
MP 2.3 - FIRE SAFETY IN EXISTING RESIDENTIAL CARE BUILDINGS (Pre 1 June 2007)

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Purpose

To ensure *residential care buildings* provide an adequate level of safety for occupants in the event of fire. Queensland Development Code (QDC) MP 2.1 – Fire Safety in Budget Accommodation Building and MP 2.2 – Fire Safety in Residential Care Buildings do not apply to this code.

Commencement

MP2.3 commences on X.

Application

This standard applies:

- (a) to *residential care buildings* built before 1 June 2007; or
- (b) to *residential care buildings*, (other than buildings classified as class 9c under the Building Code of Australia (BCA)) approved for construction under a building development approval before 1 June 2007; or
- (c) where lawful carrying out of *building work* started for a *residential care building* that is *self assessable development* before 1 June 2007; and
- (d) in addition to the requirements of the *BCA*, (for buildings that comply with the building code), for the relevant classification of the *building*.

Referral Agency

The Queensland Fire and Rescue Service is an advice agency under Schedule 2 of the *Integrated Planning Regulation 1998* for:

- (a) *special fire services*;
- (b) alternative solutions for fire safety systems assessed against the performance criteria of this standard.

Associated Requirements

- *Building Act 1975*
- *Building Regulation 2006*
- *Integrated Planning Act 1997*
- *Integrated Planning Regulation 1998*
- *Fire and Rescue Service Act 1990*
- *Building Fire Safety Regulation 2008*
- Building Code of Australia (BCA)

Referenced Standards

- AS/NZS 1668.1:1998 The use of ventilation and air conditioning in buildings – Part 1: (incorporating Fire and smoke control in multi-compartment buildings Amendment No. 1)
- AS 1670.1 – 2004 Fire detection, warning, control and intercom systems – (incorporating Systems design, installation and commissioning – Part 1: Fire Amendment No. 1)
- AS 2118.1 – 1999 Automatic fire sprinkler systems – Part 1: General (incorporating requirements Amendment No. 1)
- AS 2118.4 – 1995 Automatic fire sprinkler systems – Part 4: Residential
- AS 2118.6 – 1995 Automatic fire sprinkler systems – Part 6: Combined sprinkler

AS 2293.1 – 2005	and hydrant Emergency escape lighting and exit signs for buildings – Part 1: System design, installation and operation
AS 2441 – 2005	Installation of fire hose reels
AS 2444 – 2001	Portable fire extinguishers and fire blankets – Selection and location
AS 3786 – 1993 (incorporating Amendments No. 1 – 4)	Smoke alarms

Definitions

Note: Italicised words within the body of the text are defined.

Acceptable solutions mean solutions which are deemed to satisfy the *performance criteria*.

Automatic has the meaning given in the *BCA*.

BCA means the edition of the Building Code of Australia in force at the time the relevant development application is lodged.

Bedroom means a space or part of a space used for sleeping purposes excluding corridors, passageways and *evacuation routes*.

Building includes part of a *building* if the part is a separate *fire compartment*.

Building work has the meaning given in the *Building Act 1975*.

Certificate of classification for a building or structure, means a certificate about its *BCA* classification, given under the *Building Act 1975*.

Class 9c has the meaning given in Part A3 of Volume One of the *BCA*.

Evacuation impairment means an impairment or a combination of impairments which reduces the capacity of a person to evacuate a *building* in an emergency, and includes any impairment that restricts mobility or the ability to understand or independently respond to an emergency resulting in *physical assistance* from another person.

Evacuation route has the meaning given in the *Building Fire Safety Regulation 2008*.

Exit has the meaning given in the *BCA*.

Fire compartment has the meaning given in the *BCA*.

Fire hazard means an area connected to, or adjoining, an *evacuation route* in a *residential care building* containing materials which are highly flammable, have a high fire load or an increased risk associated with ignition such as a kitchen, carpark, garage, internal hot water storage unit, laundry or a storage facility containing, for example, cleaning products, records, stationary or linen .

Fire isolated passageway has the meaning given in the *BCA*.

Fire protective covering has the meaning given in the *BCA*.

Fire-resistance level (FRL) has the meaning given in the *BCA*.

