy performance standard DP4 of the BCA. A minimum of one exit is required from all buildings, and Two (2) exits for each storey are required for buildings over 25m, basement storeys or for class 9b of 6 storey or greater, buildings that exceed 50 persons, school buildings, class 9a patient care areas or class 9c sleeping areas, etc.	
	D1.4	***Exit travel distances***	
✔		No point on the floor must be more than 20m to an exit or a point in which travel in different directions to 2 exits is available, in which case, the maximum distance to 1 exit cannot exceed 40m. Class 5 or 6 buildings with only one exit, and opening to road or street may have greater distance of up to 30m to that single exit.	Meets Fire engineering parameters allowed for on the floors
✔		Class 7 Car Park - No point on the floor must be more than 20m to an exit or a point in which travel in different directions to 2 exits is available, in which case, the maximum distance to 1 exit cannot exceed 40m. .	Meets Fire engineering parameters allowed for on the floors
	D1.5	***Distance between alternative exits***	
✔		To be no less than 9m or more than 45m in a Class 2, 3, and 9a, or 60m in all other classes, uniformly distributed with access to 2 exits if required and not converge so they become less than 6m apart.	Meets Fire engineering parameters allowed for on the floors
	D1.6	***Dimensions of exits and paths of travel***	
CR		(a) height – minimum 2m: doorways 1980mm (b) width 1m minimum (c);(d) Width change based upon populations – generally for populations up to 100 persons require 1m of egress, up to 200 2m and then varies according to use over 200 person per floor / storey. (f) door width minimum 800mm [AS 1428] (g) not to diminish in direction of travel. Note: see also re number of exits for certain uses Clause D1.2 as may require additional exits no matter the population of the storey.	Able to comply – distances between all workstations and furniture etc is to be a minimum of 1m – detailed assessment at CC stage will be undertaken to ensure compliance is achieved
	D1.13	***Number of persons accommodated***	
✔		To be in accordance with Table D1.13 of the BCA or count seats.	Meets Fire engineering parameters allowed for on the floors

Part D2 – Construction of Exits

Icon	Clause	Reference	Comment
	D2.7	***Installations in exits and paths of travel***	
CR		(b) No openings to ducts conveying hot products of combustion permitted. (c) Gas or fuel services not permitted in required exits. (d) Electric or services equipment not permitted unless in a non-combustible and smoke sealed enclosure.	Design Statement at CC stage and certification at OC stage is to be received to ensure compliance is able to be achieved
	D2.19	***Doorways and doors***	
CR		Must not be revolving door, roller shutter or tilt door. Can be fitted with a sliding door if it leads directly to open space and can be opened manually under a force of not more than 110N and be fitted with a fail-safe device if the door is power operated. Class 9b POPE has specific details relating to exit doors, sliding doors and the swing of doors anywhere in the building.	Design Statement at CC stage and certification at OC stage is to be received to ensure compliance is able to be achieved
	D2.20	***Swinging doors***	
CR		Must not encroach more than 500mm into the required width of the stair or 100mm when fully open and swing in the direction of travel. Note: Class 9b POPE doors and smoke doors must swing in the direction of egress – if multi exit required then the doors must swing in both directions	Design Statement at CC stage and certification at OC stage is to be received to ensure compliance is able to be achieved
	D2.21	***Operation of latch***	
CR		To be located 900mm to 1100mm above the floor and be openable with a single-handed downward action. Fail safe unlock is permitted as long as linked to the base building fire alarm system. Class 9b or POPE doors if to be secured must be provided with panic bars only (fail safe option does not comply)	Design Statement at CC stage and certification at OC stage is to be received to ensure compliance is able to be achieved

Part D3 – Access for People with Disabilities

Icon	Clause	Reference	Comment
	D3.2	***Access to building in general***	
CR		a) From the boundary to main points of entry b) From a disabled car space c) Other buildings on the allotment d) Through the principal public entrance. Access to and within the building must comply with AS 1428.1 and Part D3 of the BCA.	Disabled Access report to assess compliance for this part of the BCA
	D3.3	***Parts to be accessible***	
CR		a) (i) (A) To sanitary compartment: (B) To areas normally used by occupants (excluding plant and service areas) (iii) Every lift to comply with E3.6.	Disabled Access report to assess compliance for this part of the BCA

Icon	Clause	Reference	Comment
	D3.4	***Concessions***	
CR		It is not necessary to provide access for people with disabilities to: a) more than 30% of the public space in Class 6 restaurant, café, bar b) any area if access would be inappropriate due to use.	Disabled Access report to assess compliance for this part of the BCA
	D3.6	***Signage regarding disabled access***	
CR		To be provided at entrance, lifts and sanitary accommodation.	Disabled Access report to assess compliance for this part of the BCA
	D3.7	***Hearing augmentation***	
CR		Where an inbuilt amplification system other than an EWIS is provided a hearing augmentation system is to be provided in the following locations:- • Conference room with a floor area greater than 100m^2, • Judicatory room, • Auditorium in a Class 9b building, • Ticket office, reception area where the public is screened from the service provider.	Disabled Access report to assess compliance for this part of the BCA
	D3.8	***Tactile indicators***	
CR		Required to public stairs and ramps in accordance with AS 1428.4.	Disabled Access report to assess compliance for this part of the BCA

Section E: Services and Equipment

Part E1 – Fire Fighting Equipment

Icon	Clause	Reference	Comment
	E1.3	***Hydrants***	
CR		a) System to be provided to serve whole building:- (i) Floor area exceeds 500m^2 b) (i) Installed to AS 2419.1-2005 (iii) Pump set to AS 2419.1.	Design Statement at CC stage and certification at OC stage is to be received to ensure compliance is able to be achieved
	E1.4	***Hose reels***	
CR		a) System to be provided to serve whole building:- b) (i) Installed to AS 2441-2005 (iii) Hose to reach every part (iv) (A) Located externally or, (B) Within 4m of exit or, (C) Adjacent to hydrant (not within fire isolated exit).	Design Statement at CC stage and certification at OC stage is to be received to ensure compliance is able to be achieved

