



Fire safety in early childhood centres

1 Purpose

This technical information sheet details Fire and Rescue NSW (FRNSW) requirements to mitigate the risk of injury to occupants of an early childhood centre during a fire emergency and provides measures that may assist firefighting intervention.

2 Scope

This technical information sheet details:

- FRNSW position on children being vulnerable occupants
- fire safety provisions required by legislation as applicable to an early childhood centre
- recommended fire sprinkler systems to protect life safety of vulnerable occupants
- minimum egress provisions for an early childhood centre in a multiple storey building to safeguard vulnerable occupants during emergency evacuation.

3 Application

This document applies to any early childhood centre, as per *National Construction Code*¹ (NCC) definition, which is any centre-based service that provides or intends to provide early childhood education and care.

Note: Refer to [Education and Care Services National Regulations](#) for definition of 'centre-based services' and exclusions (e.g. home-based, mobile child care, schools).

This document applies to any proposed development of an early childhood centre, including when needing to be referred to FRNSW as a performance solution under Clause 144 of the *Environmental Planning and Assessment Regulation 2000*.

This document is intended to be used by owners, fire safety engineers, certifiers and consent authorities for planning new or redeveloping existing early childhood education and care facilities within NSW.

The considerations within this document do not overrule any other national, state or local government requirement.

Note: Reference should be made to [State Environmental Planning Policy \(Educational Establishments and Child Care Facilities\) 2017](#) and the [Child Care Planning Guideline](#) from NSW Department of Planning, Industry and Environment.

4 FRNSW position on classification

An early childhood centre is classified as a Class 9b assembly building under Clause A6.9 of the NCC.

In being a Class 9b building, the NCC deems an early childhood centre to have a similar set of risks (or risk profile) to that of other assembly buildings such as a library, theatre, church, public hall, school, cinema, transport centre or sports stadium.

¹ National Construction Code, Volume One, Building Code of Australia 2019 Amendment 1

However, the *NCC* also defines children within an early childhood centre as 'vulnerable occupants' under building complexity, due to these occupants requiring assisted evacuation in the event of an emergency.

Note: Other vulnerable occupants having similar risk include residents of an aged care facility, disabled persons in residential care, and patients in a health care building.

FRNSW contends occupants of an early childhood centre should be considered accordingly and have similar life safety requirements; some recommendations made in this document exceed the minimum standard for regulatory compliance to address this higher risk.

5 General provisions for all early childhood centres

- 5.1 The early childhood centre should be provided with a smoke alarm system or a smoke detection system installed throughout all areas, except:
- toilets and bathrooms
 - storerooms/cupboards with a floor area less than 3 m², and
 - storerooms/cupboards containing electrical equipment with a floor area less than 1 m².
- Note:** Heat alarms or detectors should be considered in kitchen/cooking and laundry areas where smoke alarms may produce nuisance alarms.
- 5.2 Any smoke alarm system should:
- consist of smoke alarms complying with *AS 3786:2014*²
 - have all smoke alarms interconnected to provide a common alarm throughout the early childhood centre, and
 - be powered from the 240 Volt AC power supply.
- 5.3 Any smoke detection system must:
- comply with *AS 1670.1:2018*³, and
 - activate a building occupant warning system throughout the early childhood centre.
- 5.4 A fire blanket complying with *AS 2444-2001*⁴ should be kept adjacent to cooking facilities.
- 5.5 Portable fire extinguishers should be selected, located and distributed in accordance with Table E1.6 of the *NCC* and Sections 1, 2, 3 and 4 of *AS 2444-2001*.
- 5.6 A written emergency plan⁵ must be developed, maintained and implemented for the early childhood centre, and must:
- identify a safe and secure assembly area away from the evacuated building including method of safe transfer of all children to that area (e.g. carriage of babies and infants and appropriate staff/child ratios)
 - compatible with any existing emergency and evacuation procedures for the whole building, where the early childhood centre forms part of that building, and
 - be rehearsed every three months by all persons occupying the early childhood centre at the time of rehearsal and documented.

Note: FRNSW recommends the emergency plan complies with *AS 3745-2010*⁶.

² AS 3786:2014 Smoke alarms using scattered light, transmitted light or ionization

³ AS 1670.1:2018 Fire detection, warning, control and intercom systems - System design, installation and commissioning, Part 1: Fire

⁴ AS 2444:2001 Portable fire extinguishers and fire blankets - Selection and location

⁵ Regulation 97 of the Education and Care Services National Regulation

⁶ AS 3745:2010 Planning for emergencies in facilities

- 5.7 The early childhood centre must be equipped with a phone or radio that allows a staff member to communicate with emergency services any time that an emergency occurs⁷.
- 5.8 All fire safety measures within this document that are implemented in the early childhood centre must be listed as an essential fire safety measure on the building's fire safety schedule, and must be serviced and maintained in accordance with the requirements of the *Environmental Planning and Assessment Regulation 2000*.
- 5.9 The maximum number of persons accommodated should be as determined in accordance with Clause D1.13 of the *NCC* (i.e. a minimum 4 m² per person, child or staff, is provided).

