



# Smoke alarm laws for existing dwellings

The Building Regulations 2012 (the Regulations) in Western Australia require the owner of a dwelling to have compliant smoke alarms installed:

- i) prior to the sale or transfer of ownership of the dwelling;
- ii) where a dwelling is rented under a residential tenancy agreement or made available for such rental; and
- iii) where a dwelling is made available for hire.

## What is a compliant smoke alarm?

To comply with the Regulations, owners must ensure that the smoke alarms:

- are in accordance with the Building Code of Australia (BCA) applicable at the time of installation of the alarms. (The BCA specifies the relevant edition of the Australian Standard for residential smoke alarms (AS 3786) and location requirements);
- are not more than 10 years old at the time of the sale, transfer of ownership, or making the dwelling available for rent or hire;
- are in working order; and
- are permanently connected to the mains power supply (hard-wired).

The BCA is Volumes One and Two of the National Construction Code (NCC). The NCC is available free of charge by registering at [www.abcb.gov.au](http://www.abcb.gov.au).

## Do smoke alarms need to be interconnected if there is more than two alarms?

The BCA requires smoke alarms to be interconnected where there is more than one alarm. However interconnection of smoke alarms is not mandated for a dwelling that was constructed on an application for a building permit made before **1 May 2015**.

## What types of dwellings must comply?

The Regulations apply to the following residential buildings as classified in the BCA:

**Class 1a** – A single dwelling being a detached house, or row houses, duplexes, town houses, terrace houses or villa units where attached dwellings are separated by a fire-resisting wall.

**Class 1b** – Includes the following:

- boarding houses, guest houses, hostels or the like in which not more than 12 people would ordinarily be resident and with a total area of all floors not exceeding 300m<sup>2</sup>; or
- four or more single dwellings located on one allotment and used for short term holiday accommodation. This includes dwellings in tourist parks, farm stays, holiday resorts, cabins in caravan parks and similar tourist accommodation.

**Class 2** – Dwellings such as apartments and flats in a building containing two or more units.

**Class 4** – A residential unit in a non-residential building if it is the only dwelling in the building e.g. a caretaker's residence.

## Do park homes need to comply?

All dwellings with the above classifications, that are subject to sale, transfer of ownership, rent or hire, need to comply. The relevant local government (Shire/Council) can advise you on the classification of the particular 'park home' in question.

## Smoke alarm location

The location of smoke alarms must be in accordance with the BCA applicable at the time of installation of the alarms. The number of smoke alarms to be installed depends on the classification of the dwelling and its general layout and size.

In order to reduce the likelihood of nuisance alarms, the smoke alarm should not be located near cooking appliances and bathrooms. However if it is necessary to locate alarms in these positions, an ionisation alarm is more suitable near bathrooms, while a photoelectric alarm may be used near cooking appliances.

The smoke alarm requirements for a Class 1 building can be found in BCA Volume Two and the requirements for other dwellings can be found in BCA Volume One.

**In a Class 1a** dwelling smoke alarms must be installed on or near the ceiling in:

- a) 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.
- b) any other storey not containing bedrooms, even if those storeys consist only of car parking, bathrooms, laundries and the like.

See diagrams 1, 2 and 3.

**In a Class 1b** dwelling smoke alarms must be installed on or near the ceiling:

- a) in every bedroom; and
- b) in 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
- c) on each other storey, even if those storeys consist only of car parking, bathrooms, laundries and the like.

See diagrams 3 and 4.

The favoured location for smoke alarms on other storeys (not containing bedrooms) is in the path of travel that people will most likely take to evacuate the building.

## Class 2 and Class 4 dwellings

In general the location of smoke alarms inside the dwelling/unit is similar to the examples for a Class 1a dwelling.

If you are unsure whether your dwelling complies, you may wish to engage the services of a qualified building surveyor, either employed by a local government or a private registered building surveying contractor.

## Avoiding dead air spaces

A dead air space is an area in which trapped hot air will prevent smoke from reaching the smoke alarm. This generally occurs in the corner junction of walls and ceilings and between exposed beams and where a smoke alarm is located in an area that has cathedral ceilings.