Fire safety system has the meaning given in the *BCA*.

Floor area has the meaning given in the *BCA*.

Fire Service means a statutory authority or service constituted under an Act of Parliament and having as one of its functions, the protection of life and property from fire and other emergencies.

Mezzanine means an intermediate floor within a room.

Open space has the meaning given in the *BCA*.

Non-combustible has the meaning given in the *BCA*.

Path of travel means that part of an *evacuation route* that starts in a *public corridor*, passageway, hallway, stairway, landing, ramp or *required exit*.

Performance criteria means the outcome that must be achieved for an element of a *building*.

Physical assistance means the assistance required from another person as a result of a physical, sensory, psychological or intellectual impairment, but does not include children who require assistance only due to their age.

Public corridor has the meaning given in the *BCA*.

Residential care building means a *building* which is a place of residence for six or more persons where 10% or more of the residents need *physical assistance* in conducting their daily activities and to evacuate the *building* during an emergency (including any *aged care building*) but does not include:

- (a) a hospital; or
- (b) a dwelling in which 2 or more members of the same family and not more than 2 other persons would ordinarily be resident; or
- (c) a *building* in which only one resident requires *physical assistance* to conduct their daily activities and to evacuate the *building* during an emergency.

Sealed means:

- (a) Perimeter:
 - (i) Gaps between the edge of the door leaf and the frame not to exceed 3mm at the head and hinge and lock stiles.
 - (ii) The door left to the door seat rebate average gaps does not exceed 5mm.
- (b) Bottom:
 - (i) Gaps not to exceed 10 mm at the threshold.

Self assessable development is *building work* that:

- (a) is prescribed under Schedule 1 of the *Building Regulation 2006*; and
- (b) is not exempt development for *Integrated Planning Act 1997*, under section 22 of the *Building Act 1975*.

Self closing means doors which are fitted with a device:

- (a) with an *automatic*-closing operation initiated by the activation of the *building's* interconnected *smoke alarms* or *smoke detection system*; or

- (b) with a free-arm action closing operation which closes the door or causes the door to remain closed (without preventing manual re-opening), upon the detection of smoke by the building's interconnected *smoke alarms* or *smoke detection system*; or
- (c) that returns the door to the fully closed position immediately after each opening.

Smoke alarm means a device containing a smoke detector and an alarm sounder complying with AS 3786.

Smoke alarm system means a combination of *smoke alarms* which are hard wired to the consumer's power supply with battery back-up.

Smoke compartment is a space within a building that is separated from the remainder of the building by:

- (a) material that is *non-combustible*, and
- (b) a *sealed* perimeter which prevents the spread of smoke to another *smoke compartment*; and
- (c) where all doors which form part of the *smoke compartment* are *self closing*.

Smoke detection system means a *smoke detection system* complying with AS 1670.1.

Sprinkler system means a fire suppression system complying with AS 2118.1 or AS 2118.4 or AS 2118.6 with fast response sprinkler heads designed for life safety applications.

Storey means a space within a *building* which is situated between one floor level and the floor level next above, or if there is no floor above, the ceiling or roof above, but not-

- (a) a space that contains only-
 - (i) a lift shaft, stairway or meter room; or
 - (ii) a bathroom, shower room, laundry, water closet, or other *sanitary compartment*; or
 - (iii) accommodation intended for not more than 3 vehicles; or
 - (iv) a combination of the above; or
- (b) a *mezzanine*.

Type A construction means a *building* where all external walls, columns, common walls, internal walls, floors and lift shafts, each have a *FRL* in accordance with Schedule 1 of this code.

Type B construction means a *building* where all external walls, columns, and common walls each have a *FRL* in accordance with Schedule 1 of this code.

Type C construction means a *building* where all *building* elements have minimal *FRL* other than *Type A* or *Type B* construction.

