Northern Ireland Housing Executive: HMO Fire Safety Guide

Houses in Multiple Occupation (HMOs) means of escape in case of fire and other fire precautions

1.0 Introduction

The guidance in this document has been written on the understanding that a competent person will use it. For this purpose a competent person is regarded as having sufficient training and experience or knowledge and other qualities to enable them to both fully understand the dangers involved, and to undertake properly the measures referred to in the guide.

This technical standard, details those standards to be applied to HMO properties and are based on the principle that all occupants of a HMO should be able to leave the premises safely in the event of a fire.

This is to be achieved by a combination of measures to prevent the spread of products of combustion to occupancies or escape routes before the occupants have made good their escape, and/or measures such as fire warning systems which can help to ensure that occupants receive warning of a fire in sufficient time to make their escape before routes become impassable.

In determining specific measures appropriate to a HMO, the competent person will have regard to:

- The adequacy of the means by which individual occupancies and the escape routes from them are protected from the spread of products of combustion. This will involve an assessment of the need for fire resisting construction to walls and floors, fire doors and sealing to prevent the spread of products of combustion.

- The distances of travel involved in escaping from each room to a final exit from the HMO.

- The nature of the means of escape and its suitability for the number and types of occupants. Regard should be had to the steepness of stairways and the width of doorways and corridors. Regard should be had to the need for escape lighting and adequate signposting of the means of escape.

- The need for fire precautions such as fire warning systems, fires sensors, and firefighting equipment.

- The capabilities of the occupants must also be considered. Specific guidance is contained within Section 10 in relation to supported living accommodation, where some degree of assisted evacuation may be necessary.

1.1 Background

Research has shown that for some types of HMOs the risk of death from fire is considerably greater than comparable single occupancy properties but for others there is little or no additional risk. Consequently standards of fire precautions in HMOs should be proportionate to the perceived risk. These should take account of the building, the layout, the number and types of occupants and the condition of the property.

1.2 Coverage

The guidance in this technical standard describes appropriate standards for means of escape and other fire precautions in HMOs. The guidance reflects the type of individuals occupying HMOs, and instances where the suggested standard of provision varies according to the size of the property are distinguished in the text. The guidance does not cover purpose built flats or maisonettes. In addition, a building, which complies with The Building Regulations (Northern Ireland) 2012 (as amended), will by definition have adequate means of escape for normal use, but may not have adequate means of escape and/or other fire precautions for the size and category of HMO.

1.3 Fire Safety for Disabled People

Particular attention needs to be had to the need of disabled persons and reference should be made to BS9991 and DHSSPSNI guide – The Evacuation of disabled People from Buildings. However, incorporating special structural measures to aid means of escape for disabled people may not be needed where it can be shown that adequate management arrangements to provide assisted escape will be available.

1.4 What is the purpose of the Guide?

This guidance has been prepared for the purpose of providing practical guidance with respect to fire safety in Houses in Multiple Occupation. The document includes performance standards and design provisions relating to the more common building situations by category of HMO.

If the guidance is followed there will be a presumption of compliance with the requirement relating to means of escape from fire and other fire precautions. However, this presumption can be overturned, so simply following the guidance does not guarantee compliance. For example, if a particular circumstance is not one of the more common building situations the design provisions contained with the guidance may not be appropriate. In such circumstances the standards employed may need refinement/enhancement subject to a risk assessment being undertaken by a competent person.

1.5 Guide Structure

Following the introduction, the guide firstly gives a summary of the fire precautions followed by an in depth description of the passive measures which contribute towards the means of escape in case of fire. These relate to the physical protection of the route of escape of each occupier from within their letting, normally through the common internal protected stairway and landings/hallways/corridors of the HMO to a place of safety. The guidance then

2.0 Definition of Houses in Multiple Occupation

2.1 Article 75 of The Housing (Northern Ireland) Order 1992 as amended defines a HMO as:

75.—(1) In this Part "house in multiple occupation" means a house occupied by more than 2 qualifying persons, being persons who are not all members of the same family and for that purpose “family” includes spouse parent, grandparent, child, grandchild, brother/sister, uncle/aunt, nephew/niece of the other person.

(1A) In paragraph (1) "qualifying persons" means persons whose only or principal residence is the house in multiple occupation, and for that purpose a person undertaking a full time course of further or higher education who resides during term time in a house shall, during the period of that person's residence, be regarded as residing there as his only or principal residence.".

(2) For the purposes of this Article "house", in the expression "house in multiple occupation", includes any part of a building which—

(a) apart from this paragraph would not be regarded as a house; and

(b) was originally constructed or subsequently adapted for occupation by a single household;

and any reference in this Part to a flat in multiple occupation is a reference to a part of a building which, whether by virtue of this paragraph or without regard to it, constitutes a house in multiple occupation.

For the purpose of this document the term house in multiple occupation includes the following categories of HMO.

2.2 Categories of HMOs

Category A (Bedsits)

Bedsits are units of accommodation, where there is some exclusive occupation (usually bedroom/living room) and some sharing of amenities (bathroom and/or toilet or kitchen). Each occupant lives otherwise independently of others.

Category B (Shared Houses)

Houses occupied on a shared basis where each individual or household will normally have their own bedroom or bed/living room, although in some circumstances this may be shared. There will be general sharing of the bathroom, W.C. and kitchen.

Category C (Lodgings)

Houses let in lodgings, i.e. a resident owner/occupier, catering for lodgers on a small scale but not living as part of the main household. Typified by a family or household who might take in a small number of individuals living away from their primary place of residence.

Category D (Hostels; Bed and Breakfast; Guest Houses; Hotels)

Accommodation for people with no other permanent place of residence, as distinct from an establishment which only provides accommodation for visitors to the area for a short time e.g. tourists. This category would include establishments used to house homeless families or persons who would otherwise be homeless. This also applies if there was a mix of homeless households, with that establishment as their only place of residence, and short term visitors.

Category E (Residential Homes)

Residential homes provide board and personal care for persons in need of such accommodation and care by reason of old age, disablement, past or present dependence on alcohol or drugs, or past or present mental disorder. These houses would provide permanent accommodation, and would include a level of support not normally present within Category D accommodation, which only provides a home for the time being. Residential homes which are registered under the Registered Homes (N.I.) Order 1992 and the Health and Personal Services (Quality, Improvement and Regulation) (NI) Order 2003 or any re-enactment or statutory modification must satisfy the requirements of the relevant Health and Social Services Board. The Executive therefore do not take any enforcement against such premises.

Category F (Flats/Flatlets/Maisonettes)

Houses or buildings which by conversion contain dwellings, which are flats, flatlets or maisonettes. Each dwelling would contain all the standards amenities, although not necessarily behind one door. There would be no sharing of amenities or habitable rooms with the occupants of other units of accommodation.