From 1 May 2019 all new installations of smoke alarms in dwellings subject to transfer of ownership, sale, rent or hire must comply with the following:

- i) Where a smoke alarm is located on the ceiling it must be:
  - a minimum of 300 mm away from the corner junction of the wall and ceiling; and
  - between 500 mm and 1500 mm away from the high point and apexes of the ceiling if the room has a sloping ceiling.
- ii) Where it is not possible to locate the smoke alarm on the ceiling, it may be installed on the wall and located a minimum of 300 mm and a maximum of 500 mm off the ceiling at the junction with the wall.

**Note:** Existing smoke alarms that are otherwise compliant with the Regulations do not need to be retrospectively replaced to meet the dead air space requirements above. However, once those existing smoke alarms are no longer compliant, the replacement smoke alarms will need to be installed in accordance with the above distance requirements.

## Are battery powered smoke alarms permitted?

Battery powered smoke alarms may be installed without local government approval where:

- mains power is not connected to the dwelling; or
- there is no hidden space in the existing dwelling in which to run the necessary wiring for mains powered smoke alarms and there is no appropriate alternative location, for example where there is a concrete ceiling.

The use of battery powered smoke alarms in any other circumstance must be approved by the local government. Battery powered smoke alarms must have a non-removable 10-year life battery.

Where a two-storey dwelling is permitted the use of a battery powered smoke alarm because the ground floor ceiling is concrete, the owner must not (for the sake of convenience) install a battery powered smoke alarm on the upper floor ceiling where there is sufficient roof space to run the electrical wiring.

## What type of smoke alarm is acceptable?

There are two types of residential smoke alarms, ionisation and photoelectric. Both types are acceptable providing they comply with the relevant edition of AS 3786 as referenced in the BCA at the time of installation of the smoke alarms.

Ionisation smoke alarms use a small amount of radioactive material to create an electrical current, when smoke enters the detection chamber it impedes the flow of the current and causes the alarm to sound.

Photoelectric smoke alarms have a chamber with a light source. As smoke enters the detection chamber it interferes with the light beam which causes the alarm to sound. The Department of Fire and Emergency Services recommends the use of photoelectric smoke alarms.

In circumstances where the BCA requires a smoke alarm in a Class 10a part of a Class 1 building, it is permitted to use any other alarm, such as a heat alarm, that complies with Australian Standard AS 1670.1 provided that smoke alarms complying with AS 3786 are installed elsewhere in the Class 1 building. This is because a smoke alarm can give spurious alarms if the atmosphere contains particles which obscure vision, which may occur in a private garage for example.

A Class 10a building is a non-habitable building such as a private garage.

### **Will a smoke alarm in a home security system comply?**

The Regulations stipulate that a smoke alarm is permanently connected to mains power where an electrician would ordinarily be required to connect or disconnect the alarm. Smoke alarms that are powered through a home security system may not comply because the home security system can be disconnected by the occupier at the power point. Such a disconnection would cut-off the supply of electricity to the smoke alarms that rely on the security system.

In other words, the power for the smoke alarms must be separate to the power source for the home security system and the smoke alarms permanently connected to mains power.

### **Are there any exemptions for proposed demolition?**

The current owner of a dwelling that is subject to transfer of ownership may choose not to install smoke alarms if the new owner intends to demolish the dwelling and has provided a *declaration of intended demolition* to the current owner before the transfer of ownership.

A *declaration of intended demolition* is a statutory declaration made by the person to whom the ownership is to be transferred (the new owner) declaring that they intend to demolish the dwelling within six months beginning on the transfer day (being the day on which ownership is transferred).

If the property is not demolished, the new owner must then install the required number of smoke alarms in the dwelling within six months of the transfer of ownership.

This does not remove the requirement for the new owner to install compliant smoke alarms should they subsequently decide to rent or hire the dwelling after the transfer.

### **Who can install smoke alarms?**

Smoke alarms required to be permanently connected to the mains power supply require a licensed electrician to either connect or disconnect the smoke alarm. Where the Regulations permit a battery powered smoke alarm to be fitted instead of one connected to mains power, a licensed electrician is not required to fit the battery powered smoke alarm.

### **Requirement to maintain smoke alarms**

Owners who rent their dwelling to tenants under a residential tenancy agreement – as defined in the *Residential Tenancies Act 1987* are required by law to maintain the smoke alarms. This includes ensuring the alarms are:

- in working order;
- permanently connected to mains power;
- less than 10 years old, or has not reached the expiry date if one is provided on the alarm; and
- if the use of a battery powered smoke alarm has been approved under the Regulations, the alarm has a 10 year life battery that cannot be removed.