PERFORMANCE CRITERIA		ACCEPTABLE SOLUTIONS
Early warning system		
P1	<p><i>Residential care building</i> occupants are provided with appropriate <i>automatic</i> warning on the detection of smoke so that they may evacuate in the event of a fire to a place of safety, having regard to-</p> <ul style="list-style-type: none"> (a) the height of the <i>building</i>; and (b) the construction of the <i>building</i>; and (c) the mobility and other characteristics of the occupants; and (d) the power supply available to the <i>building</i>. 	<p>A1 In all residential care buildings</p> <ul style="list-style-type: none"> (a) <i>smoke alarms</i> are installed in every room, <i>public corridor</i> and other internal public spaces and located in accordance with the requirements for smoke detectors in AS 1670.1 and interconnected to provide common alarm; or (b) a <i>smoke detection system</i> is installed.
Fire suppression and compartmentation		
P2	<p>In all <i>residential care buildings</i>, adequate fire suppression, or measures to prevent the spread of smoke from fire is provided to control the development and spread of fire appropriate to-</p> <ul style="list-style-type: none"> (a) the size of the <i>building</i>; and (b) the <i>fire hazard</i>; and (c) the number, mobility and any other characteristics of the occupants that may affect their ability to respond in an emergency situation. 	<p>A2 (1) In Type A construction residential care buildings –</p> <ul style="list-style-type: none"> (a) an <i>automatic sprinkler system</i> is installed in accordance with - <ul style="list-style-type: none"> (i) AS 2118.1; or AS 2118.4; or AS 2118.6 and (ii) where the building's smoke alarm system or smoke detection system are not monitored, the automatic sprinkler system is provided with a monitored main stop valve in accordance with AS 2118.1, (which is permanently connected with a direct data link to a fire station), other than buildings with a floor area of 300m² or less and in which not more than 12 persons would ordinarily be resident; or (b) <i>smoke compartments</i> - <ul style="list-style-type: none"> (i) accommodate 5 or less occupants with an evacuation impairment; and (ii) perimeter doors of the smoke compartment are self closing; or (c) a written procedure is included in the <i>building's</i> evacuation plan specifying: <ul style="list-style-type: none"> (i) bedroom doors are to be closed (either manually or automatically) to form a smoke compartment upon activation of the smoke alarm; and (ii) bedroom doors are to be closed at 7.00pm and to remain

continuously closed, when not in use, from 7.00pm to 7.00am; and

- (iii) a requirement for the responsible personnel to be instructed on activities (i) and (ii) upon commencing employment and otherwise yearly; and
- (iv) the personnel responsible for activities (i), (ii) and (iii); and

(2) In Type B or Type C construction residential care buildings of 1 storey -

- (a) *smoke compartments*;
 - (i) accommodate 5 or less occupants with an *evacuation impairment*; and
 - (ii) have *self closing* perimeter doors; or
- (b) an *automatic sprinkler system* is installed in accordance with A2 (1)(a), (i) and (ii); and

(3) In *Residential care buildings of Type B or Type C construction of 2 or more storeys*, an *automatic sprinkler system* is installed in accordance with A2 (1) (a) (i) and (ii).

Emergency escape

P3 In all unsprinklered *residential care buildings*, *exits* must be provided from a building to allow occupants to evacuate safely, with their number, location and dimensions being appropriate to –

- (a) the number, mobility and other characteristics of occupants; and
- (b) the function or use of the *building*; and
- (c) the height of the *building*; and
- (d) whether the *exit* is from above or below ground level.

A3 For all unsprinklered *residential care buildings built pre 1 January 1992*, each *storey* has at least two *exits* which are:

- (i) distributed as uniformly as practicable within or around the *storey* served and in positions where unobstructed access to at least two *exits* is readily available from all points on the *storey*, including lift lobby areas; and
- (ii) not less than 9m apart; and
- (iii) not more than 45m apart; and
- (iv) located so that alternative *paths of travel* do not converge such that the *paths of travel* are not less than 6m apart at any point; or
- (v) are in accordance with Part D1.4, Volume 1 of the *BCA*, applicable to the classification of the *building*.