6 Automatic fire sprinkler systems

6.1 FRNSW position

- 6.1.1 FRNSW recommends an automatic fire sprinkler system be installed to protect all vulnerable occupants of an early childhood centre; a fire sprinkler system, in conjunction with smoke alarms, significantly improves the life safety of vulnerable occupants in the event of fire.

Note: Automatic fire sprinkler systems became mandatory in aged care facilities following the 2011 Quakers Hill nursing home fire which resulted in the loss of 21 lives⁸.

6.2 Single occupancy building

- 6.2.1 Where the early childhood centre is a single occupancy building, being:

- (a) a building where all parts of the building are classified as Class 9b, or
- (b) a building incorporating both Class 9b and Class 7a parts, only where the Class 7a carpark is used solely by occupants of the early childhood centre,

then an appropriate fire sprinkler system should be installed throughout the building.

Note: Relevant sprinkler systems may include *AS 2118.1-2017*⁹, *AS2118.6-2012*¹⁰, *AS 2118.4-2012*¹¹ and *AS 2118.5-2008*¹², however the level of protection should be demonstrated as being appropriate to the hazard/occupancy.

Note: The provisions of Clause E1.5 (sprinklers) of the *NCC* may override the requirements of this clause if they exceed the requirements of this clause.

6.3 Mixed occupancy building

- 6.3.1 A mixed occupancy building is any building having more than one occupant or building classification, excluding a Class 7a carpark used solely by the early childhood centre.
- 6.3.2 When an existing building having mixed occupancy proposes to include an early childhood centre, an appropriate fire sprinkler system should be installed throughout the storey containing the Class 9b part used as early childhood centre, and all storeys below, as a minimum.

⁷ Regulation 98 of the Education and Care Services National Regulation

⁸ Part 9 Division 7B of the Environmental Planning and Assessment Regulation 2000

⁹ AS 2118.1:2017 Automatic fire sprinkler systems, Part 1: General systems

¹⁰ AS 2118.6:2012 Automatic fire sprinkler systems, Part 6: Combined sprinkler and hydrant systems in multistorey buildings

¹¹ AS 2118.4:2012 Automatic fire sprinkler systems, Part 4: Sprinkler protection for accommodation buildings not exceeding four storeys in height

¹² AS 2118.5:2008 Automatic fire sprinkler systems, Part 5: Home fire sprinkler systems

Note: Relevant sprinkler systems may include AS 2118.1-2017¹³ and AS2118.6-2012¹⁴, however the level of protection should be demonstrated as being appropriate to the hazard/occupancy.

Note: This does not override any other requirements, such as NCC provisions or those from a Fire Order from Council, etc., that exceed the requirements of this clause.

6.3.3 When a new building is proposed to have mixed occupancy and includes an early childhood centre, a fire sprinkler system meeting Specification E1.5 of the NCC should be installed throughout the whole building.

7 Egress from multi-storey buildings

7.1 Deemed to satisfy provisions

7.1.1 Clause D1.18(a) of the NCC requires every part of an early childhood centre to be wholly within a storey that provides direct egress to a road or open space (see Figure 1).

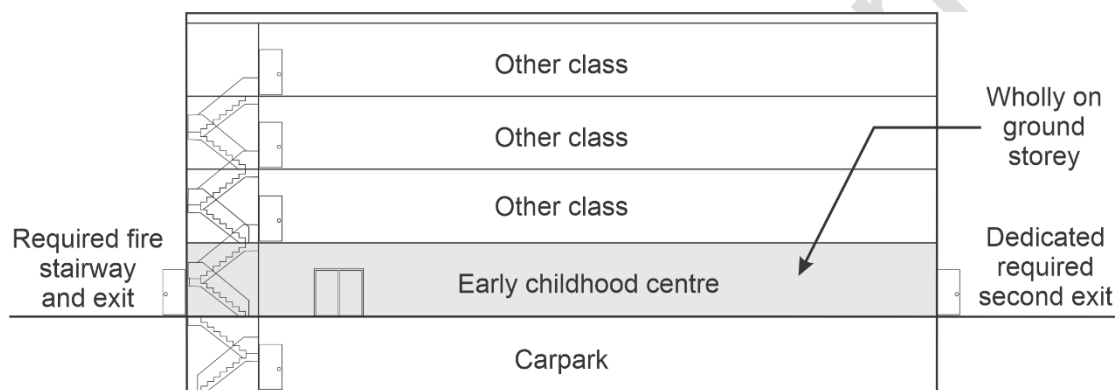


Figure 1 Example of single storey early childhood centre on ground level

7.1.2 Clause D1.18(b) of the NCC allows the early childhood centre to have a rise in storeys of not more than two when the building is a single occupancy Class 9b building (see Figure 2).

