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## SP 2.2 - FIRE SAFETY IN RESIDENTIAL CARE BUILDINGS

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## SP 2.2 – FIRE SAFETY IN RESIDENTIAL CARE BUILDINGS

### Purpose

To ensure *residential care buildings* provide for the safe evacuation of occupants in the event of fire.

### Commencement

SP 2.2 commences on 1 June 2007.

### Application

This standard applies –

(a) to *residential care buildings* where the building development application for construction is made on or after 1 June 2007; and

(b) in addition to the requirements of the Building Code of Australia (BCA) 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 and the performance criteria of Volume 1 of the *BCA*; and

(c) *fire and evacuation plans* assessed against schedule 2 of this standard.

### Associated Requirements

- *Building Act 1975*
- *Building Regulation 2006*
- *Integrated Planning Regulation 1998*
- *Local Government Act 1993*
- *Fire and Rescue Service Act 1990*
- *Building Fire Safety Regulation 1991*
- Building Code of Australia (BCA)

### Referenced Standards

|           |   |
|-----------|---|
| AS 1670.1 | Fire detection, warning, control and intercom systems – Systems design, installation and commissioning - Fire |
| AS 2118.1 | Automatic fire sprinkler systems – General requirements   |
| AS 3786   | Smoke alarms  |
| AS 2118.4 | Automatic fire sprinkler systems – Residential  |

### Definitions

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

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

**Aged care building** has the meaning given in the *BCA*.

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**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.

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

**Class 1b** has the meaning described in Part A3 of Volume One of the *BCA*.

**Class 3** has the meaning described in Part A3 of Volume One of the *BCA*.

**Class 9a** has the meaning described in Part A3 of Volume One of the *BCA*.

**Class 9c** has the meaning described 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 in an emergency to the extent that the person requires *physical assistance* to safely evacuate the building in an emergency and includes any impairment that restricts mobility or the ability to understand or independently respond to an emergency evacuation as indicated by an assessment using the form in Schedule 1 of this standard.

**Fire and evacuation plan** means the *fire and evacuation plan* required for the *building* by s104E of the *Fire and Rescue Service Act 1990* with the elements listed in Schedule 2 of this standard.

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

**Fire hose reels** means *fire hose reels* prescribed for the *building* in accordance with the *BCA*.

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

**Hospital** means a *building* –

- (a) used to provide medical or surgical treatment to sick or injured persons; and
- (b) not used as a place of residence for persons who need *physical assistance* in conducting daily activities.

**Minimum support ratio** means the ratio of the number of *responsible persons* to the number of persons assessed to have an *evacuation impairment* using the checklist in Schedule 1 of this standard.

**On-site** means, for the purposes of providing residents with *physical assistance* to evacuate the *building* -

- (a) located no more than 60 metres distance of travel from an entrance of the part of the *building* used to provide residential care; or
- (b) located and immediately available in the part of the *building* used to provide residential care.

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

**Physical assistance** with respect to assisting a person to evacuate the *building* in an emergency includes leading or monitoring a person, other than a child without an *evacuation impairment*, who would otherwise be unable to reliably and safely evacuate the *building*.

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

**Residential aged care building** has the meaning given in the *BCA*.

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**Residential care building** means a *building* which is a place of residence where 10% or more of persons who reside there 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 place of residence where only one resident needs *physical assistance* to conduct their daily activities and to evacuate the *building* during an emergency.

**Responsible person** means a person without an *evacuation impairment* nominated by the owner, manager or service provider of a *residential care building* to provide *evacuation support* to the *building's* occupants and who is –

- (a) onsite, alert and able to hear or otherwise immediately respond to an activation of the *building's* fire alarm at all times; or
- (b) if asleep and on duty in the part of the *building* used to provide residential care, able to hear and immediately respond to an activation of the *building's* fire alarm at all times.

**Safe place** has the meaning given in the *BCA*.

**Smoke alarm** means device containing a smoke detector and an alarm sounder complying with A.S. 3786.

**Smoke alarm system** means a combination of *smoke alarms*.

**Smoke detection system** means a *smoke detection system* complying with AS 1670.1 as required by the *BCA*.

**Smoke compartment** means an area bounded by smoke proof walls complying with specification C2.5 of the *BCA* as it relates to *aged care buildings*.

**Sprinkler system** means a fire suppression system complying with AS2118.1 or AS2118.4 with fast response sprinkler heads designed for life safety applications.

**Storey** has the meaning given in the *BCA*.

**Support** means, for the purposes of *minimum support ratio*, immediate and effective *on-site* evacuation assistance, provided by a *responsible person* to a person with an *evacuation impairment*.

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### PERFORMANCE CRITERIA

### ACCEPTABLE SOLUTIONS

#### Fire suppression system

- P1** In all *residential care buildings* an *automatic* fire suppression system, monitored by an approved system, must be installed to control the development and spread of fire appropriate to -
- (a) the size and height of the *building*; and
  - (b) the fire hazard; and
  - (c) the number, mobility and other characteristics of the occupants.

- A1** In all *residential care buildings* -
- (a) an *automatic sprinkler system* is installed in accordance with –
    - (i) AS 2118.1; or
    - (ii) AS 2118.4 in buildings of not more than four storeys and of not more than 5000m<sup>2</sup> floor area; and
  - (b) 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 or fire dispatch centre except for buildings –
    - (i) with a *floor area* of 300m<sup>2</sup> or less; and
    - (ii) with less than 13 residents; and
    - (iii) that are not *aged care buildings*; and
  - (c) *BCA* concessions for fire resistance as applicable to *Class 9c aged care buildings* are available for *Class 9a* buildings and fire resistance concessions applicable to *Class 3 residential aged care buildings* are available for *Class 3 buildings*; and
  - (d) *fire hose reels* are not required to be installed.