Fire hazard management	
P4	<i>Evacuation routes</i> located in <i>residential care buildings</i> are adequately protected from <i>fire hazards</i> to provide for the safety of occupants in the event of a fire.
A4	In all unsprinklered <i>residential care buildings</i> , with <i>fire hazards</i> over 30m ² in floor area and located on or below an <i>evacuation route</i> the <i>fire hazards</i> are separated by construction having an FRL of -/60/30.
Smoke hazard management	
P5	In the event of a fire, <i>residential care buildings</i> have adequate protection against the spread of smoke across <i>smoke compartments</i> and to <i>evacuation routes</i> .
A5	For <i>residential care buildings</i> with more than one <i>smoke compartment</i> , and with an <i>air-handling system</i> installed, which operates in a manner that may unduly contribute to the spread of smoke from one <i>smoke compartment</i> to another <i>smoke compartment</i> , the system must- <ul style="list-style-type: none"> (i) incorporate smoke dampers where the air-handling ducts penetrate any elements separating the <i>smoke compartments</i> served and is arranged such that the air-handling system is shut down and the smoke dampers are activated to close <i>automatically</i> by <i>smoke detectors</i> complying with Clause 4.10 of AS/NZS 1668.1; or (ii) a <i>smoke detection system</i> is installed in accordance with Clause 5 of Specification E2.2a of the <i>BCA</i> to operate AS/NZS 1668.1 systems that are provided for zone smoke control and <i>automatic</i> air pressurisation for fire isolated <i>exits</i>; and (iii) is designed and installed to operate as a smoke control system in accordance with AS/NZS 1668.1.
Portable fire extinguishers	
P6	Fire extinguishers must be installed to the degree necessary to allow occupants to undertake initial attack on a fire appropriate to- <ul style="list-style-type: none"> (a) the function or use of the <i>building</i>; and (b) any other <i>fire safety systems</i> installed in the <i>building</i>; and (c) the <i>fire hazard</i>.
A6	For <i>residential care buildings</i> with a <i>floor area</i> greater than 300 m ² - <ul style="list-style-type: none"> (a) existing portable fire extinguishers are located within the building; or (b) existing portable fire extinguishers are located in accordance with the Australian Standard applicable at the time of installation; or (c) for <i>buildings</i> with no portable fire extinguishers, extinguishers are selected, located and distributed in accordance with AS 2444.
Fire hose reels	
P7	A fire hose reel system must be installed to the degree necessary to allow occupants to safely undertake initial attack on a fire appropriate to- <ul style="list-style-type: none"> (a) any other <i>fire safety systems</i> installed in the <i>building</i>; and
A7	For unsprinklered <i>residential care buildings</i> with a <i>floor area</i> greater than 500 m ² - <ul style="list-style-type: none"> (a) an existing fire hose reel system is installed; or (b) an existing fire hose reel system is

(b) the *fire hazard*.

installed in accordance with the Australian Standard applicable at the time of installation; or

(c) for *buildings* with no fire hose reels, a fire hose reel must be installed in accordance with AS 2441.

Fire fighting water supply

P8 A fire fighting water supply must be provided to the degree necessary to facilitate the needs of the *fire service* appropriate to fire-fighting and rescue operations.

A8 For unsprinklered *residential care buildings*, a fire hydrant is available for use within 90 metres of the most distance point of the *building* measured around the perimeter of the *building* if-

- (a) the *buildings floor area* is greater than 500 m²; and
- (b) where a *fire service* with a structural fire fighting capability is available to attend a *building* fire within 20 minutes of being notified of the fire.

Emergency Escape Lighting and Exit Signage

P9 To facilitate evacuation, suitable lighting, signs or other means of identification must be provided in the event of fire.

A9 For *residential care buildings* that **DO NOT** have:

- (a) emergency escape lighting; or
- (b) *exit* signage,

an appropriate system is to be designed, installed and operated in accordance with AS 2293.1.

