

Building Control Smoke Detection in the Home



Looking after your Smoke Alarm

- Once a week – press the test button to check that the detector is working; remember that if more than one detector is fitted then they should all alarm.
- Once every six months – vacuum the inside of the detector. A build-up of dust could block the detector or cause the detector to fault and give a false alarm.
- Once a year – change the battery.

Remember, if you should 'trip' the main circuit breaker (RCD) at the meter board, the smoke detector should still work.

- All detectors should signal simultaneously if one is tested
- The smoke detector circuit should be clearly identified at the consumer unit/fuse box
- If the smoke detector circuit is fitted with an on/off switch, you should ensure that the system is switched on at all times
- **When the battery level is low the detector bleeps. Replace the battery, do not remove it!**

What to do if your smoke alarm goes off

1. Alert the household and get everyone out by the safest route. If you have to go through a smoke filled area, crawl with your head low.
2. If it is safe to do so, shut doors and windows to help reduce draughts that could fan the fire. Feel each door before opening it – if it is warm or if there is smoke coming through – **DON'T OPEN IT** – it could be protecting you from a dangerous smouldering fire.

3. Alert the neighbours and call the fire brigade as soon as possible (don't leave it to someone else) giving the full address of the fire.
4. Make sure that everyone stays outside the house until the fire brigade arrives and tells you that it is safe to go back in. Possessions are replaceable – people are not.

What about false alarms?

If, when the smoke alarm goes off, there is no sign of smoke, heat or noise to indicate that there is a fire, you should get your family into a place where escape is easy before you start investigating. If you feel any signs of heat at the top of a door, don't open it. If the alarm has gone off without apparent cause it may be an indication that the battery in the smoke alarm needs replacing. Other causes of false alarms are fumes, steam, dust and even small insects inside the detector chamber.

Be Prepared

If you have followed the advice in this leaflet you should have a smoke alarm system, which is capable of giving you and your family warning before smoke and fire starts to spread. This will give you and your family a better chance to escape unharmed. The amount of warning will obviously depend on the fire, the equipment you have chosen and how well you have looked after it. However, you may only have a few minutes to escape so it pays to have an escape plan in advance. Everyone, including the children, should know what to do in the case of a real fire.

- Practice walking along your main escape route with your family. You may have to do it in the dark under very unpleasant conditions.
- Plan other safe ways of escaping from your home if your main route was blocked by fire or smoke.

Building Control

For further information and advice contact the Building Control department at your local Council offices. Please ask if you would like this information in large print, Braille, another language, or on audio tape.



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**South Eastern Group
Building Control**



BUILDING REGULATIONS

Building Regulations require new buildings to be fitted with suitable means of giving alarm in the event of a fire. In dwellings, smoke detectors play a vital part in providing people with early warning to increase their chances of escaping from a fire in the home.

Most fire deaths occur in dwellings – 15 people died as a result of house fires in 2001 in Northern Ireland. An analysis of the Fire Brigade's Fire Reports indicates that 13 dwellings had no smoke alarm, in 4 dwellings the smoke alarm had been rendered inoperable because of the removal of batteries, and in 1 property the detector had been incorrectly positioned. Building Regulations require smoke detectors in new dwellings to be mains wired; (detectors that are battery operated only, do not comply with Building Regulations). However, it is accepted practice to install battery-operated smoke detectors in existing dwellings. Additionally, smoke detectors or smoke detection systems for dwellings should comply with BS 5446-1 or BS 5839-6 respectively – a fuller breakdown of the technical requirements and where to locate detectors can be found overleaf.

TYPES AND CHOICE OF DETECTOR

Basically there are two types of smoke detectors, they are:-

1. Ionisation Chamber Smoke Detectors

These are the most appropriate for installation in halls, landings and other areas where a fast-burning fire in adjacent rooms such as living or dining rooms would present a greater danger to occupants than a smouldering fire.

Fast-burning fires produce smoke containing small particles and ionisation detectors are particularly sensitive from this type of fire.

