



BSI Standards Publication

Fire detection and fire alarm systems for buildings –

Part 1: Code of practice for design, installation, commissioning and maintenance of systems in non domestic premises

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Summary of pages

This document comprises a front cover, an inside front cover, pages i to vi, pages 1 to 170, 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 March 2013. It was prepared by Committee FSH/12/1, *Installation and servicing*, under the authority of Technical Committee FSH/12, *Fire detection and fire alarm systems*. A list of organizations represented on this committee can be obtained on request to its secretary.

Supersession

This part of BS 5839 supersedes BS 5839-1:2002+A2:2008, which is withdrawn.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 title has been modified to more accurately reflect the scope and content of this part of BS 5839.
- b) The importance of providing accurate and unambiguous information to staff in residential care premises about the location of a fire has been highlighted in Clause 4.
- c) A definition of “zone plan” has been added to the terms and definitions (Clause 3), with additional guidance added to subclause 6.1 and Clause 23, and new recommendations added to subclauses 42.2, 46.2 and 47.2. This is reflected in the sample acceptance certificate in H.4.
- d) Item e) of 7.2 has been modified to emphasize the importance of identifying and recording agreed variations.
- e) A definition of “visual alarm device” has been added to the terms and definitions (Clause 3), with a new recommendation on such devices added to subclause 11.2.
- f) Table 4 of the 2002 edition, “Limits of ceiling height (Category P systems and five minute fire and rescue service attendance)”, has been deleted.
- g) Clause 15 has been updated with guidance and recommendations on the provision of automatic transmission of fire alarm signals.
- h) The guidance and recommendations of Clause 19 and subclause 35.2.7 have been updated to address the need to avoid delay in summoning the fire and rescue service when the fire detection and fire alarm system of a residential care premises operates.
- i) The dimension of the width covered by the optical beam detector given in Figure 13 has been corrected to 18.75 m.
- j) Subclause 45.1 now highlights that routine servicing of a fire detection and fire alarm system does not constitute a fresh review of system design, so that non-compliance with this standard might not be identified during such servicing.
- k) The wording of Annex C has been altered to further highlight the normative status of this annex.
- l) A new Annex F has been added containing useful information on visual alarm device illumination characteristics from LPCB CoP 0001 [1]. Copyright is claimed on Annex F. Copyright holders are BRE Global Limited, Bucknalls Lane, Watford, Herefordshire, WD25 9XX, and the Fire Industry Association, Tudor House, Kingsway Business Park, Oldfield Road, Hampton, Middlesex, TW12 2HD. LPCB CoP 0001 is periodically updated and the latest edition needs to be consulted.

- m) It is now recommended that major variations from the recommendations of this standard are recorded in the system logbook [see 7.2e)].
- n) The term “care home” has been substituted throughout the document with “residential care premises”.
- o) The term “fire service” has been substituted throughout the document with “fire and rescue service”.
- p) The term “responsible person” has been removed and replaced with references to “premises management” to avoid confusion with the term defined in legislation.

National building regulations [2, 3, 4] require fire detection and fire alarm systems to be installed in many buildings at the time of construction. In addition, legislation requires that, where necessary to safeguard relevant persons in case of fire, existing premises are equipped with “appropriate fire detection and fire alarm systems”.

Although this standard makes recommendations for the provision of fire detection and fire alarm systems in a wide variety of premises, reference to particular types of premises in Annex A does not necessarily mean that all such premises are required by law to have such systems installed. In certain premises, word of mouth or mechanical devices, such as rotary gongs, might constitute an adequate means of giving warning to occupants in the event of fire. The need for a fire detection and fire alarm system, and the nature of the system, is often determined by a fire risk assessment.

The fire and rescue authority can advise on the fire legislation that applies to any building. If a fire detection and fire alarm system is to be installed, or modified, to satisfy the requirements of legislation, early consultation with the authority or authorities responsible for enforcement of the legislation might be appropriate.

The protection of property with a fire detection and fire alarm system could result in an insurance company being prepared to offer a reduced premium, provided that the system is acceptable. Early consultation with the insurer is thus advisable.

Fire protection is not to be confused with fire prevention or other fire precautions, and the provision of a fire detection and fire alarm system can never be regarded as giving complete protection against fire. A fire detection and fire alarm system is, however, likely to form an important component in defence against fire, and can form part of a fire engineering solution. Advice on the likely need for a fire detection and fire alarm system in certain premises is given in BS 9999. For advice on fire engineering solutions, reference can be made to BS 7974 and PD 7974-4.

It has been assumed in the preparation of this British Standard that the execution of its provisions will be entrusted to appropriately qualified and competent people, for whose use it has been produced.

Queries and answers concerning the interpretation of BS 5839-1 are given in PD 6531.

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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Section 1: General

1 Scope

This part of BS 5839 provides recommendations for the planning, design, installation, commissioning and maintenance of fire detection and fire alarm systems in and around buildings, other than domestic premises. It does not recommend whether or not a fire detection and fire alarm system should be installed in any given premises. Recommendations for fire detection and fire alarm systems in domestic premises are given in BS 5839-6.

The term fire detection and fire alarm systems, in the context of this part of BS 5839, includes systems that range from those comprising only one or two manual call points and sounders to complex networked systems that incorporate a large number of automatic fire detectors, manual call points and sounders, connected to numerous inter-communicating control and indicating panels.

The term also includes systems that are capable of providing signals to initiate the operation of other fire protection systems and equipment (such as fire extinguishing systems, smoke control systems or automatic door release equipment) or safety measures (such as shutdown of air handling systems, closing of oil or gas valves or grounding of lifts). It does not apply to the other systems and equipment themselves, or the ancillary circuits to interface with them. Recommendations for the planning, installation and servicing of facilities for operation of certain fire protection systems by the systems addressed within this part of BS 5839 are given in BS 7273.

This part of BS 5839 does not cover systems whose primary function is to extinguish or control fire, such as sprinkler or automatic extinguishing systems, even though they might have a secondary alarm function; it does, however, cover the use of a signal from an automatic extinguishing system as one initiating element of a fire alarm system (e.g. by use of a pressure or flow switch).

This part of BS 5839 does not cover voice alarm systems. Recommendations for voice alarm systems and voice enhanced sounders are given in BS 5839-8.

This part of BS 5839 does not cover systems combining fire alarm functions with other non-fire related functions. Recommendations for such integrated systems are given in LDC/TS 50398.

This part of BS 5839 does not cover the 999 (or 112) public emergency call system, or manually or mechanically operated sounders.

This part of BS 5839 does not cover audible or visual way-guidance systems which are designed to complement fire alarm systems.

Recommendations for fire detection and fire alarm systems in electronic data processing installations and similar critical electronic equipment rooms are given in BS 6266, which provides recommendations over and above those given in this part of BS 5839.

Recommendations for fire detection and fire alarm systems in hospitals are given in the NHS Estates publications HTM 05-03 Part B (in England and Wales) or SHTM 82 (in Scotland).

This part of BS 5839 applies to extensions and alterations to existing systems, at least in respect of the design, installation, commissioning and certification of the new work, albeit that the extended or altered system might not, overall, conform to the recommendations of this standard.