Schedule 1 – Fire Resisting Construction

TYPE A

Building Element	FRL (in minutes) Structural adequacy/Integrity/Insulation Type A construction Class 3	FRL (in minutes) Structural adequacy/Integrity/Insulation Type A construction Class 9
External wall (including any column or other building element incorporated within the wall) where the distance from any fire-source feature to which it is exposed is- For load bearing parts-		
Less than 1.5m	90/ 90/ 90	120/ 120/ 120
1.5m to less than 3m	90/ 60/ 60	120/ 90/ 90
3 m or more	90/ 60/ 30	120/ 60/ 30
For non-load bearing parts-		
Less than 1.5m	- / 90/ 90	- / 120/ 120
1.5m to less than 3m	- / 60/ 60	- / 90/ 90
3 m 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/ - / -
3 m or more	- / - / -	- / - / -
Common walls and fire walls	90/ 90/ 90	120/ 120/ 120
Internal walls-		
Fire-resisting lift and stair shafts-		
Load bearing	90/ 90/ 90	120 /120/ 120
Non-load bearing	- / 90/ 90	-/120/ 120
Bounding public corridors, public lobbies and the like-		
Load bearing	90/ 90/ 90	120/ - / -
Non-load bearing	- / 60/ 60	- / - / -
Between or bounding sole-occupancy units-		
Load bearing	90/ 90/ 90	120/ - / -
Non-load bearing	- / 60/ 60	- / - / -
Ventilating, pipe, garbage, and like shafts not used for the discharge of hot products of combustion-		
Load bearing	90/ 90/ 90	120/90/90
Non-load bearing	- / 90/ 90	- / 90/ 90
Other load bearing internal walls, internal beams, trusses and columns-	90/ - / -	120/ - / -
Floors	90/ 90/ 90	120/120/120
Roofs	90/ 60/ 30	120/ 60/ 30

Note: The FRL are extracted from the BCA. Some external walls may not be load bearing, in which case structural adequacy won't be relevant.

TYPE B

Building Element	FRL (in minutes) Structural adequacy/Integrity/Insulation Type B construction Class 3	FRL (in minutes) Structural adequacy/Integrity/Insulation Type B construction Class 9
External wall (including any column or other building element incorporated within the wall) where the distance from any fire-source feature to which it is exposed is-		
For load bearing parts-		
Less than 1.5m	90/ 90/ 90	120/ 120/ 120
1.5m to less than 3m	90/ 60/ 30	120/ 90/ 60
3 to less than 9m	90/ 30/ 30	120/ 30/ 30
9 to less than 18m	90/ 30/ -	120/ 30/ -
18m or more	- / - / -	- / - / -
For non-load bearing parts-		
Less than 1.5m	- / 90/ 90	- / 120/ 120
1.5m to less than 3.0m	- / 60/ 30	- / 90/ 60
3 m 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/ - / -
3 m or more	- / - / -	- / - / -
Common walls and fire walls	90/ 90/ 90	120/ 120/ 120
Internal walls-		
Fire-resisting lift and stair shafts-		
Load bearing	90/ 90/ 90	120 /120/ 120
Fire-resisting stair shafts		
Non-load bearing	- / 90/ 90	- / 120/ 120
Bounding public corridors, public lobbies and the like-		
Load bearing	60/ 60/ 60	120/ - / -
Non-load bearing	- / 60/ 60	- / - / -
Between or bounding sole-occupancy units-		
Load bearing	60/ 60/ 60	120/ - / -
Non-load bearing	- / 60/ 60	- / - / -
Other Load bearing Internal Walls and Columns	60/ - / -	120/ - / -
Roofs	- / - / -	- / - / -

Note: The FRL are extracted from the BCA. Some external walls may not be load bearing, in which case structural adequacy won't be relevant.

TYPE C

Building Element	FRL (in minutes) Structural adequacy/Integrity/Insulation Type C construction Class 3	FRL (in minutes) Structural adequacy/Integrity/Insulation Type C construction Class 9
External wall (including any column or other building element incorporated therein) or other external building element, where the distance from any fire-source feature to which it is exposed is-		
Less than 1.5m	90/ 90/ 90	120/ 120/ 120
1.5m to less than 3m	- / - / -	60/ 60/ 60
3 m 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 1.5m	90/ - / -	90/ - / -
1.5 to less than 3m	- / - / -	60/ - / -
3 m or more	- / - / -	- / - / -
Common walls and fire walls	90/ 90/ 90	90/ 90/ 90
Internal walls-		
Bounding public corridors, public lobbies and the like-	60/ 60/ 60	- / - / -
Between or bounding sole-occupancy units-	60/ 60/ 60	- / - / -
Bounding a stair if required to be rated-	60/ 60/ 60	60/ 60/ 60
Roofs	- / - / -	- / - / -

Note: The FRL are extracted from the BCA. Some external walls may not be load bearing, in which case structural adequacy won't be relevant.

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