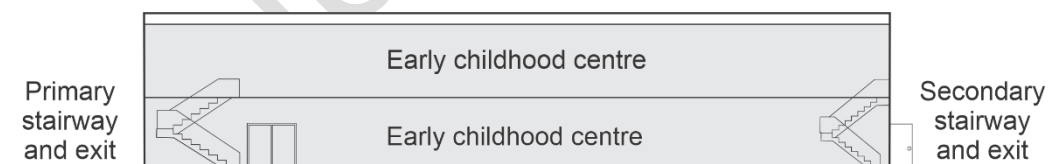


Figure 2 Example of two storey early childhood centre

7.2 Considerations for performance solutions

7.2.1 When an early childhood centre is being proposed and does not meet the requirements of Clause D1.18 of the NCC, any performance solution must demonstrate compliance with performance requirement DP4 (and any other relevant performance requirements) as would be applicable to an early childhood centre.

Note: Any early childhood centre not having direct egress to a road or open space will require a performance solution.

7.2.2 This section details a number of items to be considered and addressed in any performance solution; however it is noted that there may also be other considerations applicable.

Note: All performance solutions should include FRNSW as a stakeholder.

¹³ AS 2118.1:2017 Automatic fire sprinkler systems, Part 1: General systems

¹⁴ AS 2118.6:2012 Automatic fire sprinkler systems, Part 6: Combined sprinkler and hydrant systems in multistorey buildings

- 7.2.3 An early childhood centre must not be located more than three storeys above ground, or five storeys above ground if a fire sprinkler system meeting Specification E1.5 of the *NCC* is installed throughout the whole building.
- 7.2.4 An early childhood centre must not be located above any occupancy classified as ordinary hazard special or high hazard (as defined in Appendix A of *AS 2118.1-2017*¹⁵).
- 7.2.5 The evacuation of an early childhood centre in a multi-storey building should not adversely impact upon the evacuation of other building occupants, and vice-versa.
- 7.2.6 Where any part of an early childhood centre is located above or below ground level, the early childhood centre is to be provided with a dedicated fire isolated stairway or be provided with a safe haven (refer to clause 7.2.9) on that level (see Figure 3).

Note: Clause D1.2 (d)(iv) of the *NCC* requires not less than two exits from each storey of the early childhood centre.