Table 3.1 Minimum Requirements for Automatic Fire Detection and Alarm Systems

Applicable to HMO properties occupied by no more than 6 non vulnerable individuals and with no floor area greater than 200m2

NUMBER OF STOREYS	CATEGORY A HMO	CATEGORY B HMO	CATEGORY C HMO	CATEGORY D HMO	CATEGORY E HMO	CATEGORY F HMO
1	BS 5839: Part 6 Grade D Category LD2	BS 5839: Part 6 Grade D Category LD2	BS 5839: Part 6 Grade D Category LD2	BS 5839: Part 1 Category L2	Fire alarm and detection system should comply with the requirements as specified by the regulating authority to meet the requirements of the Registered Homes (NI) Order 1992 and/or the Health and Personal Services (Quality, Improvement and Regulations) (NI) Order 2003 or any re-enactment or statutory modification.	Mixed System – BS 5839: Part 6 Grade D, Category LD2 within the flat and BS 5839: Part 6, Grade A, Category LD2 with detectors sited in accordance with the recommendations of BS 5839-1 for a Category L2 system in the communal areas.
2	BS 5839: Part 6 Grade D Category LD2	BS 5839: Part 6 Grade D Category LD2	BS 5839: Part 6 Grade D Category LD2	BS 5839: Part 1 Category L2		
3	BS 5839: Part 6 Grade D Category LD1	BS 5839: Part 6 Grade D Category LD1	BS 5839: Part 6 Grade D Category LD1	BS 5839: Part 1 Category L2		

Table 3.2 Minimum Requirements for Automatic Fire Detection and Alarm Systems

Applicable to all HMO properties other than those specified in Table 3.1

<table>
<tr><th>NUMBER OF STOREYS</th><th>CATEGORY A HMO</th><th>CATEGORY B HMO</th><th>CATEGORY C HMO</th><th>CATEGORY D HMO</th><th>CATEGORY E HMO</th><th>CATEGORY F HMO</th></tr>
<tr><td>1</td><td rowspan="2">Grade A, Category LD1, with detectors sited in accordance with the recommendations of BS 5839-1 for a Category L2 system. (when occupied by vulnerable occupants or more than 6 persons)</td><td rowspan="2">BS 5839: Part 6 Grade A, Category LD1, with detectors sited in accordance with the recommendations of BS 5839-1 for a Category L2 system. (when occupied by vulnerable occupants or more than 6 persons)</td><td rowspan="2">BS 5839: Part 6 Grade A, Category LD1, with detectors sited in accordance with the recommendations of BS 5839-1 for a Category L2 system. (when occupied by vulnerable occupants or more than 6 persons)</td><td>BS 5839: Part 1 Category L2</td><td rowspan="6">Fire alarm and detection system should comply with the requirements as specified by the regulating authority to meet the requirements of the Registered Homes (NI) Order 1992 and/or the Health and Personal Services (Quality, Improvement and Regulations) (NI) Order 2003 or any re-enactment or statutory modification.</td><td rowspan="6">Mixed System – BS 5839: Part 6 Grade D, Category LD2 within the flat and BS 5839: Part 6, Grade A, Category LD2 with detectors sited in accordance with the recommendations of BS 5839-1 for a Category L2 system in the communal areas. If any individual flat is occupied by more than 6 persons or vulnerable persons a Grade D, Category LD1 is required within the flat.</td></tr>
<tr><td>2</td><td>BS 5839: Part 1 Category L2</td></tr>
<tr><td>3</td><td>BS5839: Part 6 Grade A, Category LD1</td><td>BS5839: Part 6 Grade A, Category LD1</td><td>BS5839: Part 6 Grade A, Category LD1</td><td>BS5839: Part 1 Category L2</td></tr>
<tr><td>4</td><td>BS5839: Part 1 Category L2</td><td>BS5839: Part 1 Category L2</td><td>BS5839: Part 1 Category L2</td><td>BS5839: Part 1 Category L2</td></tr>
<tr><td>5</td><td>BS5839: Part 1 Category L2</td><td>BS5839: Part 1 Category L2</td><td>BS5839: Part 1 Category L2</td><td>BS5839: Part 1 Category L2</td></tr>
<tr><td>Housing Providing supported living in the community
All Premises</td><td colspan="6">Grade A, Category LD1, with detectors sited in accordance with the recommendations of BS5839-1 for a Category L1 system</td></tr>
</table>

3.4 Type of Fire Detector and Their Selection

Fire detectors are designed to detect one or more of the four characteristics of a fire namely smoke, heat, combustion gas (normally carbon monoxide) and flame.

Commentary and recommendations on types of detectors and their application can be found in Clause 10 of BS 5839-6 and Clause 21 of BS5839-1 as applicable for the grade and category of the system.

3.5 Location and Siting of Fire Detectors

Reference should be made to Clause 11 of BS 5839-6 and Clause 22 of BS 5839-1 as applicable for the grade and category of the system.

3.6 Limitation of False Alarms

Guidance on limiting false alarms is available in Clause 12 of BS 5839-6 and Section 3 (Clauses 30 - 35) of BS 5839-1

3.7 Audible Fire Alarms Devices and Audibility

A fire detection and fire alarm system only provides satisfactory protection of life if it is capable of rousing sleeping occupants. The criteria set down in Clause 13 of BS 5839-6 or Clause 16 of BS 5839-1 must be adhered to. Additional guidance in relation to fire alarm warnings for deaf and hard of hearing people is contained within Clause 14 of BS 5839-6 or Clause 18 of BS 5839-1 and must also be adopted subject to the carrying out of a personal emergency evacuation plan for any impacted individual.

3.8 Power Supply

Fire detection and alarm systems are reliant on electrical power for their operation. No source of electrical power is totally reliable; every source will fail at some time, even if only for a limited period. Therefore to attain higher reliability all of the grades of systems specified in this guide require a battery powered standby supply which is connected automatically in the event of mains failure.

In Grade A Systems to BS 5839-6 and Category L Systems to BS 5839-1 the mains supply must not be connected via a card-operated meter or similar.

In Grade D systems it is strongly recommended that the mains supply is not connected via a card-operated meter or similar. In addition, where in a house in multiple occupation, the accommodation of each resident is served by a separate key or card-operated meter (e.g. Category A HMOs) Grade D smoke or heat alarms in common parts should not be supplied via the meter of any resident.

In a house in multiple occupation with a permanent landlord's supply in the common parts, but prepayment meters in individual flats or bedsits, a supply to any smoke alarms in the dwelling unit should be derived from the landlord's permanent supply in the common parts.

Where this applies, permanent notices should be displayed on or adjacent to the meter, as well as on or adjacent to any secondary consumer unit in the dwelling which states:

"CAUTION, SMOKE ALARMS ARE NOT CONNECTED TO THIS CIRCUIT. ISOLATION/SWITCHING OFF AT THIS POINT, OR HAVING NO CREDIT ON THE METER, DOES NOT ISOLATE THE ELECTRICAL SUPPLY TO THE SMOKE ALARM."

4.0 Means of escape and other fire precautions

It is primarily intended that this guidance will be applied to existing HMO's but the standards may also be applied to a property to be converted to an HMO. Within individual flats or maisonettes the reader should refer to BS9991 unless otherwise stated.