Icon	Clause	Reference	Comment
	E1.5	***Sprinklers***	
CR		System may be required to be provided to serve the entire building to AS 2118.1 and Spec E1.5 as applicable, see Table E1.5 for details when required	Design Statement at CC stage and certification at OC stage is to be received to ensure compliance is able to be achieved
	E1.6	***Portable fire extinguishers***	
CR		To be installed to Table E1.6 and AS 2444.	Design Statement at CC stage and certification at OC stage is to be received to ensure compliance is able to be achieved

Part E2 – Smoke Hazard Management

Icon	Clause	Reference	Comment
	E2.2	***General requirements***	
CR	***E2.2a***	One the following smoke hazard management strategies is required:- Automatic smoke exhausting to Spec E2.2b, or Automatic smoke and heat vents to Spec E2.2c, or Automatic smoke detection and alarm system to Spec E2.2a and AS 1670.1-2004 , or Automatic sprinkler system to Spec E1.5 & AS 2118.1-1999.	Design Statement at CC stage and certification at OC stage is to be received to ensure compliance is able to be achieved
CR	***E2.2b***	All Class 9b Buildings are required to be provided with automatic shutdown. A licensed premises providing entertainment, must be provided with:- (a) in an auditorium 1. Automatic smoke exhausting to Spec E2.2b, or 2. Automatic smoke and heat vents to Spec E2.2c, or 3. Automatic sprinkler system to Spec E1.5. (b) in all other cases 1. One of the smoke hazard management measures listed under (a) above; or 2. Automatic smoke detection and alarm system to Spec E2.2a.	Design Statement at CC stage and certification at OC stage is to be received to ensure compliance is able to be achieved

Part E4 – Emergency Lighting, Exit and Warning Systems

Icon	Clause	Reference	Comment
	E4.2	***Emergency lighting***	
CR		Required in every path of travel to an exit and any room having a floor area more than 100m^2 that does not open to a corridor or space with emergency lighting and any room having a floor area in excess of 300m^2 required in every required non fire isolated stair. Emergency signage to be installed to AS 2293.1	Design Statement at CC stage and certification at OC stage is to be received to ensure compliance is able to be achieved
	E4.3	***Measurement of distance***	
Noted		Distances other than vertical rise must be measured along the shortest path of travel whether by straight lines, curves or a combination of both.	
	E4.4	***Design and operation of exit signs***	
CR		Every required exit sign must comply with AS 2293.1	Design Statement at CC stage and certification at OC stage is to be received to ensure compliance is able to be achieved
	E4.5	***Exit signage***	
CR		Required above egress doors and doors from an enclosed stair to open space. Directorial signs required to designate paths of travel. Exit signage to be installed to AS 2293.1	Design Statement at CC stage and certification at OC stage is to be received to ensure compliance is able to be achieved
	E4.6	***Direction signs***	
CR		Where an exit is not apparent, exit signs with directional arrows are required. Class 9b POPE must have exit signs external to the building to show the way to the road if not apparent when in the open space.	Design Statement at CC stage and certification at OC stage is to be received to ensure compliance is able to be achieved
	E4.8	***Design and operation of exit signs***	
CR		Every required exit sign must - (a) Comply with AS 2293.1; and (b) Be clearly visible at all times when the building is occupied.	Design Statement at CC stage and certification at OC stage is to be received to ensure compliance is able to be achieved
	E4.9	***Sound systems and intercom systems for emergency purposes***	
CR		Sound systems and intercom systems for emergency purposes required to comply with AS 1670.4-2004;	Design Statement at CC stage and certification at OC stage is to be received to ensure compliance is able to be achieved

Section F: Health and Amenity

Part F1 – General

Icon	Clause	Reference	Comment
	F1.7	***Water Proofing of Wet Areas in Buildings***	
CR		Water proofing of wet areas within a building to comply with AS 3740.	Specification to be checked that requirements listed at CC stage and certification at OC stage is to be received to ensure compliance is achieved

Part F2 – Sanitary and Other Facilities

Icon	Clause	Reference	Comment
	F2.1/3	***Sanitary facilities in Class 3-9 buildings***	
✔		The number of sanitary facilities must be based upon the number of person accommodated calculated in accordance with D1.13 See Table F2.3 for details of number of toilets, washbasins and Urinals required.	Number achieves compliance based on population numbers proposed

Class of Building	User	Max Number Served by								
		Closet Fixtures			Urinal(s)			Washbasins		
		1	2	Each Extra	1	2	Each Extra	1	2	Each Extra
3, 5, 6 and 9 other than schools	Employees									
	Males	20	40	20	25	50	50	30	60	30
	Females	15	30	15				30	60	30

Icon	Clause	Reference	Comment
	F2.4	***Facilities for persons with disabilities***	
CR		One wheelchair accessible disabled facility is required within the building. Layout of each facility must comply with AS 1428.1. If more than one facility proposed they must be alternative layouts for left or right handed usage. Doors to disabled toilets are required to be provided with Lift off hinges to the doors irrespective of size, and must be provided with a shelf	Disabled Access report to assess compliance for this part of the BCA

Part F3 – Room Sizes

Icon	Clause	Reference	Comment
	F3.1	***Height of Rooms***	
✓		Room heights to be a minimum of 2.4m and 2.1m in corridors. Class 9b POPE requires ceiling heights of 2.7m if more than 100 persons in the storey or area	

Part F4 – Provision of Natural Light

Icon	Clause	Reference	Comment
	F4.4	***Artificial Lighting***	
CR		Required to all rooms that are frequently occupied, all spaces required to be accessible, all corridors, lobbies, internal stairways, other circulation spaces and paths of egress. Artificial lighting system is to comply with AS 1680.0 **Note**: See also Section J for details of energy efficiency of lighting required.	Specification to be checked that requirements listed at CC stage and certification at OC stage is to be received to ensure compliance is achieved
	F4.5	***Ventilation of Rooms***	
CR		A mechanical ventilation or air conditioning system complying with AS 1668.2 is required. **Note**: See also Section J for details of energy efficiency of Ventilation / Mechanical Ventilation/Air-conditioning required.	Design Statement at CC stage and certification at OC stage is to be received to ensure compliance is able to be achieved

Section I: Maintenance

Part I1 – Equipment and Safety Installations

Icon	Clause	Reference	Comment
	NSW I1.1	***Essential Services Measures***	
Noted		Essential fire or other safety measures must be maintained and certified on an ongoing basis in accordance with the provisions of the Environmental Planning & Assessment Regulation 2000.	