2. Optical Smoke Detectors

This type of detector is more suitable for use in halls, landings and other areas where smoke is produced in adjacent rooms by the burning of furniture, bedding or other smouldering fires. Slow-burning fires produce smoke containing large particles therefore where this type of fire is envisaged optical detectors are best. Optical detectors are particularly sensitive to steam and therefore should not be installed directly outside bathrooms.

NOTE: Other specialised detector types and combination detectors are available. If in doubt you should consult a specialist for advice.

Requirements for self-contained Smoke Alarms

The following requirements should be met when installing self-contained smoke alarms:-

1. At least one self-contained smoke alarm should be installed on each storey.
2. When more than one self-contained smoke alarm is installed, they should be interconnected so that all will be able to give audible alarm when any one of them detects smoke.
3. The maximum number of self-contained smoke alarms being interconnected should not exceed that given in the manufacturers instructions.

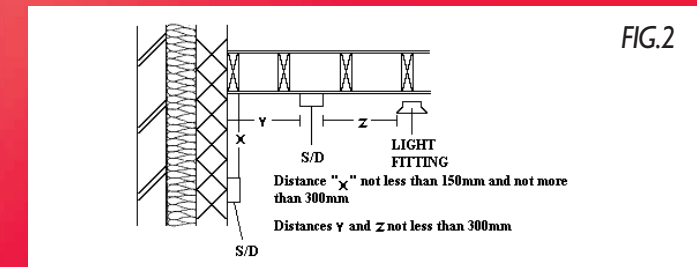
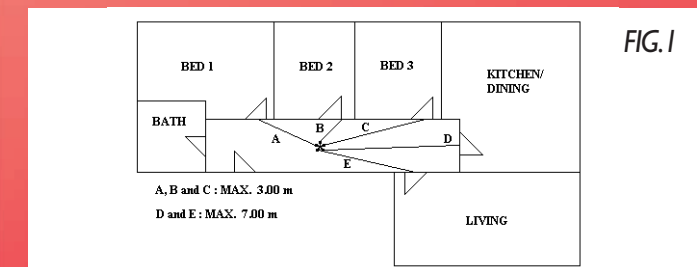
4. Self-contained smoke alarms should have a back up power source, either:
 - a) a primary or secondary battery; or
 - b) a Capacitor
5. Self contained smoke alarms shall be permanently wired to either:
 - a) a regularly used lighting circuit; or
 - b) a circuit which;
 - i) is separately fused at distribution board;
 - ii) serves only self contained smoke alarms; and
 - iii) where a residual current device is used - is not connected to a residual current device which is also used by any other circuit.
6. Smoke detectors should be positioned within 3m of every bedroom door.
7. Smoke detectors should be positioned within 7m from every living room or kitchen door.
8. Smoke detectors should be provided not more than 15m apart on circulation routes where that route is more than 15m long.
9. Smoke detectors may be placed on a wall or ceiling where designated to do so. However, when fitted on a ceiling, detectors should not be positioned within 300mm of a light fitting, wall or ventilation device.
10. Smoke detectors should only be fixed to surfaces that are normally at or about ambient temperature.
11. Smoke detectors should be positioned so that they can be accessed safely and easily; (they should not be located over stairwells for example).
12. Self-contained smoke alarms should not be located in a kitchen, garage or other place where fumes, steam or condensation (e.g. outside bathroom door) could give false alarms.

Latest Developments

BS 5839-6 : 1995 Fire Detection and Alarm Systems for Buildings — deals comprehensively with the recommendations for the design and installation of fire detection and alarm systems in dwellings. This code will permit detectors to be wired into lighting circuits if a standby power supply is available (e.g. battery back up or capacitor).

NOTE: The requirements of BS 5839-6 are considered to be outside the scope of this Guidance Document, however, detection systems described therein would meet the requirements of Building Regulations.

Technical Booklet E recommendations for siting smoke detectors.



The maximum permitted distance (A,B,C,D,or E) a self-contained smoke alarm may be from:-

FIG.1

- | | | |
|-----------------------------------|---|-------|
| (a) Bedroom Doors | = | 3.00m |
| (b) Kitchen and Living Room Doors | = | 7.00m |