4.1 Fire Fighting Equipment

In exceptional circumstances the need for firefighting equipment may be waivered in a HMO occupied by vulnerable people on receipt of a risk assessment from a competent person which indicates that the occupants would not be capable of operating such equipment or may endanger themselves by the misuse of the equipment in a fire situation.

1 and 2 Storey Properties

- A fire blanket shall be installed in each kitchen in accordance with BS6575
- A carbon dioxide (CO2) extinguisher shall be installed adjacent to any incoming mains electric supply cupboard
- A multi risk fire extinguisher of 13A rating shall be installed on the primary escape route.
- All extinguishers shall be installed and maintained in accordance with BS EN – 3; Part 3 and BS5306 Part 3.

3 or more Storey Properties

- A fire blanket shall be installed in each kitchen in accordance with BS6575
- A carbon dioxide (CO2) extinguisher shall be installed adjacent to any incoming mains electric supply cupboard.
- A multi risk fire extinguisher of 13A rating shall be installed on each floor
- All extinguishers shall be installed and maintained in accordance with BS EN – 3; Part 3 and BS5306 Part 3.

4.2 Surface Finish of Walls, Ceilings etc.

The surface finishes of walls and ceiling should be of a standard not lower than that indicated in the table below.

Room or circulation space	Surface class for both walls and Ceiling	
	National Class BS476-7	European Class BS EN 13501-1
Rooms not exceeding 4m2	3	D-s3,d2
All other rooms	1	C-s3,d2
Circulation spaces	0	B-s3,d2 or higher

4.3 Glass

For the purpose of this document glass can be used to give periods of fire resistance up to one hour, the actual fire resistance is determined by the nature and dimensions of the glass, the type of frame and method of securing the glass. Reference at all time should be made to BS6262-3.

Where applicable, glass in fire-resisting glazed elements should conform to BS 6262 4 for impact safety, BS 6180 if used in a barrier, and the relevant part of BS 5234 if used in a partition.

4.4 Final Exits and Communal Doors

All final exit and communal doors will be fitted with an easy opening device.

4.5 Means of Escape from all HMO's – Fire Doors

A fire door in a HMO should be FD30S or FD30 as specified.

4.6 An HMO which is within a Building Containing Other Categories of Use.

HMO's which are situated within a building comprising other categories of use i.e. offices, shops factories, shall be structurally separated from such premises by imperforate construction which affords a fire resistance of not less than 60 minutes. Provision should also be made for independent and protected escape routes and for an automatic fire detection system which will give warning to the residents of the HMO if a fire occurs in the commercial part of the building.

4.7 Emergency Egress Windows

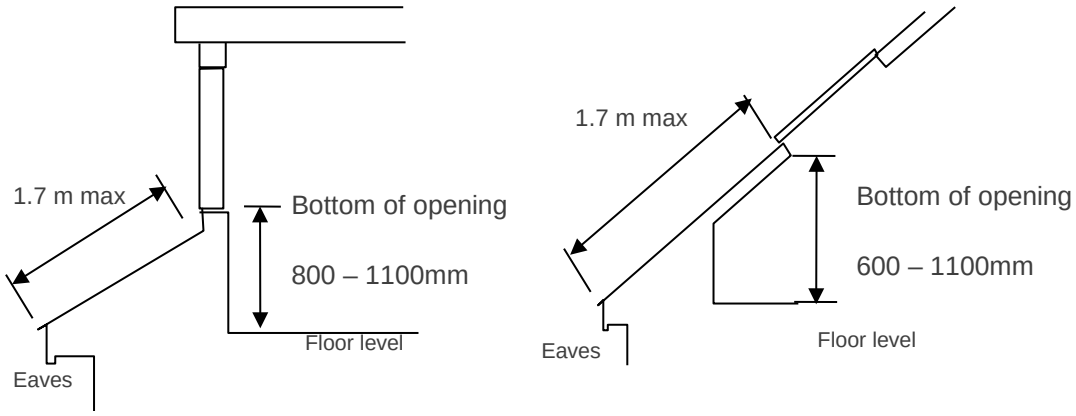
An emergency egress window shall:

(a) have a clear opening that is not less than 0.33 m2 in area; and

(b) have a clear opening that is at least 450 mm high and at least 450 mm wide. The lower edge of the window opening shall be not less than 800 mm and not more than 1100 mm above the floor except in the case of a roof window where the lower edge of the window opening may be not less than 600 mm above the floor, Diagram 4.1a & b. For the purposes of this paragraph an emergency egress window shall be taken to include a door which leads to an area (e.g. a balcony) from which a person could escape or be rescued. The minimum height to the lower edge of the opening shall not apply to such a door. An emergency egress window shall lead to a place that is free from the danger of fire and not lead to an enclosed yard or garden unless it has an area of relative safety which is not less than the height of the dwelling house from the dwelling house. An enclosed yard or garden is one from which there is no exit under the control of the occupants of the dwelling house.

(c) be accessible from an area below the window that facilitates rescue.

Diagram 4.1 a & b



(a) Dormer window

(b) Roof window (skylight)

Notes:

1. Clear window opening not less than 0.33m² in area and at least 450mm high and at least 450mm wide.
2. Window located to facilitate rescue by ladder from the ground.
3. The window may be in the end wall of the dwelling house instead of the roof as shown.

Diagrams derived from Technical Booklet E of the Building Regulations (Northern Ireland)

(c) Where provided for rescue purposes from a room above ground level:
   (1) any door (including a French window or a patio window) should lead to a balcony guarded with a protective barrier complying with BS6180;
   (2) the ground beneath a window or balcony should be clear of any obstructions (such as iron railings or horizontally hung windows) and should be of a size and material suitable and safe for supporting a ladder.

(d) A door or window should not face onto an internal shaft or enclosure unless:
   (1) escape to a place of safety is possible without re-entering the building and
   (2) there is sufficient space for the Fire and Rescue Service to bring in and safely erect a suitable ladder if rescue would be from a room above ground level.

(e) Where practicable the emergency egress window or door should be located remote from the primary escape route.

See tables 4.3 and 4.4

4.8 Flats and Maisonettes

4.8.1 Flats situated not more than 4.5m Above Ground or Access Level

No flat should be so planned that any habitable room is an inner room unless that room is provided with a door or window complying with paragraph 4.7 for escape or rescue purposes.