Section J: Energy Efficiency

Part J6 – Artificial Lighting & Power

Icon	Clause	Reference	Comment
	J6.1	***Application of part***	
		This part of the BCA does not apply to a Class 2 or 4 buildings or parts within the Sole occupancy unit/s.	
	J6.2	***Interior artificial lighting***	
CR		The Design Illumination power load must not exceed the sum of the allowances achieved by multiplying the area of the space by the maximum illumination power density in Table J6.2b	Design Statement at CC stage and certification at OC stage is to be received to ensure compliance is able to be achieved
	J6.6	***Boiling water and chilled water units***	
CR		Power supply to these units (Billy units) must be controlled by a time switch that complies with Spec J6	Design Statement at CC stage and certification at OC stage is to be received to ensure compliance is able to be achieved

Part J7 – Hot Water Supply

Icon	Clause	Reference	Comment
	J7.2	***Hot Water Supply***	
CR		Hot water supply for food preparation and sanitary purposes must comply with Section 8 of AS/NZS 3500.4 Solar systems in climate zones 1,2 and 3 do not need to comply with this requirement	Specification to be checked that requirements listed at CC stage and certification at OC stage is to be received to ensure compliance is achieved

Part J8 – Access for Maintenance

Icon	Clause	Reference	Comment
Noted		Access for Maintenance must be provided to all services and components, including • Time switches and motion detectors • Room temp thermostats • Plant thermostats such as on boilers or refridge units • Outside air dampers • Reflectors, lens and diffusers of light fittings • Heat transfer equipment • Adjustable or motorised shading devices	

Appendix 2

BCA Provisions for Base Building Items

The following is a clause-by-clause assessment of the architectural drawings against the deemed-to-satisfy provisions of the BCA 2009.

Notes:

N/A	This clause is not applicable to this project.
BB	Base Building Item – not part of this assessment / not impacted by fitout works
Noted	This clause is for information.

Section A: General Provisions

Icon	Clause	Reference	Comment
	A3	***Classification of buildings and structures***	
BB		The classification of a building is determined by the purpose for which it is designed, constructed or adapted.	
	A3.3	***Multiple classification***	
BB		Each part must be classified separately: (a) Classified to the major use if not more than 10% of the floor area of the storey. (b) Plant rooms are classified as the same part.	
	A4	***PART A4 – UNITED BUILDINGS***	
	A4.1	***When buildings are united***	
N/A		Two or more buildings adjoining each other form one united building if they are connected through openings in the walls dividing them and both buildings comply with the requirements of the BCA as though they are a single building.	

Section B: Structural Provisions

Icon	Clause	Reference	Comment
	B1.1	***Resistance to actions & Loads***	
	B1.2	***Determination of individual actions***	
BB		The building or structure must resist loads determined in accordance with the following: (a) Dead and live load combinations: AS 1170.1 (b) Wind loads AS 1170.2 (c) Snow loads AS 1170.3 (d) Earthquake loads AS 1170.4	
	B1.3	***Materials and forms of construction***	
BB		The building or structure must resist loads determined in accordance with the following: (a) Dead and live load combinations: AS 1170.1 (b) Wind loads AS 1170.2 (c) Snow loads AS 1170.3 (d) Earthquake loads AS 1170.4	
	B1.4	***Materials and forms of construction***	
Noted		New materials and forms of construction are to be designed to the following Australian Standards as applicable: (h) AS 3700 (i) AS 3600 (j) AS 4100 (k) AS 1288 or AS 2047 (l) AS 1562.1 (m) AS 1720.1 (n) AS 3660.1	

Section C: Fire Provisions

Part C1 – Fire Resistance and Stability

Icon	Clause	Reference	Comment
	C1.1	***Type of construction***	
BB		Type of Construction required is determined by the Table C1.1	
	C.1.2	***Calculation of rise in storeys***	
BB		The rise in storeys is the greatest number of storeys at any part of the external walls of the building above the finished ground next to that part.	
	C1.3	***Building of multiple classification***	
N/A		The Type of construction required is determined on the basis that the classification of the top storey applies to all storeys.	
	C1.4	***Mixed types of construction***	
BB		Building may be of mixed Types of Construction where it is separated in accordance with C2.7	
	C1.5	***Two storey Class 2 or 9c buildings***	
N/A		Class 2 or 3 of two storeys may be Type C construction if each SOU has: 1. Access to at least 2 exits; or 2. Its own direct access to a road or open space.	
	C1.6	***Class 4 parts of a building***	
N/A		Class 4 part of a building requires same FRL as that required by a Class 2 in similar circumstances.	
	C1.7	***Open spectator stands and indoor sports stadium***	
N/A		May be of Type C construction if it contains only 1 tier and is of non-combustible material.	
	C1.8	***Lightweight construction***	
	C1.11	***Performance of external wall in fire***	
N/A		In buildings of up to two storeys, any concrete external walls that could collapse as complete panels to comply with specification C1.11.	
	C1.12	***Non-combustible materials***	
Noted		The following materials may be used where non-combustible materials are required: 7. Plasterboard. 8. Perforated gypsum. 9. Fibrous-plaster sheeting to AS 2185. 10. Fibre-reinforced cement sheeting. 11. Pre-finished metal sheeting. 12. Bonded laminated materials.	