### **How to maintain smoke alarms**

For smoke alarms to remain in working order they should be tested and maintained regularly.

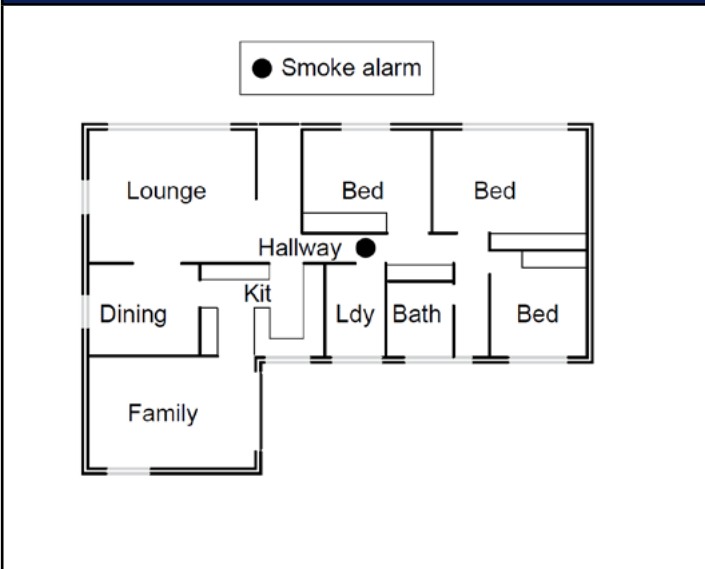
The Department of Fire and Emergency Services recommends the following maintenance routine:

- Testing once per month to ensure the battery and the alarm sounder are operating.
- Check the smoke alarm for any build-up of dust and cobwebs and clean with a vacuum cleaner at least every six months.
- Vacuum with a soft brush attachment around the smoke alarm vents.
- Use a surface insect spray around the smoke alarm to prevent insects nesting inside.
- Replacing batteries annually (mains powered smoke alarms generally have back-up batteries).
- Smoke alarms should never be painted.

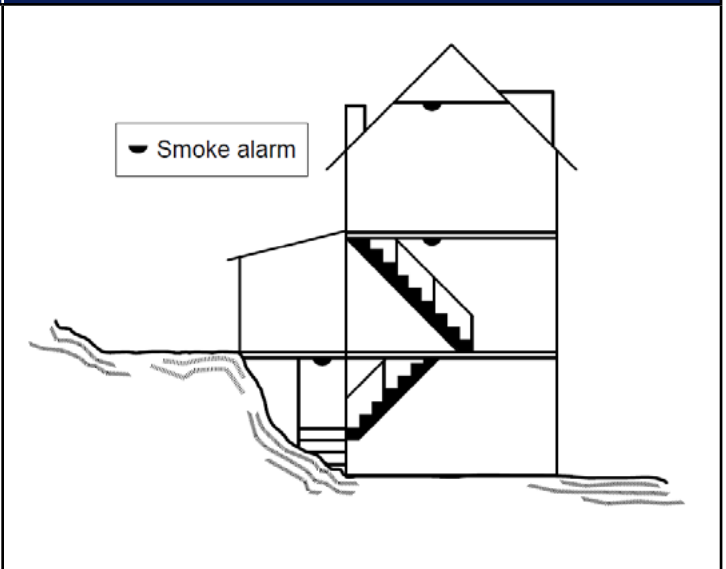
### Are there penalties for non-compliance?

Yes, local governments have the power under the *Building Act 2011* and the Regulations to either issue an infringement notice or prosecute an owner who fails to have compliant smoke alarms installed prior to selling, transferring ownership, renting or hiring the dwelling.

