

## Building Practice Note **ESM-09: Smoke alarms in class 1a buildings**

This Practice Note provides guidance to practitioners and owners on the requirements for the installation of smoke detection and alarm systems in existing residential buildings.

The context below provides guidance on:

- Requirements for residential buildings constructed before June 2018
- Requirements for residential buildings from June 2018
- Location of smoke alarms in Class 1 buildings
- Building permit requirements for installation of a smoke alarm or detection system
- Residential Tenancies Regulations 2021



Further guidance on the requirements of the automatic fire suppression systems in class 3 and class 9a residential buildings contained in regulations 146 and 147 refer to Practice Note 13A – Fire Safety Systems – Residential Care and Shared Accommodation Buildings.

### Abbreviations & Definitions

The abbreviations and definitions set out below are for guidance only. They are not intended to vary those set out in the Building Act 1993 (the Act), Building Regulations 2018 (the Regulations) or the National Construction Code (NCC).

- **Act** – The Building Act 1993
- **AS** – An Australian Standard sets out specifications, design or construction details to ensure they consistently perform safely, reliably, and the way they are intended to
- **Approved smoke alarm system** – a system approved by RBS
- **BCA** – Building Code of Australia 2019 Volume One and Two
- **BIR** – Building Interim Regulations 2017
- **Owner** – Owner of the dwelling or building
- **RBS** – Relevant Building Surveyor
- **Regulations** – The Building Regulations 2018

### Requirements for residential buildings constructed before June 2018

The requirements for buildings built before 1 August 1997 to have smoke detection and alarm systems applies to Class 1, 2 or 3 buildings or Class 4 part of a building or a Class 9a building that is a residential care building. This requirement is found in regulation 145 of the Regulations.

Residential buildings built before 1 August 1997 that complied with regulations 707 or 709 of the BIR immediately before those regulations were revoked on 2 June 2018, need not comply with regulation 145 of the Regulations.

A key difference between the requirement in regulation 707 of the BIR and regulation 145(2) of the Regulations, is that regulation 145(2) requires mains powered smoke alarms whereas regulation 707 of the BIR allowed self-contained battery-operated smoke alarms.

However, regulation 145(6) states that if a Class 1a or part of a Class 4 building or a sole-occupancy unit contained in a Class 2 building complies with regulation 707 of the BIR immediately before the Regulations commenced on 2 June 2018, regulation 145 of the Regulations does not apply.

This means that if battery operated, self-contained smoke alarms were in a building of this class before 2 June 2018, the owner is not required to change them to mains powered smoke alarms.

For further guidance on self-contained smoke alarms refer to Practice Note 27 – Existing Residential Buildings – Self Contained Smoke Alarms. This Practice Note remains active as it is referred to in regulations 707 and 709 of the BIR.

For guidance on the BCA classification of buildings refer to Part A6 of the BCA and Practice Note 64 – Classification of Buildings.

## Requirements for residential buildings from 2 June 2018

Regulation 145 applies to any building built before 1 August 1997 that did not comply with regulation 707 or 709 of the BIR as of 2 June 2018.

### Class 1 Buildings

Class 1 buildings built before 1 August 1997 must have installed:

- a smoke alarm system that complies with Part 3.7.2 of the BCA Volume Two, or
- an approved smoke alarm system powered from the mains electricity supply if there is such a supply to the building.

### Class 2, 3, 4 and 9a residential care buildings

Buildings built before 1 August 1997 that are Class 2, 3, or class 4 parts of a building, or class 9a residential care buildings must have one of the following as required by Specification E2.2a of the BCA Volume One:

- a smoke alarm system that complies with clause 3 of Specification E2.2a of the BCA Volume One
- a smoke detection system that complies with clause 4 of Specification E2.2a of the BCA Volume One
- a combination of a smoke alarm system and a smoke detection system that complies with clause 5 of Specification E2.2a of the BCA Volume One

Specification E2.2a of the BCA Volume One contains several requirements which vary depending on the type of building. Practitioners and owners will need to review Specification E2.2a in detail when considering what is required for a building to which regulation 145(3) applies.

In summary, Specification E2.2a requires:

- smoke alarms complying with AS3786 or a smoke detection system complying with ASA1670.1
- The system to be powered from the consumer mains source
- kitchens can have suitable alarms or devices to minimize false alarms or an alarm acknowledgement facility may be installed
- smoke alarms to be in specified locations
- smoke alarms and detection systems to interact with other systems or devices in other parts of the building, such as detectors in public corridors, occupant warning systems, manual call points etc.