Part C2 – Compartmentation and Separation

Icon	Clause	Reference	Comment
	C2.2	***General floor area limitations***	
BB		Table C2.2 limits the size of fire compartments to:- • Class 5 or 9b Type A, 8,000m^2 & 48,000m^3 • Class 6, 7, 8 Type A, 5,000 m^2 & 30,000 m^3 See Section 3,4 or 5 of Specification C1.1 for specific fire rating requirements (a brief table of FRL's is included in the appendix for information – detailed requirements in abovementioned section of the BCA)	
	C2.3	***Large isolated buildings***	
N/A		A fire compartment may exceed that specified in Table C2.2. Buildings under of exceeding 18,000m^2 in floor area to be provided with specific requirements Generally a sprinkler system complying with Specification E1.5 provided with a perimeter vehicular access complying with C2.4 (b) – additional measures may include a smoke exhaust system in accordance with Specification E2.2b or smoke-and-heat vents in accordance with Specification E2.2c.	
	C2.4	***Requirements for open spaces and vehicular access***	
N/A		Requirements for open spaces and vehicular access capable of supporting emergency vehicles, 6m wide not more than 18m from the building. Part a – 18m wide open space without any buildings or obstructions whatsoever, and must also comply with part b of this section.	
	C2.5	***Class 9a & 9c buildings***	
N/A		Class 9a & 9c Fire Compartmentation and separation requirements	
	C2.6	***Vertical separation of openings in external walls***	
N/A		Only applicable to a building of Type A Construction, that is not sprinkler-protected. – no requirement is applicable for spandrel separation of a Sprinkler protected building. If not Sprinkler protected either 900mm vertical spandrel required, or 1m horizontal projecting spandrel – specific details in this clause of the BCA	Sprinkler protected building
	C2.7	***Separation by fire walls***	
BB		A part of a building separated by firewall construction may be considered a separate building for the purposes of Parts C, D and E. (Must continue directly from on ground floor slab straight up through the building to top)	

Icon	Clause	Reference	Comment
	C2.8	***Separation of classifications in the same storey***	
BB		Firewalls are needed to separate different classifications, or the building must be built to the higher fire resistance level.	
	C2.9	***Separation of classifications in different storeys***	
BB		The separating floors must have an FRL not less than that required for the lower storey use.	
	C2.10	***Separation of lift shafts***	
BB		The lift is to be enclosed in a fire-isolated shaft if it connects more than two storeys or three storeys if provided with a sprinkler system.	
	C2.11	***Stairs and lift in one shaft***	
BB		Not to be within the same shaft if either is required to be fire isolated.	
	C2.12	***Separation of equipment***	
BB		Equipment comprising lift motors and control plant, emergency generators or central smoke control plant; boilers or batteries are required to be separated from the remainder of the building by construction achieving a FRL of 120/120/120.	
	C2.13	***Electricity supply system***	
BB		A substation located within a building or main switchboard, which sustains emergency equipment, must be separated from the remainder of the building by construction achieving a FRL of not less than 120/120/120.	
	C2.14	***Public corridors in Class 2 & 3 buildings***	
N/A		In a Class 3 building, a public corridor, if more than 40m in length, must be divided at intervals of not more than 40m with smoke-proof walls complying with Cl. 2 of Spec C2.5.	

Part C3 – Protection of Openings

Icon	Clause	Reference	Comment
	C3.2	***Protection of opening in external walls***	
BB		Openings in the external walls are to be protected in accordance with C3.4 if:- ❑ less than 3m to side or rear boundary ❑ less than 6m from the far boundary of a road if not located at or near ground level ❑ less than 6m from another building on the same allotment.	

Icon	Clause	Reference	Comment
	C3.3	***Separation of external walls and associated openings in different fire compartment***	
BB		External walls of a different fire compartment to be separated by a fire wall of not less than FRL 60/60/60 or any openings must be protected in accordance with Clause C3.4 if within the distance set out in Table C3.3.	
	C3.4	***Acceptable methods of protection***	
BB		Where exposed to be protected by external or internal drenchers (side of protection specified by relevant clause that calls up protection), fire doors, windows or shutters.	
	C3.5	***Doorways in fire walls***	
BB		Doorways in a fire wall which are not part of a horizontal exit, must not exceed ½ the length of the fire wall, and: 1. have the FRL required for the fire wall, and 2. be self-closing or automatic-closing.	
	C3.6	***Sliding fire doors***	
N/A		If utilised must fail safe in the closed position, be suitably signposted with an audible alarm, signage and directional arrow to indicate direction to slide door to open when in the closed position.	
	C3.7	***Doorways in horizontal exits***	
N/A		To be suitably protected by fire doors with FRL of not less than that required for the fire wall, and be self-closing or automatic-closing. And must swing in the direction of travel (this may be both ways if so either two doors or a multi directional swing fire door is required)	
	C3.8	***Openings in fire isolated exits***	
BB		To be automatic magnamatic or self closing -/60/30 fire doors.	
	C3.9	***Service penetrations in fire isolated exits***	
BB		Fire exits must not be penetrated by services other than electrical wiring associated with lighting, stair pressurisation or the intercommunication system & hydrant system.	
	C3.10	***Openings in fire rated lift shafts***	
BB		❑ Doors to be - /60/ - fire doors to AS1735.11. ❑ Lift indicator panels to be backed by - /60/60 construction if exceeding 35,000mm^2 in area.	
	C3.11	***Bounding Construction; Class 2, 3 & 4 buildings***	
N/A		Doorway to each SOU to be protected; • -/60/30 in Type A construction • Self-closing, tight fitting, solid core door, not less than 35mm thick in Type B or C construction	

Specification C1.1 – Fire Resisting Construction

Icon	Clause	Reference	Comment
	4	***Type A Fire Resisting Construction.***	
BB	***1***	***The building is to be designed to comply with Table 3.*** External Loadbearing Walls within 1.5m of the boundary require a FRL of 120/120/120. External Loadbearing Walls within 3m to less than 9m of the boundary require a FRL of 120/30/30. Internal Loadbearing Walls and Columns require an FRL of 120/-/- (see concession under 4.1(g)). Floors require an FRL of 30/30/30 (see options under 4.1(i)).	
	4	***Lift cars***	
BB		In a lift car, the floor materials and floor coverings must have a Critical radiant heat flux not less than 2.2 and wall and ceiling linings must be a Group 1 or Group 2 material in accordance with Clause 3(b).	Design Statement or certification at OC stage is to be received to ensure compliance is able to be achieved