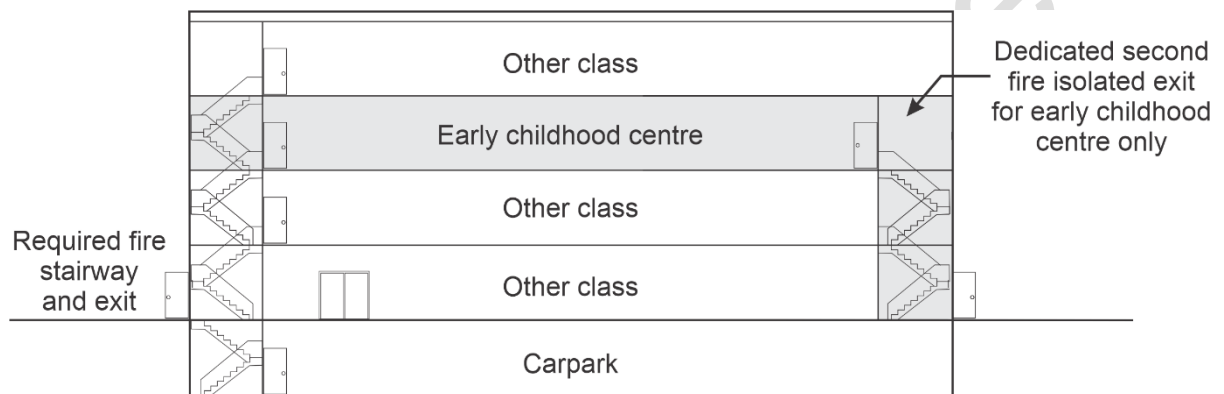


Figure 3 Example of dedicated fire stairway serving early childhood centre

- 7.2.7 The dedicated fire stairway provided for the early childhood centre must only serve the early childhood centre and not exceed a rise in storeys of three from the road or open space providing safe egress.
- 7.2.8 An early childhood centre may be served by a dedicated fire stairway with a rise in storeys of not more than five only when a fire sprinkler system meeting Specification E1.5 of the *NCC* is installed throughout the whole building.
- 7.2.9 Dedicated fire stairways must be identified as an assembly point for staged evacuation of the early childhood centre consistent with and considered within the emergency plan.
- 7.2.10 All fire stairways serving the early childhood centre, or the storey on which an early childhood centre is located, should:
 - (a) be provided with low height handrails installed on both sides at a height suitable for use by children
 - (b) not contain any opening that allows a 125 mm sphere to be able to pass through
 - (c) allow staff to re-enter the secured early childhood centre from the fire stairway (e.g. key, security coded touch pad) (refer also to Clause D2.21(b)(iii)(B) of the *NCC*).
- 7.2.11 When a dedicated fire stairway is not provided (i.e. multiple fire stairways in building), a safe haven may be provided for an early childhood centre located no more than three storeys above ground, or five storeys above ground if a fire sprinkler system meeting Specification E1.5 of the *NCC* is installed throughout the whole building. The safe haven must:
 - (a) open directly into a fire stairway (see Figure 4)
 - (b) be bounded construction with a fire resistance level (FRL) equivalent to the fire stairway

¹⁵ AS 2118.1:2017 Automatic fire sprinkler systems, Part 1: General systems

- (c) have a free floor area that accommodates the total population of the early childhood centre, allowing not less than 0.25 m² per person
- (d) allow staff to re-enter the secured early childhood centre from the fire stairway (e.g. key, security coded touch pad) (refer also to Clause D2.21(b)(iii)(B) of the NCC), and
- (e) not contain any combustible (e.g. storage, furniture, furnishings) except for cots that will contain sleeping infants.

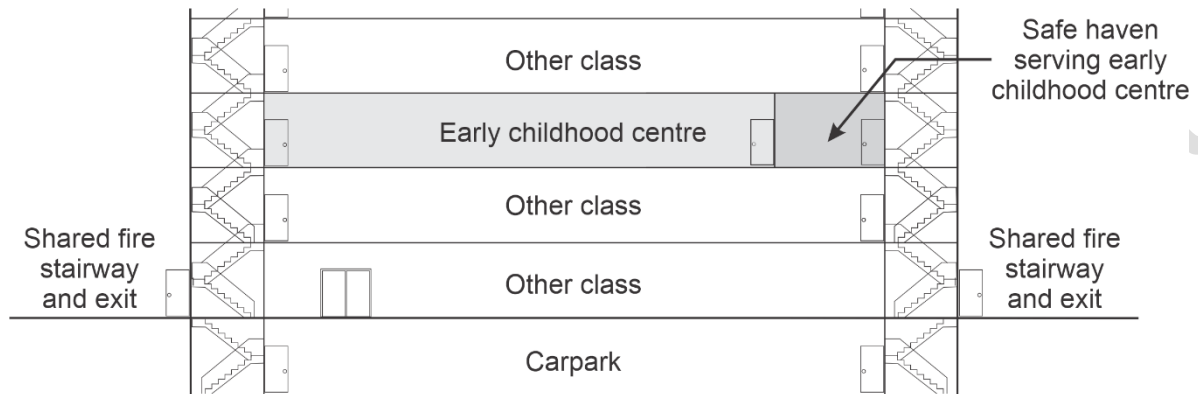


Figure 4 Example of a safe haven serving early childhood centre above ground level

- 7.2.12 When multiple safe havens are proposed (i.e. a safe haven at each fire stairway) a reduction in the free floor area required by each safe haven may be considered (e.g. each safe haven may accommodate not less than 75% of the early childhood centre population).
- 7.2.13 A safe haven must be identified as the assembly point for staged evacuation of the early childhood centre, and may be utilised as a dedicated cot room, clear play space or entrance lobby for the early childhood centre.
- Note:** Controls must be implemented to ensure the safe haven remains sterile and does not temporarily or permanently contain any combustible materials.
- 7.2.14 Where a building has a rise in storeys of more than two, all required fire-isolated exits (i.e. fire stairways) serving an early childhood centre should be provided with:
- (a) an automatic air pressurisation system for fire-isolated exits in accordance with AS/NZS 1668.1:1998, or
 - (b) open access ramps or balconies in accordance with Section D2.5 of the NCC.
- 7.2.15 Where an automatic air pressurisation system is provided for fire-isolated exits, pressurisation of any safe haven should also be considered.
- 7.2.16 Any lifts serving the early childhood centre should be provided with a smoke lobby in accordance with Clause D2.6 of the NCC.
- 7.2.17 The evacuation sequencing of occupants from the early childhood centre, including from any safe haven, is to be clearly identified in the building's emergency plan (refer to clause 5.6).

8 Contact us

For further information contact the Fire Safety Branch on (02) 9742 7434 or email firesafety@fire.nsw.gov.au.