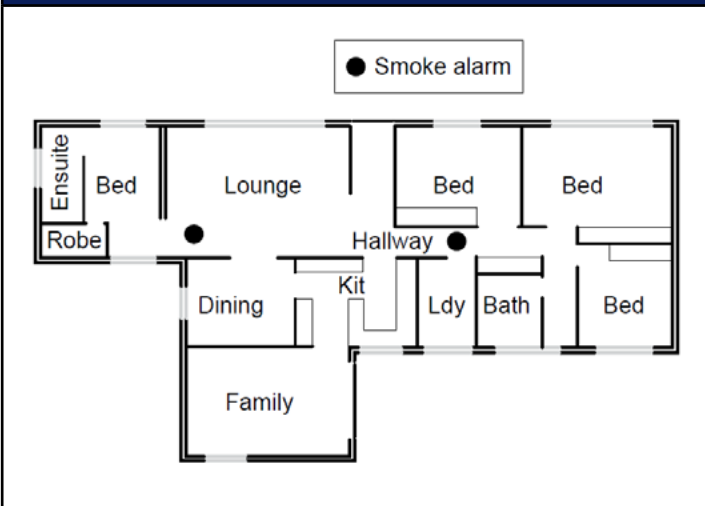
**Diagram 1. Example of smoke alarm location in dwelling with bedrooms grouped together.**



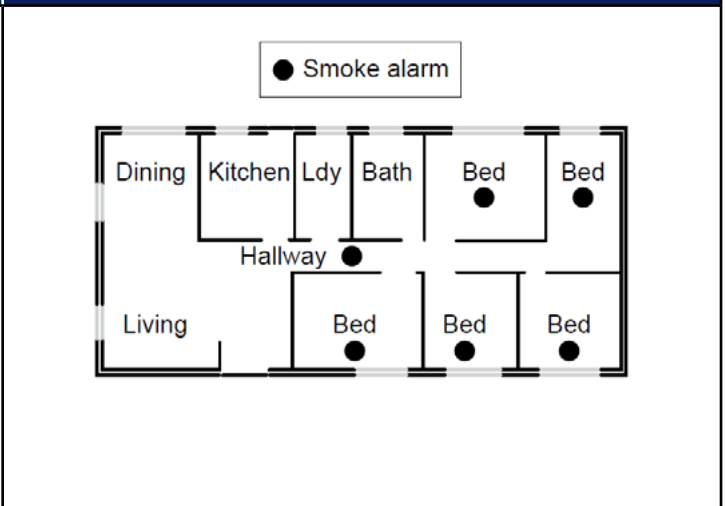
**Diagram 3. Cross section of dwelling showing smoke alarms on every storey.**



**Diagram 2. Example of smoke alarm locations in dwelling with separated sleeping areas.**



**Diagram 4. Example of smoke alarm locations for small boarding houses, guest houses, hostels, bed and breakfasts, etc.**



## Further information

Issue	Contact
<b>Smoke alarm location</b>	Register online to view the BCA (Volumes One and Two of the NCC) at <a href="http://www.abcb.gov.au">www.abcb.gov.au</a> , or engage the services of a registered building surveying contractor or local government that provides this service. You can check whether a building surveying contractor is registered on our website at: <a href="http://www.dmirs.wa.gov.au/buildingsurveyorsearch">www.dmirs.wa.gov.au/buildingsurveyorsearch</a> .
<b>Smoke alarms, smoke alarm maintenance, fire safety around the home</b>	Department of Fire and Emergency Services 9395 9816 or <a href="http://www.dfes.wa.gov.au">www.dfes.wa.gov.au</a> .
<b>Building Act 2011 Building Regulations 2012</b>	Western Australian Legislation at <a href="http://www.legislation.wa.gov.au">www.legislation.wa.gov.au</a> .
<b>Australian Standard for residential smoke alarms – AS 3786</b>	Refer to the BCA for the relevant edition of AS 3786 that applies to your dwelling at the time of installation of the smoke alarms. Your local government may have a copy of the Standard that you can view at their front counter or library, or you can purchase a copy from the Standards Australia website at: <a href="http://www.standards.org.au/access-standards/buy-standards">www.standards.org.au/access-standards/buy-standards</a> .  The Standard can also be viewed at the Department of Mines, Industry Regulation and Safety library in Cannington.
<b>Statutory Declaration</b>	Department of Justice <a href="http://www.courts.justice.wa.gov.au">www.courts.justice.wa.gov.au</a> .

**Disclaimer** – The information contained in this fact sheet is provided as general information and a guide only. It should not be relied upon as legal advice or as an accurate statement of the relevant legislation provisions. If you are uncertain as to your legal obligations, you should obtain independent legal advice.

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