## Location of smoke alarms in Class 1 buildings

When deciding on the position of smoke alarms it is important to remember that they are intended to detect smoke before it reaches the occupants sleeping area of a building. The alarm is designed to wake the occupants and give them time to evacuate.

In the event an existing Class 1 building does not have a compliant smoke alarm or detection system then compliance with Part 3.7.5.2 and Figure 3.7.5.1 Diagrams a, b and c of the BCA 2019 Volume Two must be followed.

In addition, Part 3.7.5.5 outlines the requirements that smoke alarms must be installed on the ceiling at least 30cm from the wall, or where installed, on the wall at least 30cm from the ceiling to avoid dead air space.

### Class 1a buildings

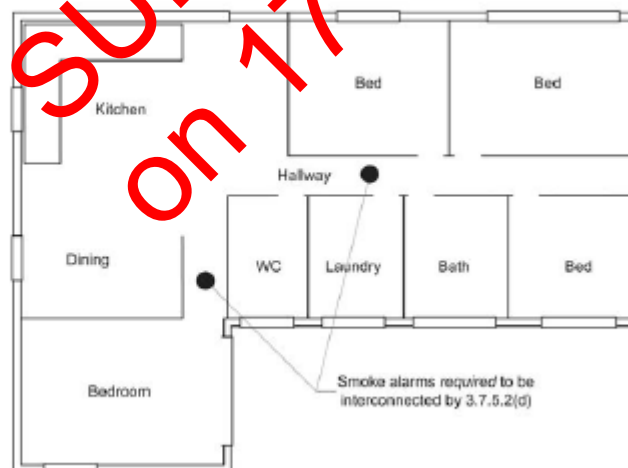
Part 3.7.5.3 specifies that smoke alarms must be located in —

- any storey containing bedrooms, every corridor or hallway associated with a bedroom, or if there is no corridor or hallway, in an area between the bedrooms and the remainder of the building; and
- each other storey not containing bedrooms, see Diagrams (a) and (b), extracts from BCA Volume Two Figure 3.7.5.1 Diagram (a) and (b).

**Diagram a Class 1a building where all bedrooms are grouped together and served by a hallway**



**Diagram b Class 1a building where bedrooms are located in separate areas**

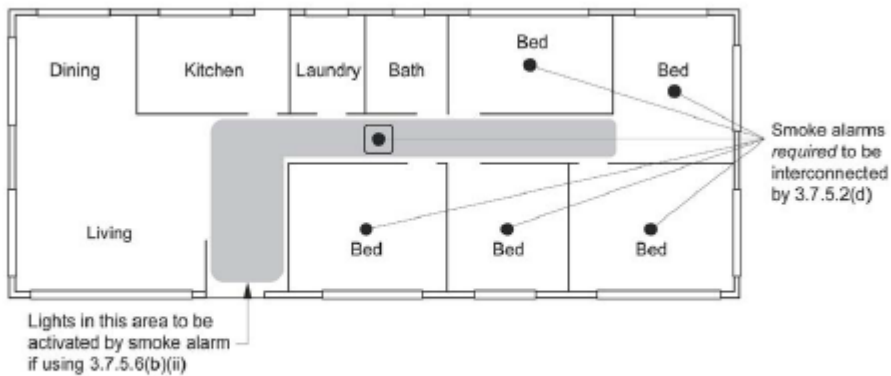


### Class 1b building

Part 3.7.5.4 of the BCA Volume Two specifies that smoke alarms must be located in —

- every bedroom; and
- every corridor or hallway associated with a bedroom, or if there is no corridor or hallway, in an area between the bedrooms and the remainder of the building; and
- each other storey, see extract from BCA Volume Two – Figure 3.7.5.1 Diagram c -

**Diagram c Class 1b building where multiple bedrooms are served by a hallway**



**Legend for Figure 3.7.5.1 Diagram c:**

- Smoke alarm
- ◻ Smoke alarm with evacuation lighting (as required by 3.7.5.6(b)(i))

## Building permit requirements for installation of a smoke alarm or detection system

A building permit is generally required for installation of smoke alarm or detection system required by or under the Building Act or Regulations and owners are encouraged to seek advice from a building surveyor prior to altering a smoke alarm or detection system.