4.8.2 Recommendations for Flats or Maisonettes Situated more than 4.5m Above Ground or Access Level.

a) A HMO which is a flat or maisonette with a storey height of more than 4.5m (typically more than 2 storeys) should be planned so that:

i. Each flat or maisonette has a secondary exit from within the unit of accommodation and

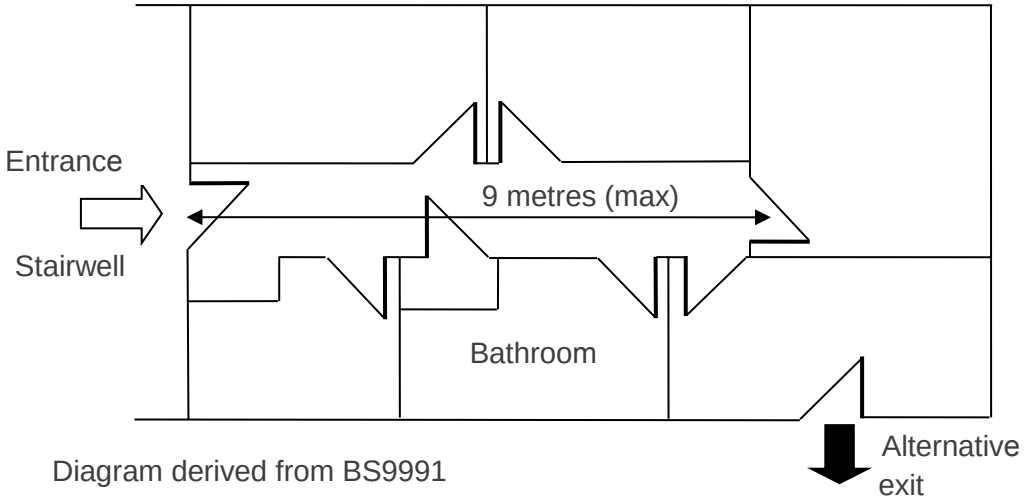


Diagram derived from BS9991

Diagram 4.2 Flat with an alternative exit

NOTE.1 THE ALTERNATIVE EXIT DOOR MAY NEED TO BE A FIRE DOOR
NOTE.2 COMPARTMENT WALLS NEED TO BE FIRE-RESISTING.
NOTE.3 THE DOOR TO THE ROOM CONTAINING THE ALTERNATIVE EXIT MUST BE READILY ACCESSIBLE AT ALL MATERIAL TIMES

ii. All habitable rooms must be entered through a protected lobby/circulation area enclosed in 30 minute fire resisting construction (integrity and insulation) and any door should be an FD30, the flat entrance door should be FD30S. Furthermore the maximum permissible distance of travel from any door of any living room or bedroom to the exit is not more than 9m (diagram 4.3); or

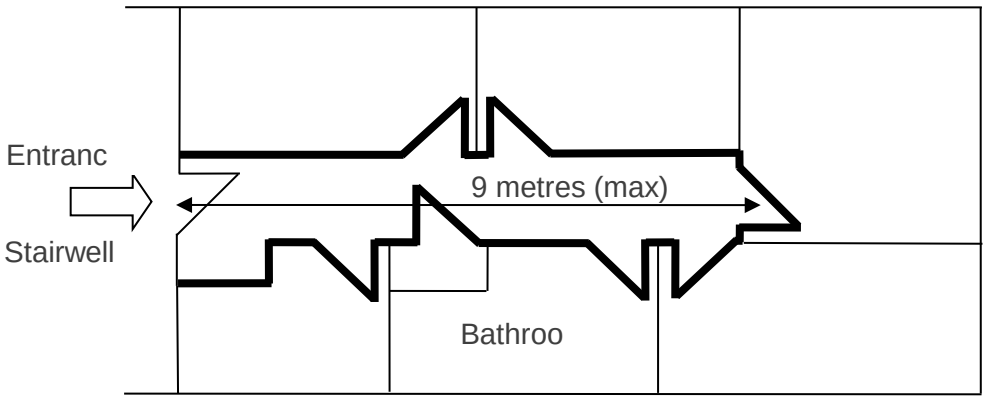


Diagram derived from BS9991

Diagram 4.3 Flat with a protected entrance hall and restricted travel distance

Key : _____ 30 minutes fire-resisting construction

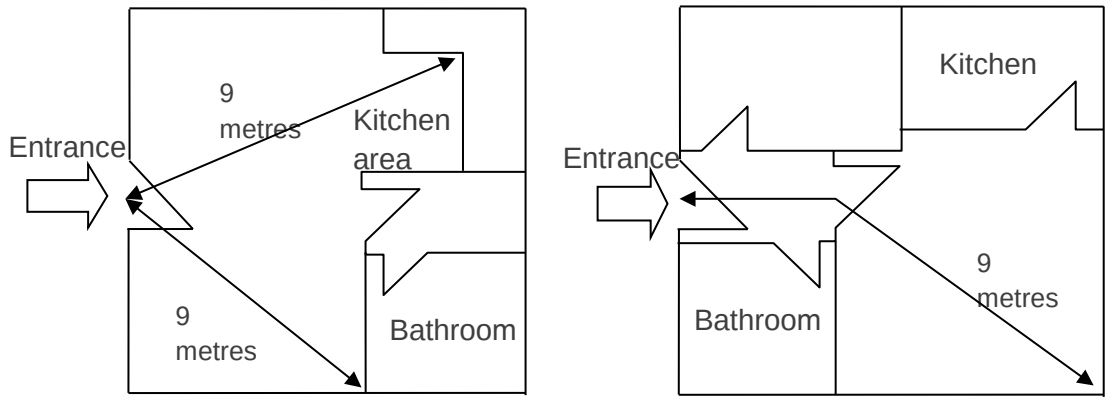
NOTE.1 IF THE PARTITION BETWEEN THE BATHROOM AND THE ADJACENT ROOMS HAS A 30 MINUTES FIRE RESISTANCE THEN THE PARTITION BETWEEN THE BATHROOM AND THE HALL NEED NOT BE FIRE-RESISTING AND THE BATHROOM DOOR NEED NOT BE A FIRE DOOR.

NOTE.2 THE CUPBOARD DOOR NEED NOT BE SELF-CLOSING.

NOTE.3 COMPARTMENT WALLS NEED TO BE FIRE-RESISTING.

NOTE.4 THE ENTRANCE DOOR WILL NEED TO BE FIRE RESISTING AND SELF-CLOSING.

iii. the distance to be travelled from the flat entrance door to any point in any habitable room is not more than 9m and the direction of travel is away from cooking facilities (Diagrams 4.4 a & b); or



(a) Open-plan flat (b) Flat with separate habitable rooms

Diagram derived from BS9991

Diagram 4.4 Flat with Restricted Travel Distance

NOTE.1 COMPARTMENT WALLS NEED TO BE FIRE-RESISTING.

NOTE.2 THE ENTRANCE DOOR WILL NEED TO BE FIRE RESISTING AND SELF-CLOSING.

iv. sleeping accommodation, and that part of the circulation area which serves the sleeping accommodation and the exit to the flat, is separated from any other living room or kitchen by a construction providing at least 30 minutes fire resistance (integrity and insulation); and

a. any door in this construction is a fire door with 30 minutes fire resistance (integrity), and
b. if that HMO has a storey at a height of more than 11m and the distance to be travelled within the flat from any point to the exit is more than 15m, there is an exit through a door other than its main entrance from the living accommodation.

b) Where a HMO is within a building and only has a single escape route which relies upon a common stair, then there should be a lobby enclosed by walls having 30 minutes fire resistance (integrity and insulation) within the HMO which protects access to that escape route, if:

i. there are more than 10 residents, or
ii. there are more than 6 residents and any storey in the building is over 7.5m,
or there are less residents and:
a. any storey in the building is over 11m; or
b. there are more than four dwellings or HMOs on any storey.

