



**FireAngel®**

# 2019 Revision to BS 5839-6 British Standards

(Fire Detection and Fire Alarm  
Systems for Buildings)

The British Standards Institution recently updated Part 6 of BS 5839:6-2019 – this applies to architects, building professionals, installers and enforcing authorities to ensure constant compliance when specifying, installing and maintaining fire detection systems in domestic properties.

**Here we outline the key changes and the areas professionals should be aware of...**

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# REVISED SYSTEM GRADING

## For Fire Detection and Fire Alarm Systems

The latest revision has updated the previously defined six system grades, removing Grade B and Grade E, whilst Grade D and Grade F are now split into Grade D1 / Grade D2 and Grade F1 / Grade F2 respectively. New system grades are as follows:

### System Grades - for fire detection and fire alarm systems as per BS 5839-6:2019

#### GRADE A

Separate detectors, sounders and central control and indicating equipment with back-up power supply that conforms to British Standards BS EN 54.

#### GRADE C

A system of fire detectors and alarm sounders (which may be combined in the form of smoke alarms) connected to a common power supply, comprising the normal mains and a standby supply, with central control equipment.

#### GRADE D1

A system of one or more mains powered detectors, each with a tamper proof standby supply consisting of a battery or batteries.

#### GRADE D2

A system of one or more mains-powered detectors, each with an integral standby supply consisting of a user replaceable battery or batteries.

#### GRADE F1

A system of one or more battery-powered detectors powered by a tamper-proof primary battery or batteries.

#### GRADE F2

A system of one or more battery-powered detectors powered by a user-replaceable primary battery or batteries.

*Mainly applied to standard UK housing*

Please note: Grade B and E are no longer defined in BS 5839-6:2019

# CATEGORIES

## For Fire Detection and Fire Alarm Systems

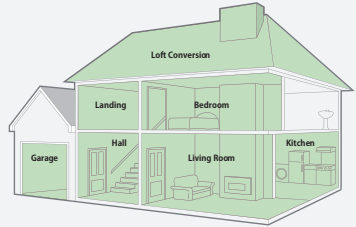
The three categories for fire detection and fire alarm systems are listed below - these outline where fire detection systems should be installed per category with additional recommendations to install heat alarms in kitchens:

### LD1 MAXIMUM PROTECTION

#### Escape routes, high risk rooms plus all areas where a fire might start

The highest level of protection of all occupants who might occupy the dwelling over the lifetime of the fire detection and fire alarm system. A system installed throughout the premises, incorporating detectors in all circulation areas that form part of the escape routes from the premises, and in all rooms and areas, other than those with negligible sources of ignition, such as toilets, bathrooms and shower rooms.

**Hallway, Landing, Living Room, Kitchen (Heat Alarm), Bedroom, Airing / Meter Cupboards, Loft, Garage**



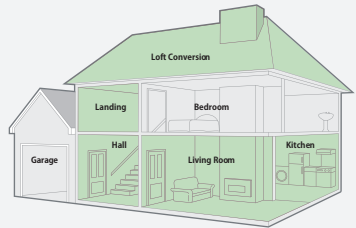
### LD2 ADDITIONAL PROTECTION

#### Escape routes plus high risk rooms

A system incorporating detectors in all circulation areas that form part of the escape routes from the premises, and in all specified rooms or areas that present a high fire risk to occupants, including a heat alarm in any kitchen and a smoke alarm in principle habitable room(s).

**Note: This is now the new minimum category for all rented properties and must include a heat alarm in the kitchen and a smoke alarm in principle habitable room(s).**

**Hallway, Landing, Living Room, Kitchen (Heat Alarm)**



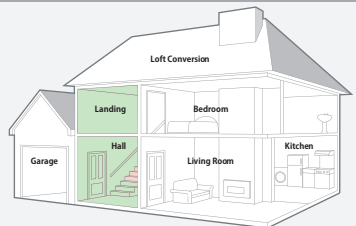
### LD3 MINIMUM PROTECTION

#### Escape routes only

A system incorporating detectors in all circulation areas that form part of the escape routes from the premises. Smoke alarms should be installed in all circulation spaces that form part of escape routes such as:

**Note: This minimum category now only applies to owner occupied bungalow, flat, single-storey unit or maisonette with no floor level above 4.5m from ground level or owner-occupied two-storey house.**

**Hallway, Landing**



# REVISED TABLE 1

## Minimum Grade and Category of Fire Detection and Fire Alarm System

Latest revisions include new minimum grades and categories of systems split by new build or existing property. Updates have been made to reflect current types of living conditions, see summary table below\*:

Class of premises	Grade	Category	Further Notes to Consider
<b>Rented</b>	<b>Grade D1</b>	<b>LD2</b>	<b>Note D:</b> Heat detectors should be installed in every kitchen. A smoke detector should be installed in the principal habitable room(s).
<b>New Build/Existing</b>			
<b>Sheltered Housing (Existing)</b>	<b>Individual Dwellings: Grade D2 Communal Area: Grade A</b>	<b>LD2</b>	<b>Note Q:</b> Where sheltered housing is upgraded, electrical work such as a rewire is undertaken, or smoke alarms are replaced a Grade D (D1 or D2), Category LD1 system should be installed.
With Individual Dwellings and Communal Areas			
<b>Sheltered Housing (New/Materially Altered)</b>	<b>Individual Units: Grade D2 Communal Area: Grade A Part 1 Recommendations</b>	<b>LD1</b>	<b>Note J:</b> Detectors may normally be omitted from roof voids unless there are specific significant fire hazards such as gas boilers or electrical equipment for photovoltaic systems.
With Individual Dwellings and Communal Areas			
<b>House of Multiple Occupancy (HMO)</b>	<b>Existing: Grade D1 New Build: Grade D1</b>	<b>LD2 LD1</b>	<b>Note D Note J Note N: If cooking facilities in room, install heat alarm</b>
<b>Owner Occupied &lt; 200m floor area</b>	<b>New (&lt;3 Storey): Grade D2 New (&lt;4 Storey): Grade A</b>	<b>LD2 LD2</b>	<b>Note D Note D</b>