Section D: Access and Egress

Part D1 – Provision for Escape

Icon	Clause	Reference	Comment
	D1.3	***When fire isolated exits are required***	
BB		Every stair in a building must be fire isolated unless it does not connect or pass through more than 3 consecutive floors in a sprinkler protected building or 2 storeys in a non-sprinkler protected building. Class 9a & 9c buildings require stairs to be fire isolated. Those stairs not requiring fire isolating must discharge at a level of road or open space	
	D1.7	***Travel by fire isolated stairs***	
BB		Must provide independent egress and discharge to road or open space or complying covered area.	
	D1.8	***External stairs or ramps in lieu of fire isolated exits***	
N/A		External stairs or ramps may be used in lieu of a fire-isolated stair or ramp to a building under 25m in effective height.	
	D1.9	***Travel by non fire isolated stairs***	
BB		Travel by Non-Fire Isolated Stairs:- (c) The distance from any point on the floor to a point of egress not to exceed 80m. (e) The stairway not to discharge at a point more than: (i) 20m to an exit (ii) 40m to one of 2 exits.	
	D1.10	***Discharge from exits***	
BB		An exit must not be blocked nor be capable of being blocked at its point of discharge. Ramp to a grade of 1:8 is required to connect with open space.	
	D1.11	***Horizontal exits***	
N/A		May be counted as required exits if the path of travel from a fire compartment leads by one or more horizontal exits directly into another fire compartments which has at least one required exit which is not a horizontal exit. Cannot be utilised in some classes or areas of buildings details to be assessed to ensure compliance with specific clause	
	D1.12	***Non required stairs***	
BB		May connect 2 levels in a non-sprinkler protected building. Within a sprinkler protected building may serve 3 storeys.	
	D1.16	***Plant rooms and lift motor rooms: Concessions***	

Icon	Clause	Reference	Comment
BB		(a) Where a plant room or lift motor room has a floor area: (i) Not more than 100m^2 a ladder may be used in lieu of a stairway. (i) More than 100m^2 but less than 200m^2 where two or more points of egress are provided a ladder may be used in lieu of a stairway from all but one of those points. (c) A ladder to the plant room is to comply with AS 1657 and the ladder to the lift motor room is to comply with AS 1735.2.	

Part D2 – Construction of Exits

Icon	Clause	Reference	Comment
	D2.2	***Fire isolated stairs***	
BB		Must be in a fire resisting shaft and be constructed of non-combustible materials and if there is local failure not cause structural damage or impair the fire resistance of the shaft.	
	D2.3	***Non fire isolated stairs***	
BB		Non fire isolated stairways must be constructed of either:- (a) reinforced or pre stressed concrete (b) 6mm thick steel (c) 44mm thick timber	
	D2.4	***Separation of rising and descending stairs flights***	
BB		A required fire isolated stair cannot connect above and below ground flights unless separated by fire and smoke separation.	
	D2.5	***Open access ramps and balconies***	
N/A		Open access ramp or balcony is provided to meet the requirements of smoke hazard management E2.2a, it must; 1. have ventilation openings to the outside air; & 2. not be enclosed on its open sides above height of 1m.	
	D2.6	***Smoke lobbies***	
N/A		Smoke lobby required by D1.7 must; 1. have a floor area not less than 6sqm; and 2. be separated by walls impervious to smoke; and 3. be fitted with smoke doors; and 4. be pressurised if the exit is required to be.	
	D2.8	***Enclosure of space beneath stairs***	

Icon	Clause	Reference	Comment
N/A		(a) in a fire stair no cupboards are permitted under the stair (b) the space beneath the non-fire isolated stairs are not to be enclosed unless in 60/60/60 construction with 60/60/30 fire doors.	
	D2.9	***Width of stairs***	
BB		When a measurement taken the width is to be measured clear of all obstructions and the stair must extend a minimum 2.0m above nosings. (unless specified elsewhere to require a greater height)	
	D2.10	***Pedestrian ramps***	
BB		Pedestrian ramp to be installed in accordance with AS 1428.1, and not have a gradient steeper than 1:8, and be finished with a non-slip surface.	
	D2.11	***Fire-isolated passageways***	
BB		To attain the same FRL as the fire isolated stair	
	D2.12	***Roof as open space***	
N/A		If an exit discharges to a roof of a building, the roof must; 1. have an FRL 120/120/120; & 2. not have roof lights or other openings within 3m of the path of travel.	
	D2.13	***Treads and risers***	
BB		(a) minimum 2 risers / maximum 18 in each flight (b) risers 115mm min 190 mm max - going 250mm min 355mm max - 2R+G 550mm min 700mm max. (c) goings and risers to be constant. (d) risers not to permit 125mm sphere to pass through (e) treads to be non slip (h) no stepped quarter landings	
	D2.14	***Landings***	
BB		Maximum gradient not to exceed 1:50 and be a minimum 750 long measured from the inside edge of the landing.	
	D2.15	***Thresholds***	
BB		No step or ramp at any point closer to the door than the width of the door leaf. Generally doors opening to outside are able to be provided with a maximum 190mm step or 50mm if Class 9b POPE	

Icon	Clause	Reference	Comment
	D2.16	***Balustrades***	
BB		A continuous balustrade or barrier must be provided along the side of any roof to which public access is provided, any stairway or ramp, any floor, corridor, hallway, balcony, veranda, mezzanine, access bridge or the like and along any side of any access path to a building if it is not bounded by a wall and the level above the floor or ground surface is more than 4m where it is possible to fall through an open window or 1m in any other case. **Note**: Frameless glass balustrades are no longer a feasible option to achieve compliance with the BCA – see AS 1288-2006 for details of balustrade to ensure design achieves compliance.	
	D2.17	***Handrails***	
BB		Required along one side and on both sides of stairs over 2m in width, 865mm above nosings and be continuous.	
	D2.18	***Fixed platforms, walkways, stairways and ladders***	
BB		Treads, risers, handrails and balustrades in plant rooms etc must comply with AS 1657	
	D2.22	***Re-entry from fire-isolated exits***	
BB		Every door in a fire stair must not be locked from inside the fire- isolated stairway to prevent re-entry to the storey or room it services for any stair that serves a storey over 25m in height. Specific details of compliance are defined in this clause of the BCA – the doors all must unlock on fire trip, if needed to be locked may be provided with alarm to allow re entry in a non-fire situation	
	D2.23	***Signs on doors***	
BB		To fire doors signage required to alert persons that blockage, obstruction or being chocked open is not allowable	

Part D3 – Access for People with Disabilities

Icon	Clause	Reference	Comment
	D3.5	***Car parking***	
BB		Spaces provided as to AS 2890.1 Disabled car spaces must be provided within the carpark at the ratio of 1 disabled car space per 50 /100 spaces.	

