



BSI Standards Publication

## Fire detection and fire alarm systems for buildings –

Part 6: Code of practice for the design, installation, commissioning and maintenance of fire detection and fire alarm systems in domestic premises

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### Summary of pages

This document comprises a front cover, an inside front cover, pages i to iv, pages 1 to 84, an inside back cover and a back cover.

## Foreword

### Publishing information

This part of BS 5839 is published by BSI Standards Limited, under licence from The British Standards Institution, and came into effect on 31 May 2013. It was prepared by Technical Committee FSH/12/1, *Installation and servicing*. A list of organizations represented on this committee can be obtained on request to its secretary.

### Supersession

This part of BS 5839 supersedes BS 5839-6:2004, which is withdrawn.

### Information about this document

This new edition introduces a number of technical changes. It does not constitute a full revision of the document, which will be undertaken in due course. The principal changes introduced by this new edition are as follows.

- a) The scope of the standard has been extended to include not only the individual dwellings within sheltered housing, but also the common parts and facilities within buildings used for sheltered housing.
- b) A smoke detector, rather than a heat detector, is now recommended for installation in the principal habitable room(s) of new premises.
- c) Suitable carbon monoxide fire detectors are now recognized as an alternative to smoke detectors in the principal habitable room(s) of premises.
- d) New recommendations are included to ensure that, in sheltered housing, fire alarm signals transmitted to an alarm receiving centre via a social alarm system cannot be delayed by other alarm signals originating from the premises of fire origin or elsewhere.
- e) Addressable fire detection and fire alarm systems are recommended for sheltered housing in which detectors within dwellings are connected to the fire alarm system in the common parts.

In the United Kingdom, around 80% of all fire deaths and injuries occur in domestic premises, over 300 deaths and around 9 000 injuries per annum. Many of those who die are the most vulnerable in the community, namely elderly and socially deprived people. The installation of a fire detection and fire alarm system in premises can substantially reduce the risk of death or serious injury from fire. Indeed, the overall downward trend in annual fire deaths in domestic premises since smoke alarms in domestic premises were first given recognition in BS 5839-1 in 1988 is almost certainly attributable in part to the increasing use of smoke alarms.

The level of deaths and injuries remains, however, above a level that society regards as acceptable. It has been estimated that, in premises without smoke detectors, a substantial proportion of the fatalities from fire could be avoided if smoke detectors were installed. The fatality rate in fires in premises in which there is no working smoke detector is between two and three times the fatality rate in fires in premises in which a smoke detector is present and functions correctly.

The installation of automatic fire detectors is required in new houses, flats and maisonettes in order to satisfy building regulations. In existing houses in multiple occupation, the installation of an automatic fire detection and fire alarm system is normally required by the relevant enforcing authorities. This gives rise to the need for a suitable code of practice, as BS 5839-1 does not contain recommendations on domestic smoke alarms, nor does it address the special design requirements for fire detection and fire alarm systems in domestic premises.

The guidance in this standard is intended for architects and other building professionals, enforcing authorities, designers and installers of fire detection and fire alarm systems and others responsible for implementing fire precautions in domestic premises.

It has been assumed in the drafting of this part of BS 5839 that the execution of its provisions will be entrusted to appropriately qualified and competent people.

#### **Use of this document**

This British Standard takes the form of guidance and recommendations. It should not be quoted as if it were a specification and particular care should be taken to ensure that claims of compliance are not misleading.

Any user claiming compliance with this British Standard is expected to be able to justify any course of action that deviates from its recommendations.

#### **Presentational conventions**

The provisions of this standard are presented in roman (i.e. upright) type. Its recommendations are expressed in sentences in which the principal auxiliary verb is "should".

*Commentary, explanation and general informative material is presented in smaller italic type, and does not constitute a normative element.*

#### **Contractual and legal considerations**

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

**Compliance with a British Standard cannot confer immunity from legal obligations.**

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## 1 Scope

This part of BS 5839 gives recommendations for the planning, design, installation, commissioning and maintenance of fire detection and fire alarm systems in domestic premises that are:

- a) designed to accommodate a single family;
- b) houses in multiple occupation that comprise a number of self-contained units, each designed to accommodate a single family;
- c) sheltered housing, including both the dwelling units and the common areas.

The recommendations apply to both new and existing domestic premises.

Recommendations for routine attention are also given.

The systems covered in this part of BS 5839 range from those comprising a single self-contained smoke alarm to systems of the type described in BS 5839-1. The recommendations of this part of BS 5839 may also be applied to the fire detection components of combined domestic fire and intruder alarm systems or fire and social alarm systems.

This part of BS 5839 applies to forms of domestic premises, including bungalows, multi-storey houses, individual flats and maisonettes, mobile homes, sheltered housing, housing providing NHS supported living in the community (as defined in Health Technical Memorandum 88 [1]), mansions, shared houses and houses divided into several self-contained single-family dwelling units. It does not apply to hostels, caravans or boats (other than permanently moored boats used solely as residential premises), or to the common parts of blocks of flats or maisonettes. It does not apply to any premises used for purposes other than as domestic premises (e.g. small shops, factories or similar premises used solely as places of work).

This part of BS 5839 is intended for use by architects and other building professionals, enforcing authorities, installers and others responsible for implementing fire precautions in domestic premises. It is not intended for occupiers, for whom advice is published by the Government<sup>1)</sup>. However, recommendations are given for simple systems that may be installed by non-specialists.

The recommendations refer principally to fire detection and fire alarm systems installed for the purpose of life safety. However, recommendations are given for systems that are also intended to protect property.

## 2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

BS 476 (relevant parts), *Fire tests on building materials and structures*

BS 5446-2, *Fire detection and fire alarm devices for dwellings – Part 2: Specification for heat alarms*

BS 5446-3, *Fire detection and fire alarm devices for dwellings – Part 3: Specification for smoke alarm kits for deaf and hard of hearing people*

<sup>1)</sup> The Department for Communities and Local Government (in England and Wales), Scottish Government and the Department of Health, Social Services and Public Safety (Northern Ireland).