An exemption to the requirement of a building permit for the installation of a smoke alarm or detection system may apply under Item 4 - Alterations to a building in schedule 3 of the Regulations, where a smoke alarm system is installed in accordance with the relevant BCA provisions and manufacturer recommendations.

For further guidance on when a Building Permit is required, refer to Practice Note- When is a Building Permit required.

### An approved smoke alarm system

An approved smoke alarm system is a system approved by the RBS. This means that an owner can apply for a building permit to install an alarm system in a building built before 1 August 1997 that does not comply with Part 3.7.5.2 of the BCA Volume Two, and the RBS can approve that system as part of an application for a building permit.

Part 3.7.5.2 of the BCA sets out:

- locations where smoke alarms must be installed within the building
- that they must comply with AS 3786
- that they must be connected to a mains power supply; and
- that where there is more than one alarm, they must be interconnected.

### Example

An existing dwelling may have a smoke alarm system that complies with regulation 707, however an extension is proposed with additional bedrooms which require additional coverage from the installation of new smoke alarms. In this instance the entire system would need to be interconnected under regulation 145.

When considering the application, the RBS must consider fire safety matters when applying their discretion to allow any existing system to remain without it being altered or upgraded to comply.

The RBS may also consider the following situations when deciding an application for a building permit:

- A smoke alarm system complying with the BCA is not possible, for instance where no mains consumer power supply is available; or
- A complex smoke alarm system where a Performance Solution has been used.

For tenants renting a house or unit, it is the owner's responsibility to ensure smoke alarms are installed and kept in working condition. Rental providers must have their smoke alarms checked to ensure they are still installed and in working order at least once every year. Smoke alarms must be checked frequently, to ensure they are working by pressing the test button until the alarm sounds. Replacement of a smoke alarm battery is required on an annual basis, or if the battery is lithium, the replacement may be required every ten years.

A fine can be imposed on an owner who fails to comply with the smoke alarm requirements of the Regulations and the requirements of the Residential Tenancies Regulations 2021 which came into effect on 29 March 2021. The new laws expand the rights and responsibilities of tenants and rental providers in which residential rental providers have certain responsibilities for building and related matters that include safety related checks that must be carried out.

For further guidance on the Residential Tenancies Regulations refer to the Consumer Affairs Website.

**SUPERSEDED**  
**on 17 March 23**

## Related Documentation

- Building Act 1993 (VIC)
- Building Regulations 2018 (VIC)
- Building Interim Regulations 2017: [https://content.legislation.vic.gov.au/sites/default/files/e40b1abe-afb1-3e0b-8491-a8905d255fb1\\_17-031sra%20authorised.pdf](https://content.legislation.vic.gov.au/sites/default/files/e40b1abe-afb1-3e0b-8491-a8905d255fb1_17-031sra%20authorised.pdf)
- Consumer Affairs Victoria, Guide for rental providers – smoke alarms:  
<https://www.consumer.vic.gov.au/housing/renting/changes-to-renting-laws/resources-for-practitioners/rental-provider-smoke-alarms>

## Version History

- Version 2.0, published 28 June 2021, supersedes Practice Note 27a: Automatic smoke detection and alarm systems

## Contact Us

If you have a technical enquiry, please email [technical.enquiry@vba.vic.gov.au](mailto:technical.enquiry@vba.vic.gov.au) or call 1300 815 127.

### Victorian Building Authority

Goods Shed North  
733 Bourke Street  
Docklands VIC 3008

[www.vba.vic.gov.au](http://www.vba.vic.gov.au)

## Copyright

© June 2021 Victorian Building Authority (VBA).

This Practice Note has been prepared and published by the VBA for general educational and information purposes only. This publication must not be copied, reproduced, published, adapted, or communicated by any person without the VBA's prior written consent or as permitted by the Copyright Act 1968 (Cth). The VBA makes no warranties or representations whatsoever about the accuracy, reliability, suitability, completeness or authenticity of any information or material contained in this resource. Any use or reliance on such information is at a person's own risk. The VBA accepts no liability whatsoever for any direct, indirect, or consequential loss or damage any person may suffer arising out of or in connection with the access or use of this resource (including any third-party material included in this resource).