Section E: Services and Equipment

Part E1 – Fire Fighting Equipment

Icon	Clause	Reference	Comment
	E1.8	***Fire control centres***	
BB		A fire control centre facility is required for a building that exceeds 18,000m^2 in total floor space or where the building exceeds 25m effective height. A Building that exceeds 50m in height is required to be provided with a dedicated fire control room that complies with Spec E1.8	

Part E2 – Smoke Hazard Management

Icon	Clause	Reference	Comment
	E2.2	***General requirements***	
BB	***E2.2a***	One the following smoke hazard management strategies is required:- Automatic smoke exhausting to Spec E2.2b, or Automatic smoke and heat vents to Spec E2.2c, or Automatic smoke detection and alarm system to Spec E2.2a and AS 1670.1-2004 , or Automatic sprinkler system to Spec E1.5 & AS 2118.1-1999.	Design Statement at CC stage and certification at OC stage is to be received to ensure compliance is able to be achieved
BB	***E2.2b***	All Class 9b Buildings are required to be provided with automatic shutdown. A licensed premises providing entertainment, must be provided with:- (a) in an auditorium 4. Automatic smoke exhausting to Spec E2.2b, or 5. Automatic smoke and heat vents to Spec E2.2c, or 6. Automatic sprinkler system to Spec E1.5. (b) in all other cases 3. One of the smoke hazard management measures listed under (a) above; or 4. Automatic smoke detection and alarm system to Spec E2.2a.	Design Statement at CC stage and certification at OC stage is to be received to ensure compliance is able to be achieved
	E2.3	***Provision for special hazards***	
N/A		Additional smoke hazard management measures may be necessary due to the: a) Special characteristics of the building	

Part E3 – Lift Installations

Icon	Clause	Reference	Comment
	E3.2	***Stretcher facility in lifts***	
BB		(a) Must be provided with: (i) at least 1 emergency lift required by E3.4 (ii) where emergency lift is not required, in at least 1 passenger lift in buildings over 12m. (b) Not less than 600mm wide and 2,000mm long x 1,400mm height.	
	E3.3	***Warning against use of lift in fire***	
BB		Warning signs are required at each lift landing located near every call button in accordance with Figure E3.3.	
	E3.4	***Emergency lifts***	
BB		Required to buildings over 25m in effective height, complying with AS 1735.2.	
	E3.6	***Facilities for people with disabilities***	
BB		Where required by D3.3 (a) every lift must be installed to meet requirements of AS 1735.2 and AS 1735.12.	
	E3.7	***Fire service controls***	
BB		All passenger lift cars require fire service controls in accordance with AS 1735.2	

Part E4 – Emergency Lighting, Exit and Warning Systems

Icon	Clause	Reference	Comment
	E4.3	***Measurement of distance***	
Noted		Distances other than vertical rise must be measured along the shortest path of travel whether by straight lines, curves or a combination of both.	
	E4.7	***Class 2, 3 and 4 parts: Exemptions***	
N/A		E4.5 does not apply to- 1. Class 2 building if the word “EXIT” is placed on the side of door remote from an exit, 2. An entrance door of a SOU in Class 2, 3 or 4.	

Section F: Health and Amenity

Part F1 – General

Icon	Clause	Reference	Comment
	F1.1	***Stormwater Drainage***	
BB		Stormwater drainage must comply to AS 3500.3.2	
	F1.5	***Roof Covering***	
BB		Roof covering must comply with required Australian Standard.	
	F1.6	***Sarking***	
BB		Sarking used for weather proofing of roofs must comply with AS/NZS 4200.	
	F1.9	***Damp-proofing***	
BB		Damp-proofing where required to be installed in accordance with AS/NZS 2904 or AS 3660.1	
	F1.10	***Damp-proofing of Floors on the Ground***	
BB		Damp-proofing where required to be installed in accordance with AS 2870	
	F1.11	***Provision of Floor Wastes***	
BB		In a Class 2, 3 or 4 part of a building, the floor of each bathroom and laundry located at any level above a sole-occupancy unit or public space must be graded to permit drainage to a floor waste.	
	F1.12	***Sub-floor Ventilation***	
BB		The sub-floor space between a suspended floor of a building and the ground must be in accordance with the requirements of this clause.	
	F1.13	***Glazed assemblies***	
BB		Glazed assemblies in an external wall to comply with AS 2047 requirements for resistance to water penetration	

Part F2 – Sanitary and Other Facilities

Icon	Clause	Reference	Comment
	F2.1	***Facilities in residential buildings***	
N/A		Minimum facilities required in **Class 2** buildings: Within each sole occupancy unit- (a) a kitchen sink and facilities for the preparation and cooking of food; and (b) a bath or shower; and (c) a closet pan and washbasin.	
N/A		Facilities for employees- If the building contains more than 10 sole occupancy units, or a group of Class 2 buildings on the one allotment contains, in total, more than 10 sole occupancy units – a closet pan and washbasin in a compartment or room at or near ground level and accessible to employees without entering a sole occupancy unit.	

Class of Building	User	Max Number Served by								
		Closet Fixtures			Urinal(s)			Washbasins		
		1	2	Each Extra	1	2	Each Extra	1	2	Each Extra
3, 5, 6 and 9 other than schools	Employees									
	Males	20	40	20	25	50	50	30	60	30
	Females	15	30	15				30	60	30

Icon	Clause	Reference	Comment
	F2.5	***Construction of sanitary compartments***	
BB		Where clear space between closet pan and doorway is less than 1.2m, doors must open outwards, slide or be readily removable from outside. Doors to disabled toilets are required to be provided with Lift off hinges to the doors irrespective of distance between pan and doorway	

Part F4 – Provision of Natural Light

Icon	Clause	Reference	Comment
	F4.1	***Provision of Natural Light***	
N/A		Class 2 buildings and Class 4 parts – to all habitable rooms.	
	F4.11	***Car Parks***	
BB		Every storey of a car park, except an open deck car park, must have a system of ventilation complying with AS/NZS 1668.1 and AS/NZS 1668.2.	