#### Evacuation support

- P2** In all *residential care buildings* a level of immediate *on-site* evacuation assistance must be maintained to ensure occupants of the *building* can be safely evacuated in the event of an emergency appropriate to the mobility and other characteristics of the *building's* occupants.

- A2** (a) In all *residential care buildings*, other than *class 1b residential care buildings*, a *fire and evacuation plan* is provided which -
- (i) indicates a *minimum support ratio* is to be maintained at all times so that no more than ten occupants with an *evacuation impairment* are accommodated within any *smoke compartment* for each *on-site responsible person*; and
  - (ii) describes the arrangements to be used to ensure the building's *minimum support ratio* is maintained at all times; and
  - (iii) is conspicuously displayed in the *building*.
- (b) In *class 1b residential care buildings*, a *fire and evacuation plan* is provided which -
- (i) indicates a *minimum support ratio* is to be maintained at all times so that no more than five occupants with an *evacuation impairment* are accommodated within the *building* for each *on-site responsible person*; and
  - (ii) describes the arrangements to be used to ensure the *building's minimum support ratio* is maintained at all times; and
  - (iii) is conspicuously displayed in the *building*.

**Note:** For the purposes of A2 a *responsible person* may provide *evacuation support* in more than one *smoke compartment*.

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### PERFORMANCE CRITERIA

### ACCEPTABLE SOLUTIONS

#### Early warning system

**P3** In all *residential care buildings* not required to have a *smoke detection system* installed, occupants must be provided with appropriate *automatic* warning on the detection of smoke so they may evacuate in the event of fire to a *safe place* appropriate to –

(a) the number, mobility and other characteristics of the occupants; and

(b) the need for a *responsible person* to provide other occupants of the *building* with *evacuation support*.

**A3** In all *residential care buildings* not required by the *BCA* to have a *smoke detection system* installed, smoke alarms are installed in every room, public corridor 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.

## SP 2.2 – FIRE SAFETY IN RESIDENTIAL CARE BUILDINGS

### Schedule 1 – *Evacuation Impairment Assessment Checklist*

**Residential care buildings  
EVACUATION IMPAIRMENT ASSESSMENT FORM**

This form may be used to assess whether an occupant of the *building* has an *evacuation impairment*.

Use this form for the purposes of compliance with A2 of this code.

(a) An occupant does not have an *evacuation impairment* when ALL answers on this form are ticked to indicate Yes. Do not indicate “Yes” in answer to any question unless the occupant is able to meet the criterion at all times of the day or night.

(b) If this form is being used to exclude occupants from the need for evacuation *support*, the excluded person must be assessed upon admission and reassessed when the person’s ability to evacuate in an emergency changes or otherwise monthly. Monthly evacuation drills should be used to determine the ability of a person to safely evacuate the *building* in the event of fire.

(c) If the occupant has an *evacuation impairment*, you MUST include him/her in your *minimum support ratio* calculations. If the occupant does not have an *evacuation impairment*, you do not need to include him/her in your *minimum support ratio* calculations.

(d) If this form is used to exclude an occupant from the requirement that they be provided with evacuation *support*, a copy must be available in the *building* for inspection by authorised persons under the *Local Government Act 1993* or authorised fire officers of the Queensland Fire and Rescue Service at any time the *building* is occupied.

|                           |                |             |
|---------------------------|----------------|-------------|
|                           | Date of Drill: |             |
| Name of Occupant:         | Room Number:   |             |
| Name of <i>Building</i> : |                |             |
| Name of Organisation:     |                |             |
| Assessed by:              | (name)         | (signature) |

| Does the occupant  | Yes | No | Comments |
|--|-----|----|----------|
| 1) Demonstrate the ability to hear and recognise the fire evacuation alarms?   |     |    |          |
| 2) Demonstrate the ability to safely evacuate from the <i>building</i> without the assistance of another person?               |     |    |          |
| 3) Demonstrate the ability to follow the evacuation plan and evacuate to the assembly point identified in the evacuation plan? |     |    |          |
| 4) Demonstrate observance of the evacuation plan in a calm and timely manner in a drill situation?                             |     |    |          |
| 5) Demonstrate an understanding that he/she must comply with the directions of emergency personnel?                            |     |    |          |
| <b>Result</b>  |     |    |          |
| <b>Does the occupant have an <i>evacuation impairment</i>?</b>   |     |    |          |

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### Schedule 2 – Required elements of a *residential care building fire and evacuation plan*

1. *Building* identification.
2. Allowable occupant numbers.
3. The proposed maintenance schedule for the *building's* prescribed fire safety installations.
4. A plan of action to be taken in the event of fire or activation of the *building's* fire alarm including –
  - (a) written instructions with the following priorities -
    - Investigate and raise the alarm as soon as a fire is suspected
    - Begin a thorough evacuation, beginning from the point of greatest risk
    - Summon the fire service
    - Contain or control the fire if safe to do so, and as long as the evacuation is not affected and only if the evacuation has adequate supervision
    - Assemble and account for persons
    - Occupants to be directed not to re-enter the *building*; and
  - (b) a simple and legible diagram of the *building*, drawn to a reasonable scale, indicating the *building's* evacuation routes, required exits and assembly points; and
  - (c) arrangements for monitoring and training to ensure the *minimum support ratio* required by performance criterion two of this standard is maintained at all times; and
  - (d) a list of persons (described by reference to the positions they hold or in another suitable way) responsible for administering the *building's fire and evacuation plan*.
5. The proposed instruction schedule to ensure the *building's* workers and residents are adequately instructed concerning the actions to be taken by them in the event of fire threatening the *building* to ensure their own and other persons' safety.