Doors in the wall should be fire doors and have 30 minutes fire resistance (integrity).

c) A wall with an adequate degree of fire resistance should be provided between the HMO and any other part of the same building. An adequate degree of fire resistance is, 30 minutes (integrity and insulation)

d) A floor between flat/maisonettes should be 60 minutes fire resisting (only applicable to properties with a storey height over 5m).

e) Where the escape route from the front door of the HMO is within the building it should lead by way of circulation space or stairway directly to the outside.

f) Any part of an escape route from the front door of the HMO which is within the building should be provided with artificial lighting.

g) If the HMO is a maisonette which has more than two storeys and one of them is a height of more than 4.5m additional safety measures should be taken as set out in section 4.8.3 below.

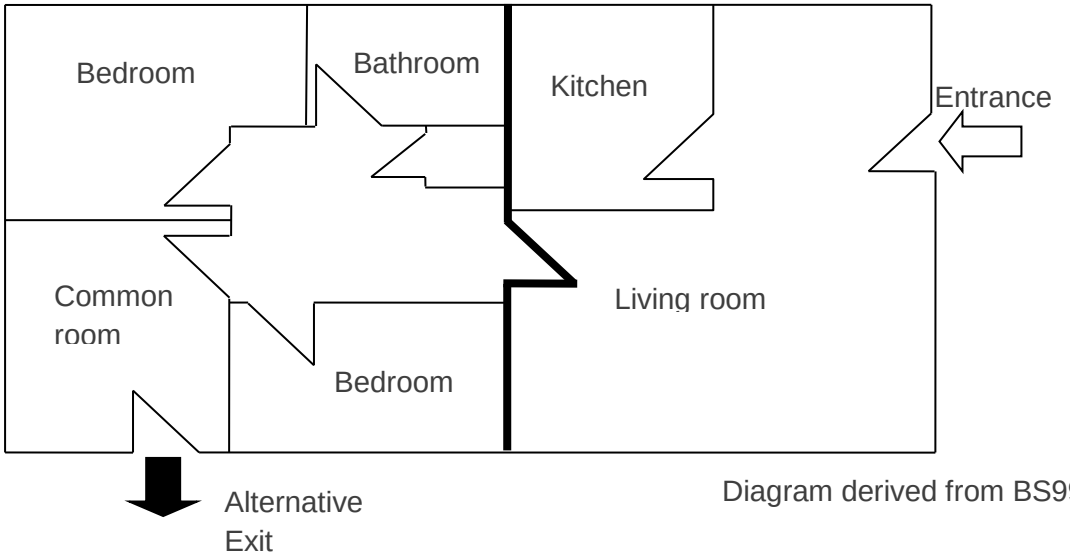


Diagram derived from BS9991

Key :_____ 30 MINUITES FIRE-RESISTING CONSTRUCTION

Diagram 4.5 Flat where all Habitable Rooms do not have Direct Access to an Entrance

NOTE.1 COMPARTMENT WALLS NEED TO BE FIRE-RESISTING.
NOTE.2 THE ENTRANCE DOOR WILL NEED TO BE FIRE RESISTING.
NOTE.3 THE ALTERNATIVE EXIT DOOR MAY NEED TO BE A FIRE DOOR
NOTE.4 THE FIRE-RESISTING PARTITION SHOULD SEPARATE LIVING AND SLEEPING ACCOMMODATION.
NOTE.5 THE ALTERNATIVE EXIT MUST BE THROUGH A COMMON ROOM WITH A NON-LOCKABLE ROOM DOOR.

4.8.3 Additional Means of Escape Required from Maisonettes With two or More Storeys, of which one is at a Height of more than 4.5m.

1 If there is accommodation on more than one level it should be planned so that –

i. all living rooms or bedrooms are entered directly from a circulation space enclosed in fire resisting construction having 30 minutes fire resistance (integrity and insulation) and any door in the enclosures should be a fire door with 30 minutes fire resistance (integrity); and

ii. where any storey is at a height of more than 11m there is –

A. an exit through a door other than its main entrance from each storey other than the entrance storey, or
B. an exit through a door other than its main entrance from each bedroom.

2 If there is accommodation on only one level, but the HMO is entered from a storey below the level of the accommodation it should be planned so that –

a. an exit through a door other than its main entrance is provided; or
b. all living rooms or bedrooms are entered directly from a circulation space enclosed in fire resisting construction having 30 minutes fire resistance (integrity and insulation) and any door in the enclosures should be a fire door with 30 minutes fire resistance (integrity) and the distance to be travelled from any door

of a living room or bedroom to the head of the internal stair is not more than 9m; or

c. the distance to be travelled from any point within the HMO to the head of the internal stair is not more than 9m, and the direction of travel is away from cooking facilities.

3 If there is accommodation on only one level, but the HMO is entered from a storey above the level of the accommodation it should be planned so that an exit through a door other than its main entrance is provided from the lower storey.

4.9 Means of Escape from HMO's which are not Flats, Maisonettes, or Hostels.

4.9.1 Single Storey (Category A, B or C) HMO

A single storey house does not include a house with a basement. All rooms should have close fitting internal doors and all habitable rooms shall open directly onto a hallway (including a corridor or landing leading to the hallway) which leads to the entrance without passing through any room (except a porch), other than where the habitable room:

a) has an alternative escape route;
b) the habitable room has an emergency escape window complying with Section 4.7

For the appropriate fire alarm see table 3.1 or 3.2

4.9.2 Two Storey (Category B or C) HMO [Occupied by no more than six non vulnerable persons].

A two-storey house does not include a house with two storeys and a basement, or a house where the upper storey floor level is more than 4.5m above ground level.

There should be an emergency egress window (Section 4.7) located in each of the 1st floor habitable rooms. An emergency egress window is also required to the ground floor if that floor does not have alternative escape routes leading to their own exits. See table 4.3 for alternative compensatory features.

All rooms should have close fitting internal doors and all habitable rooms shall open directly onto a hallway (including a corridor or landing leading to the hallway) which leads to the entrance without passing through any room (except a porch), other than where the habitable room:

a) has an alternative escape route;
b) is on a storey not more than 4.5m above ground level and the habitable room has an emergency egress window complying with paragraph 4.7.

For the appropriate fire alarm see table 3.1

4.9.3 Two Storey (Category B or C) HMO [Occupied by more than six non vulnerable persons].

A two-storey house does not include a house with two storeys and a basement, or a house where the upper storey floor level is more than 4.5m above ground level.

Every storey which does not have alternative escape routes leading to their own exits should have an emergency egress window for escape and rescue purposes (Section 4.7).

Every stair enclosure within the property should be enclosed in fire-resisting construction having 30 minutes fire resistance (integrity and insulation) and any door in the stair enclosure should be a fire door with 30 minutes fire resistance (integrity), excluding bathrooms, W/C or shower compartments, provided that such compartments have no fire risk and fire or fire products cannot spread from an adjacent compartment via the bathroom, W/C or shower compartment to the escape route.