Section G: Ancillary Provisions

Part G1 – Minor Structures and Components

Icon	Clause	Reference	Comment
	NSW G1.101	***Provision for Cleaning of Windows***	
BB		Provision is to be made for the cleaning of windows either within the building or to the OH& S Act 2000 for any windows three (3) or more above the ground.	

Section H: Special Use Buildings

Part NSW H101 – Place of Public Entertainment

Icon	Clause	Reference	Comment
	NSW H101.2	***Fire Separation***	
BB		The POPE is required to be separated from the remainder of the building by construction that achieves an FLR of not less than 60/60/60, and any doors in the separating construction must achieve an Fire rating of -/60/30	
	NSW H101	***Stage Size***	
BB		If the stage or performance areas in any of the POPE places / rooms exceed 50m2 in floor area then automatic smoke exhaust would be required directly over the stage area in order to achieve compliance	
	NSW H101.16	***Storerooms***	
BB		Storerooms must be separated from other parts of the building by fire rating of not less than 60/60/60 with doors self closing and achieving -/60/30	
	NSW H101.19	***Electric Mains Installation***	
BB		The Switchboard containing the main isolation switch must be located in a position that is readily accessible to authorised persons and the fire brigade, and is required to be enclosed in construction achieving an FLR of 60/60/60	
	NSW H101.19.2.3	***Circuit Protection & Separate Sub-mains***	
BB		Protection of the final sub circuit originating at a switch board or DB must be by means of a circuit breaker Where a place of public entertainment (POPE) has its main supply in common with that of another part of the building, the POPE must be served by its one and independent sub-main, each such sub main must be protected against fire by protection that achieves protection for 2 hours fire protection	

Icon	Clause	Reference	Comment
	NSW H101.20	***Lighting Switches / controls***	
BB		Where during normal use the lighting is dimmed or switched off there must be an override switch installed in the theatre area that is accessible by the management/staff to switch on all of the general lighting in the theatre is required	

Section I: Maintenance

Part I1 – Equipment and Safety Installations

Icon	Clause	Reference	Comment
	NSW I1.1	***Essential Services Measures***	
Noted		Essential fire or other safety measures must be maintained and certified on an ongoing basis in accordance with the provisions of the Environmental Planning & Assessment Regulation 2000.	

Section J: Energy Efficiency

Part J1 to J8 – Building Fabric

Icon	Clause	Reference	Comment
	J1.1	***Application of Part***	
BB		This part apply to building elements forming an envelope of a Class 2 to 9 building other than – Class 7, 8 or 9b building that does not have a conditioned space or an atrium that is separated by an envelope.	
	J1.2	***Thermal Construction General***	
BB		Where required, *insulation* must comply with AS/NZS 4859.1 and be installed so that it: • Abuts or overlaps adjoining insulation and forms a continuous barrier with ceilings, walls, bulkheads, floors or the like that contribute to the thermal barrier;	
		Where required, *reflective insulation* must be installed: • With the required air space to achieve the R-Value between the reflective side and the cladding. Closely fitted against penetrations, door or window openings and supported by framing members. Each sheet overlapped not less than 50mm or taped together;	
		Where required, *bulk insulation* must be installed: • Maintain its thickness, other than where it crosses roof batten, water pipes, electrical cabling and the like; and in ceiling where there is no bulk insulation or reflective insulation in the wall, overlaps by 50mm	

Icon	Clause	Reference	Comment
	J1.3	***Roof and Ceiling Construction***	
BB		A roof or ceiling in Climate Zone 5 is to achieve a Total R-Value in the UPWARD direction of heat flow of not less than: • 3.2 – for a roof or ceiling generally; • 1.6 – for a ceiling below a non conditioned space such as plant rooms, storerooms or the like	
	J1.4	***Roof Lights***	
BB		Roof lights that form part of the envelope of a Class 5, 6, 7, 8 or 9 building must satisfy: (a) If the area of the roof light is between 1.5%-10% of the floor area of the room they must comply with **Table J1.4.** (b) roof light may exceed 10% of the floor area of the room, where - compliance with the natural lighting requirements of Part F4 can only be achieved by the roof light; and the transparent and translucent elements, achieve: - an SHGC not more than 0.25; and - total U-Value of not more than 1.3.	
	J1.5	***Walls***	
BB		External walls within Climate Zone 5 achieve: • A Total R-Value of 1.8; or • A surface density of not less than 220kg/m^2	
	J1.6	***Floors***	
BB		A suspended floor that is part of a buildings envelope to comply with Specification J1.6	

Part J2 – External Glazing

Icon	Clause	Reference	Comment
	J2.1	***Application of Part***	
BB		This part of the BCA does not apply to a Class 7, 8 or 9b building that does not have a conditioned space.	
	J2.2	***Applicable glazing provisions***	
BB		Glazing in a Class 5, 7, 8, 9a and 9b building must be designed and installed in accordance with Clause J2.4 of the BCA.	
	J2.4	***Glazing – Method 2***	
BB		(a) the glazing in each storey of the building facing each orientation must be assessed separately in accordance with (b) and (c); (b) aggregate air-conditioning energy value attributed to glazing must not exceed the allowance obtained by multiplying the façade area of the orientation by the energy index in **Table J2.4a**. (c) the aggregate air-conditioning energy value must be calculated by adding the air-conditioning energy value through each glazing element. Refer to Glazing Calculator by ABCB to assess compliance with Clause J2.4 (Method 2) of the BCA.	