### New Minimum Standard for Rented Properties and Owner Occupied:

**Rented Properties** - New Minimum Standard now requires LD2 and D1 Grade alarms whether existing or new build plus note D

**Owner Occupied** - New Minimum Standard now requires LD2 and D2 alarms plus note D for new builds / materially altered - Grade F2 alarms and LD3 min for bungalow / single storey unit but now with notes E), F) and G

**Where more than one smoke alarm is installed, all smoke alarms need to be interlinked [see 13.2c]. Any heat alarms also need to be interlinked with the smoke alarms.**

#### Notes:

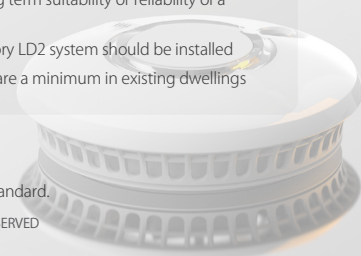
- **13.2c)** In all premises, all smoke alarms and heat alarms (if provided) in Grade D and Grade F systems should be interlinked, such that, when fire is detected by any smoke alarm or heat alarm, an audible fire alarm warning is given by all smoke alarms and heat alarms in the premises.

#### Owner occupied properties:

- **Note E)** A Grade F1 system should be installed if there is any doubt regarding the long term suitability or reliability of a battery powered system, i.e. the ability to replace batteries
- **Note F)** Where electrical work such as a rewire is undertaken, Grade (D1 or D2) category LD2 system should be installed
- **Note G)** Scottish Housing Act 1987 Order 2019 (11), Grade F1, Category LD2 systems are a minimum in existing dwellings

\*For further advice please refer to the BS 5839:6-2019 standard.

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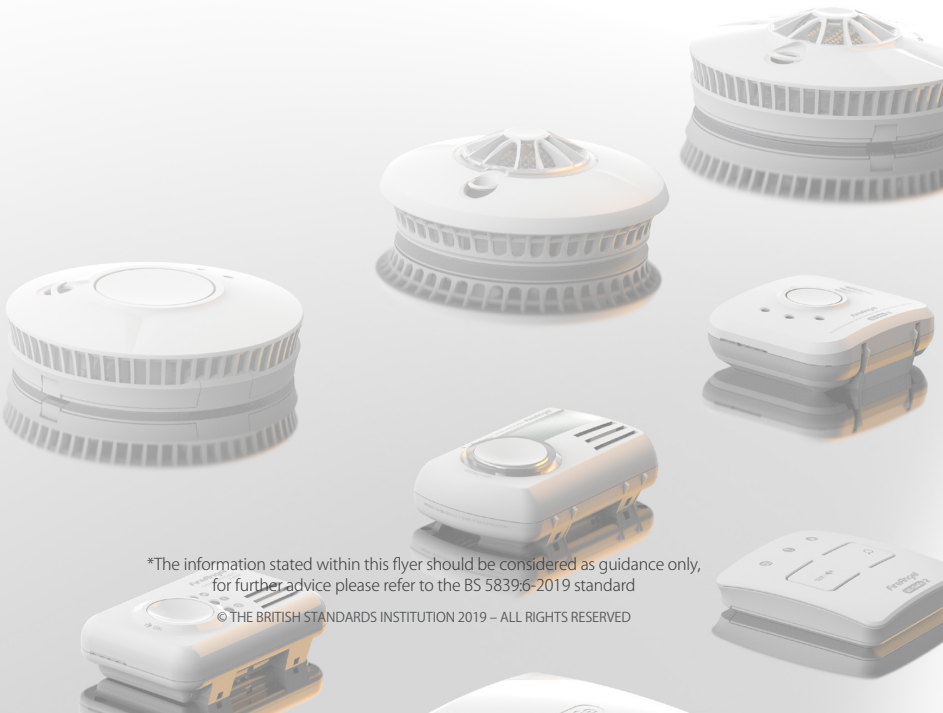


# TABLE 3

## Testing and Servicing By Grade

In conjunction with changes to Table 1, a new Table 3 has also been created, which outlines the recommended testing and servicing by grade per grade of detection – here is a summary of Table 3\*:

Grade of detection	Type of fire detection & fire alarm system	Frequency of test by user	Testing action to be taken by user
A	Systems of a type described in BS 5839-1:2017	Weekly	As in BS 5839-1:2017
C	Fire detectors and fire alarms supplied with power from a common PSU, with central control equipment	Monthly	Press test button on central control equipment (if a fire alarm system has no test button, testing should be carried out in accordance with the manufacturer's or supplier's instructions, or advice should be sought from a service company)
D	Mains-powered smoke alarms, heat alarms or multi-sensor alarms with standby supplies	Monthly	Press test button
F	Battery-powered smoke alarms, heat alarms or multi-sensor alarms	Monthly	Press test button



\*The information stated within this flyer should be considered as guidance only, for further advice please refer to the BS 5839:6-2019 standard

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