The fire-resisting stair shall either:

a) Extend to a final exit as shown in diagram 4.8(a); or
b) Lead to at least two escape routes at ground level, each delivering to a final exit and separated from each other by fire resisting construction and self-closing fire doors as shown in diagram 4.8(b)

All final exits must be fitted with an easy-opening device.
Any glazing in the stair enclosure, other than to a bathroom or sanitary accommodation, shall be fire- resisting.
Bathrooms or sanitary accommodation shall be fitted with an imperforate door.
For the appropriate fire alarm see table 3.2

4.9.4 One and Two Storey (Category B or C) HMO [Occupied by vulnerable persons].

A two-storey house does not include a house with two storeys and a basement, or a house where the upper storey floor level is more than 4.5m above ground level.

Every storey which does not have alternative escape routes leading to their own exits should have an emergency egress window for escape and rescue purposes (see 4.7).

Every stair enclosure or entrance hallway within the property should be enclosed in fire-resisting construction having 30 minutes fire resistance (integrity and insulation) and any door in the stair enclosure should be a fire door with 30 minutes fire resistance (integrity), excluding bathrooms, W/C or shower compartments, provided that such compartments have no fire risk and fire or fire products cannot spread from an adjacent compartment via the bathroom, W/C or shower compartment to the escape route.

The fire-resisting stair shall either:

a) Extend to a final exit as shown in diagram 4.8(a); or
b) Lead to at least two escape routes at ground level, each delivering to a final exit and separated from each other by fire resisting construction and self-closing fire doors as shown in diagram 4.8(b)

All final exits must be fitted with an easy-opening device.
Any glazing in the stair enclosure, other than to a bathroom or sanitary accommodation, shall be fire- resisting.
Bathrooms or sanitary accommodation shall be fitted with an imperforate door.
For the appropriate fire alarm see table 3.2

4.9.5 Two Storey (Category A) HMO

As per 4.9.3

4.9.6 Three Storey (Category A, B or C) HMO (No Storey over 7.5m)

A three-storey house does not include a house with three storeys and a basement, or a house where the upper storey floor level is more than 7.5m above ground level.

Ground and first floor storeys which do not have alternative escape routes leading to their own exits should have an emergency egress window for escape and rescue purposes (Section 4.7).

Every stair enclosure within the property should be enclosed in fire resisting construction having 30 minutes fire resistance (integrity and insulation) and any door in the stair enclosure should be a fire door with 30 minutes fire resistance (integrity), excluding bathrooms, W/C or shower compartments, provided that such compartments have no fire risk and fire or fire products cannot spread from an adjacent compartment via the bathroom, W/C or shower compartment to the escape route. (diagram 4.7).
Except
A stair in an HMO with a storey at a height exceeding 4.5m by one storey which does not contain a living room, dining room, bedroom or kitchen.

The fire-resisting stair shall either: -
a) Extend to a final exit as shown in diagram 4.8 (a); or
b) Lead to at least two escape routes at ground level, each delivering to a final exit and separated from each other by fire resisting construction and self closing fire doors as shown in diagram 4.8(b).

All final exits to be fitted with an easy-opening device.
Any glazing in the stair enclosure, other than to a bathroom or sanitary accommodation, shall be fire-resisting.
Bathrooms or sanitary accommodation shall be fitted with an imperforate door.

For the appropriate fire alarm see table 3.1 or 3.2 as appropriate to occupancy levels.

4.9.7 Four Storey (Category A, B or C) HMO (No storey over 11m)

A four-storey house does not include a house with four storeys and a basement, or a house where the upper storey floor level is more than 11m above ground level.

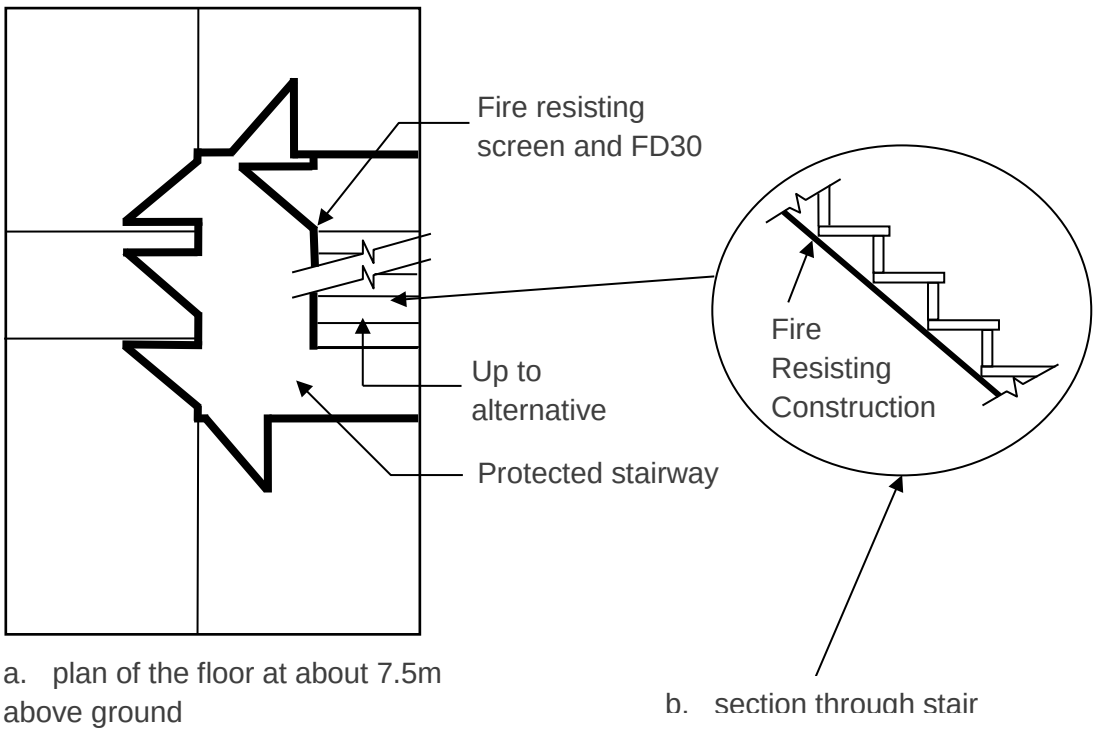
Ground and first floor storeys which do not have alternative escape routes leading to their own exits should have an emergency egress window for escape and rescue purposes (Section 4.7).

Every stair enclosure within the property should be enclosed in fire resisting construction having 30 minutes fire resistance (integrity and insulation) and any door in the stair enclosure should be a fire door with 30 minutes fire resistance (integrity). Excluding bathrooms, W/C or shower compartments provided that such compartments have no fire risk and fire or fire products cannot spread from an adjacent compartment via the bathroom, W/C or shower compartment to the escape route.