Part J3 – Building Sealing

Icon	Clause	Reference	Comment
	J3.1	***Application of Part***	
BB		Applies to elements forming the envelope of a class 2-9 building (doors, windows, walls, roof/ceilings etc). Except for buildings in climate 1,2,3 or 5 where the only means of cooling is by an evaporative cooler or A permanent building ventilation opening for safe operation of a gas appliance A class 6, 7, 8 or 9b building that does not have a conditioned space A building or space where the mechanical ventilation provides sufficient pressurisation to prevent infiltration	
	J3.2,3,5	***Chimneys, Roof lights, exhaust fans***	
BB		Chimneys or flues must be provided with a damper or flap that can be closed to seals the chimney or flu when not in use Roof lights must be sealed by a diffuser or shutter system unless required as a building window for light Miscellaneous Exhaust fans must be provided with a damper that self closes when the fan is not in use	
	J3.4	***External Windows and Doors***	
BB		A seal to restrict air infiltration must be fitted to each edge (top, bottom and sides) of an external door or window or the like when serving a conditioned space or for habitable rooms in climate zones 4, 6, 7 & 8. Excluding: - Windows that comply with AS 2047 - fire doors Roller shutter doors or security doors installed for out of hours security only External louver door, windows or other such openings	

Part J5 – Air Condition & Ventilation Systems

Icon	Clause	Reference	Comment
	Part J5	***Air Con and Mech Vent system design***	
BB		Ductwork for supply and return air must be insulated Design of the system must achieve compliance with all parts of Part J5 of the BCA	

Part J6 – Artificial Lighting & Power

Icon	Clause	Reference	Comment
	J6.1	***Application of part***	
		This part of the BCA does not apply to a Class 2 or 4 buildings or parts within the Sole occupancy unit/s.	
	J6.5	***Artificial lighting around the perimeter of a building***	
BB		Exterior lighting must be controlled by either a daylight sensor or a time switch in accordance with Spec J6 to turn off when natural light is effective or during daylight hours and Total perimeter lighting load that exceeds 100w must – - have an average light source efficacy of not less than 60 lumens/W or - be controlled by a motion detector in accordance with Spec J6	

Part J8 – Access for Maintenance

Icon	Clause	Reference	Comment
Noted		Access for Maintenance must be provided to all services and components, including • Time switches and motion detectors • Room temp thermostats • Plant thermostats such as on boilers or refridge units • Outside air dampers • Reflectors, lens and diffusers of light fittings • Heat transfer equipment • Adjustable or motorised shading devices	

Appendix 3

Fire Resistance Provisions

Table 3 – Type A Construction: FRL of Building Elements

Building Element	**Class of Building – FRL** (in minutes) **Structural Adequacy/Integrity/Insulation**			
	Class 2, 3 or 4 part	**Class 5, 9 or 7 (car park)**	**Class 6**	**Class 7 (other than carpark) or 8**
External Wall (including any column and other building element incorporated therein) or other external building element, where the distance from and fire-source feature to which it is exposed is:				
For Loadbearing Parts:				
Less than 1.5m	90/90/60	120/120/120	180/180/180	240/240/240
1.5m to less than 3m	90/60/60	120/90/90	180/180/120	240/240/180
3m or more	90/60/30	120/60/30	180/120/90	240/180/90
For Non-Loadbearing Parts:				
less than 1.5m	- /90/90	- /120/120	-/180/180	-/240/240
1.5m to less than 3m	- /60/60	- /90/90	-/180/120	-/240/180
3m or more	- / - / -	- / - / -	-/-/-	-/-/-
External Column not incorporated in an external wall, where the distance from any fire source feature to which it is exposed is:				
Less than 3m	90/-/-	120/-/-	180/-/-	240/-/-
3m or more	-/-/-	-/-/-	-/-/-	-/-/-
Common Walls and Fire Walls:				
	90/90/90	120/120/120	180/180/180	240/240/240
Internal Walls – Fire Resisting lift and stair shafts:				
Loadbearing	90/90/90	120/120/120	180/120/120	240/120/120
Non-Loadbearing	- /90/90	- /120/120	-/120/120	-/120/120
Bounding ***Public Corridors*** public lobbies and the like:				
Loadbearing	90/90/90	120/ - / -	180/ - / -	240/-/-
Non-Loadbearing	- /60/60	- / - / -	- / - / -	- / - / -
Between or Bounding ***Sole Occupancy Units***:				
Loadbearing	90/90/90	120/ - / -	180/ - / -	240/-/-
Non-Loadbearing	- /60/60	- / - / -	- / - / -	- / - / -
`Ventilating, pipe, garbage and like ***shafts*** not used for the discharge of hot products of combustion:				
Loadbearing	90/90/90	120/90/90	180/120/120	240/120/120
Non-Loadbearing	- /90/90	- /90/90	- /120/120	- /120/120
Other Loadbearing Internal Walls, Internal Beams, Trusses and Columns:				
	90/ - / -	120/ - / -	180/-/-	240/-/-
Floors:	90/90/90	120/120/120	180/180/180	240/240/240
Roofs:	90/60/30	120/60/30	180/60/30	240/90/60

Table 3.9 – Type A Construction: Requirements For Carparks

Building Element	FRL (not less than) Structural Adequacy / Integrity / Insulation
Wall	
(a) *external wall*	
(i) less than 3 m from a *fire-source feature* to which it is exposed	
Loadbearing	60/60/60
Non-*loadbearing*	- /60/60
(ii) 3 m or more from a *fire-source feature* to which it is exposed	- / - / -
(b) *internal wall*	
(i) *loadbearing,* other than one supporting only the roof (not used for carparking)	60/ - / -
(ii) supporting only the roof (not used for carparking)	- / - / -
(iii) non-*loadbearing*	- / - / -
(c) *fire wall*	
(i) from the direction used as a *carpark*	60/60/60
(ii) from the direction not used as a *carpark*	as *required* by Table 3
Column	
(a) supporting only the roof (not used for carparking) and 3 m or more from a *fire-source feature* to which it is exposed	- / - / -
(b) steel column, other than one covered by (a) and one that does not support a part of a building that is not used as a *carpark*	60/ - / - or 26 m^2/tonne
(c) any other column not covered by (a) or (b)	60/ - / -
Beam	
(a) steel floor beam in continuous contact with a concrete floor slab	60/ - / - or 30 m^2/t`onne
(b) any other beam	60/ - / -
Fire-resisting lift and stair shaft (within the *carpark* only)	60/60/60
Floor slab and vehicle ramp	60/60/60
Roof (not used for carparking)	- / - / -

Notes: 1. ESA/M means the ratio of exposed surface area to mass per unit length

2. Refer to Specification E1.5 for special requirements for a sprinkler system in a *carpark* complying with Table 3.9 and located within a multi-classified building.

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