

Smoke detection and alarm systems for existing residential buildings

PRACTICE NOTE 27A-2018

This practice note was issued June 2018

Reference to the Building Code of Australia (BCA) in this Practice Note means Volumes One and Two of the National Construction Code Series.

Purpose

To provide guidance to practitioners and building owners on the requirements for smoke alarms and/or smoke detection systems in some buildings constructed before 1 August 1997.

Background

When a fire ignites in a residential building it will grow very quickly due to modern day furnishing materials. Occupants have very little time to escape the building and therefore it is essential they are alerted to the fire immediately. Sleeping occupants are a very high risk because when people are asleep they cannot smell smoke. It is therefore essential that smoke alarms operate to wake sleeping occupants. It is widely accepted that occupants of residential buildings are four times more likely to survive a fire if working smoke alarms are installed in a home.

For this reason, since 2006 there has been a requirement for all residential buildings to have smoke alarms or smoke detection systems installed. The requirement operates retrospectively meaning that residential buildings that were built at a time when smoke alarms were not required have been required to be fitted with smoke alarms since 2006.

Which buildings must have smoke detection and alarm systems

The requirement for buildings built before 1 August 1997 to have smoke alarms applies to Class, 1, 2, or 3 buildings or a class 4 part of a building or a class 9a building that is a residential care building. In the Building Regulations 2018, this requirement is found in regulation 145.

Further guidance on the requirements automatic fire suppression systems in class 3 and class 9a residential buildings contained in regulations 146 and 147 refer to practice note 13A.

The Building Interim Regulations 2017 are still relevant

Residential buildings built before 1 August 1997 that complied with regulations 707 or 709 of the Building Interim Regulations 2017 immediately before those regulations were revoked (2 June 2018), need not comply with regulation 145 of the Building Regulations 2018.

Battery operated smoke alarms in class 1 buildings

A key difference between the requirement in regulation 707 of the Building Interim Regulations 2017 and regulation 145(2) of the Building Regulations 2018, is that regulation 145(2) requires mains powered smoke alarms whereas regulation 707 of the Building Interim Regulations allowed self-contained battery-operated smoke alarms.

However, regulation 145(6) says 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 Building Interim Regulations immediately before the Building Regulations 2018 commenced (i.e. 2 June 2018), regulation 145 of the Building Regulations 2018 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.

What is required in residential buildings from 2 June 2018?

Regulation 145 of the Building Regulations 2018 applies to any building built before 1 August 1997 that did not comply with regulation 707 or 709 of the Building Interim Regulations 2017 as at 2 June 2018.

Where regulation 145 of the Building Regulations 2018 applies, the requirements can be summarised as follows:

- smoke alarms complying with AS3786, or for some classes, smoke detection systems must be installed;
- the smoke alarms must be connected to mains power;
- if there is more than one smoke alarm they must be interconnected;
- the smoke alarms must be in specified locations which are near bedrooms and kitchen areas.

There are specific requirements or variations from the above for different types of residential buildings. For example, in apartment buildings, measures can be taken in kitchen areas to minimise false alarms caused by smoke from cooking.

Summary of requirements

Class 1 buildings – detected houses or guest houses, hostels etc. with a floor area of less than 300m²

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; or

Approved smoke alarm system - is a system approved by a relevant building surveyor. 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 3.7.2 of the BCA, and the relevant building surveyor can approve that system as part of the building permit.

Part 3.7.2 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.

Class 2, 3, 4 and 9b residential care

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 either or both of the following as required by Specification E2.2a of the BCA Volume 2:

- 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. Specification E2.2a of the BCA Volume One contains several requirements which vary depending on the type of building. The Practice Note provides a summary of what is in

Specification E2.2a. Practitioners and owners will need to review Specification E2.2(a) in detail when considering what is required for a building to which regulation 147(3) applies. In summary, Specification E2.2a requires:

- smoke alarms complying with AS3786 or a smoke detection system complying with ASA1670.1;
- kitchens can have suitable alarms or devices to minimize spurious signals (false alarms);
- alarms must be in specified locations;
- alarms and detection systems will 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

Details of the location of smoke alarms required under regulation 145 are found in the Building Code of Australia.

Practice Note 27 remains active as it is referred to in regulations 707 and 709 of the Building Interim regulations 2017. Practitioners or owners needing to check if their building complied with regulation 707 and 709 of the Building Interim Regulations before 2 June 2018 can refer to Practice Note 27.

For compliance with regulation 145 of the Building regulations 2018, the required location of smoke alarms is set out in the relevant provisions of the Building Code of Australia as referenced above.

Further information

Want to know more?

If you have a technical enquiry, please email technicalenquiry@vba.vic.gov.au or call 1300 815 127.

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