The fire-resisting stair shall either:
a) Extend to a final exit as shown in diagram 4.8(a); or
b) Lead to at least two escape routes at ground level, each delivering to a final exit and separated from each other by fire resisting construction and self closing fire doors as shown in diagram 4.8(b).

An alternative escape leading to its own final exit will be required from any floor above 7.5m if the HMO is occupied by more than 6 persons. Where access to an alternative escape route is through the protected stairway, the protected stairway shall be subdivided by 30 minutes fire resisting construction at or about 7.5m above ground level as shown in diagram 4.6. The floor at or about 7.5m above ground level should be constructed to 30 minutes nominal fire resistance.

All final exits to be fitted with an easy-opening device.
Any glazing in the stair enclosure, other than to a bathroom or sanitary accommodation, shall be fire resisting.
Bathrooms or sanitary accommodation shall be fitted with an imperforate door.
For the appropriate fire alarm see table 3.2



a. plan of the floor at about 7.5m above ground

b. section through stair

Diagram 4.6 Fire Separation in Houses Exceeding 4.5m in Height by more than one Floor Level. Diagram derived from BS9991

KEY: _____ 30 MINUTES FIRE-RESISTING CONSTRUCTION

NOTE.1 THE STAIR SHOULD BE CONSIDERED TO BE A FLOOR FOR THE PURPOSES OF PROTECTION.

NOTE.2 IF THE ALTERNATIVE ESCAPE ROUTE(S) FOR ALL ROOMS SITUATED 7.5M OR MORE ABOVE GROUND OR ACCESS LEVEL DOES NOT PASS THROUGH THE PROTECTED STAIRWAY, THE FIRE RESISTING SCREEN IS NOT NECESSARY.

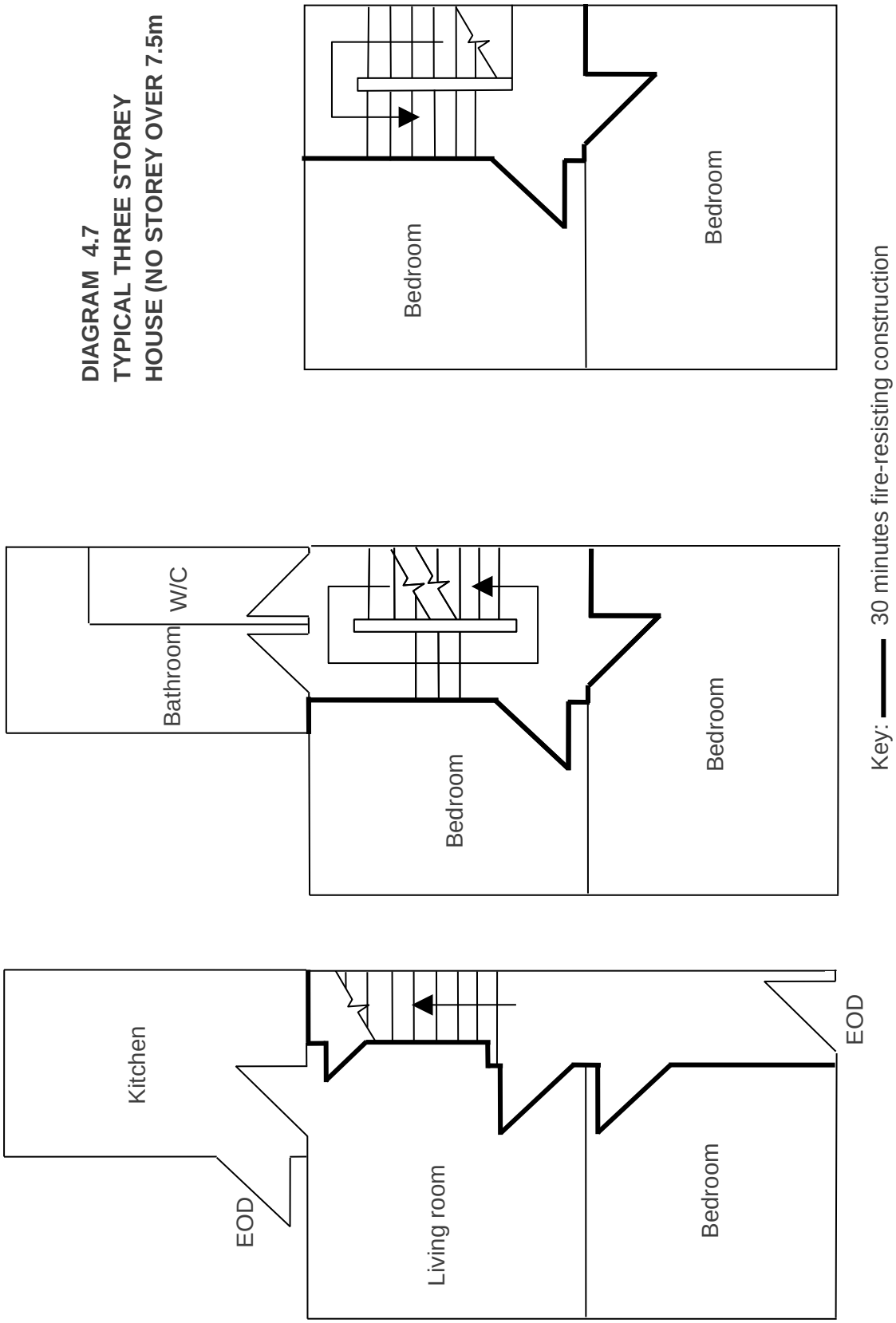
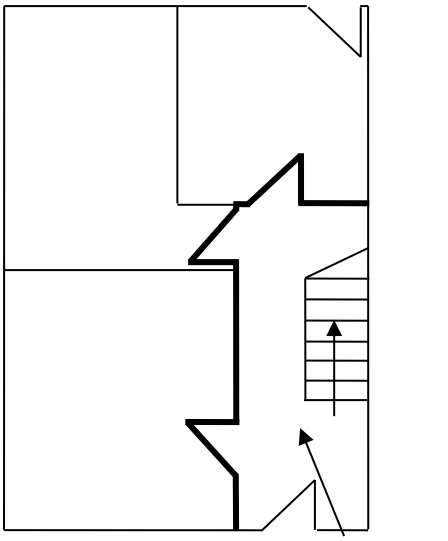
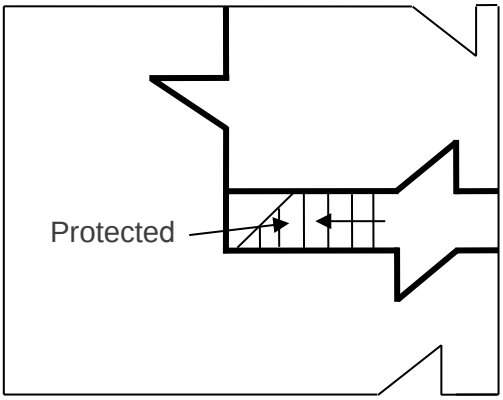


DiAGRAM 4.8 Alternative Arrangements for Final Exits



(a) Protected stairway directly to the final exit



(b) Protected stairway affording access to two independent escape

Key: ——— 30 minutes fire-resisting construction

4.10 Escape Provisions

4.10.1 Habitable Rooms

A habitable room should open directly onto a hallway (including a corridor or landing leading to the hallway) which leads to the entrance without passing through any room (except a porch); other than where the habitable room-

a. has an alternative escape route;
b. is on a storey not more than 4.5m above ground level and the habitable room has an emergency egress window complying with section 4.7; or
c. is part of a roof space conversion which complied with paragraphs 2.17 to 2.22 of Technical Booklet E which supports The Building Regulations (Northern Ireland) 2012 (as amended).

Where a habitable room, by virtue of a stairway discharging into it, is an access room to a habitable room on the storey above-

a. the upper storey should be not more than 4.5m above ground level; and
b. the foot of the stairway should be not more than 3m from –
   (i) a final exit ; or

(ii) a door opening directly into a hallway (including a corridor leading to the hallway).

c. any cooking facilities in the access room must be remote from the final exit.

4.10.2 Access and Inner Rooms

Layouts which have an inner room can present an unacceptable hazard to the occupants and as such the arrangement is only satisfactory where the inner room is a:

- kitchen }
- laundry or utility room } See glossary for definitions of
- dressing room } “Inner and access rooms”
- bathroom, WC or shower room }

On basement, ground and first storey it may be acceptable to allow other rooms provided a suitable alternative means of escape from that room is provided.

“Inner rooms” i.e. rooms entered through more than one access room, are not permitted.

An entrance hall/lobby is not regarded as an access room.

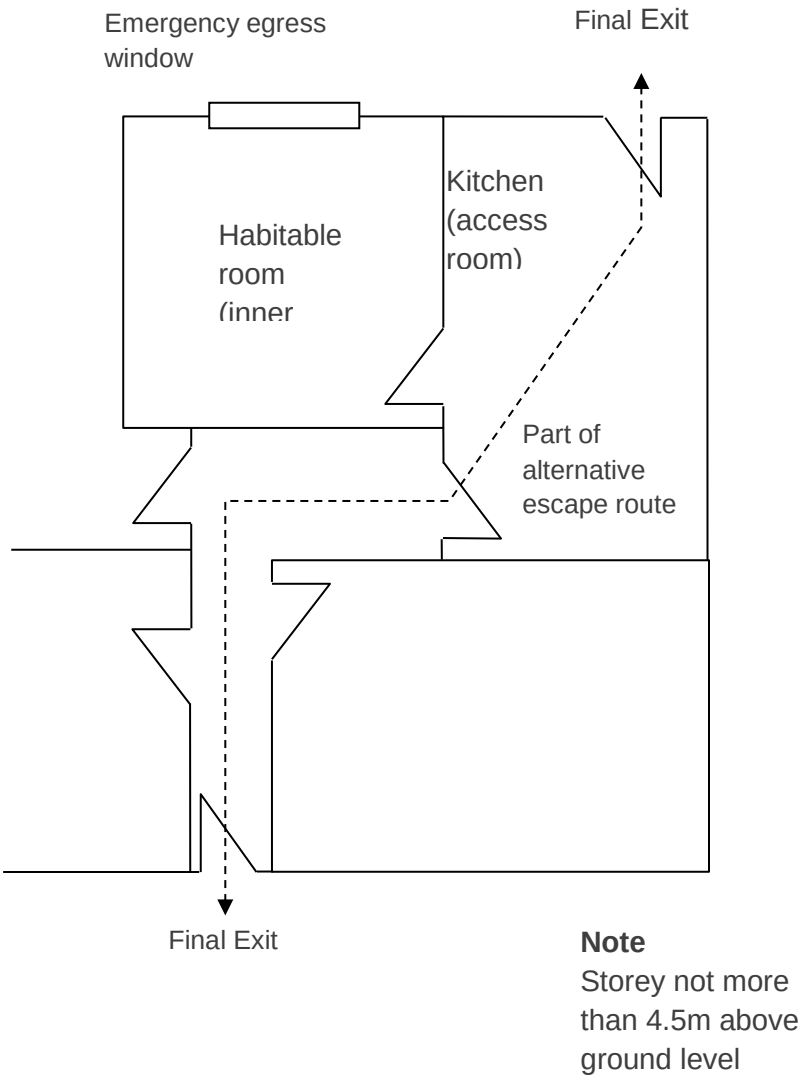
A habitable room may be an access room to any inner room in one and two storey category A, B, C or D HMOs (i.e. those with no storey more than 4.5m above ground level). A kitchen in such one and two storey HMOs should not be an access room to an inner room other than:

a. to an utility room; or

b. to a conservatory which has an emergency egress window complying with Section 4.7; or

c. where the kitchen and the inner room are on the same storey and the kitchen is part of an alternative escape route leading to its own final exit.

Diagram 4.9



4.10.3 Recommendations for Escape onto a Flat Roof

An alternative exit may be onto a flat roof provided that the following conditions are satisfied.

(a) Such a roof is part of the same building from which escape is being made.

(b) The route across the roof:
  (1) leads to a storey exit;
  (2) is adequately defined and guarded with protective barriers in accordance with BS 6180.

(c) Such a part of the escape route and its supporting structure is constructed as a fire-resisting floor.

(d) Where an escape route is in one direction only, any ventilation outlets or other windows that are not fire resisting, should not be sited within 3m of such a route.

4.10.4 Means of Escape from all HMO's – External Escape

Where the escape from a HMO involves an external stair, balcony or flat roof, It should not be threatened by fire or smoke issuing from any door, window or ventilator in the proximity of the escape route. The stair shall be protected from the weather when it serves a floor or flat roof more than 6m above ground level. (See Diagram 2.11 Fire resistance of external walls adjacent to external escape routes of Technical Booklet E which supports The Building Regulations (Northern Ireland) 2012 (as amended). The degree of protection from the weather will depend on the exposure of the stair.

4.11 Travel distances Applicable to all HMO Categories Excluding Supported Living

The guidance below is based on the assumption that the residents will be capable of leaving the building unaided in the event of fire. Regard will need to be given to the adequacy of the sign-posting of exit routes and exit doors and the escape lighting arrangements associated with these routes.

4.11.1 Maximum Distance of Travel

The maximum distance of travel from within a bedroom to a room exit or in all other instances from within a room to a point of access into a protected route, to an external route, or to a final exit should be in accordance with tables 4.1 and 4.2

Table 4.1 – Escape in more than one direction

FROM ANY POINT WITHIN	DISTANCE OF TRAVEL	
	(a) Within room	(b) Total distance
Sleeping area	18m	35m
Area of higher fire risk	12m	25m (note 1)
All other situations	18m	35m

For example see diagram 4.11

Table 4.2 – Escape in one direction only

FROM ANY POINT WITHIN	DISTANCE OF TRAVEL	
	(a) Within room	(b) Total distance
Sleeping area	9m	18m
Area of higher fire risk	6m	12m (note 3)
All other situations	9m	18m

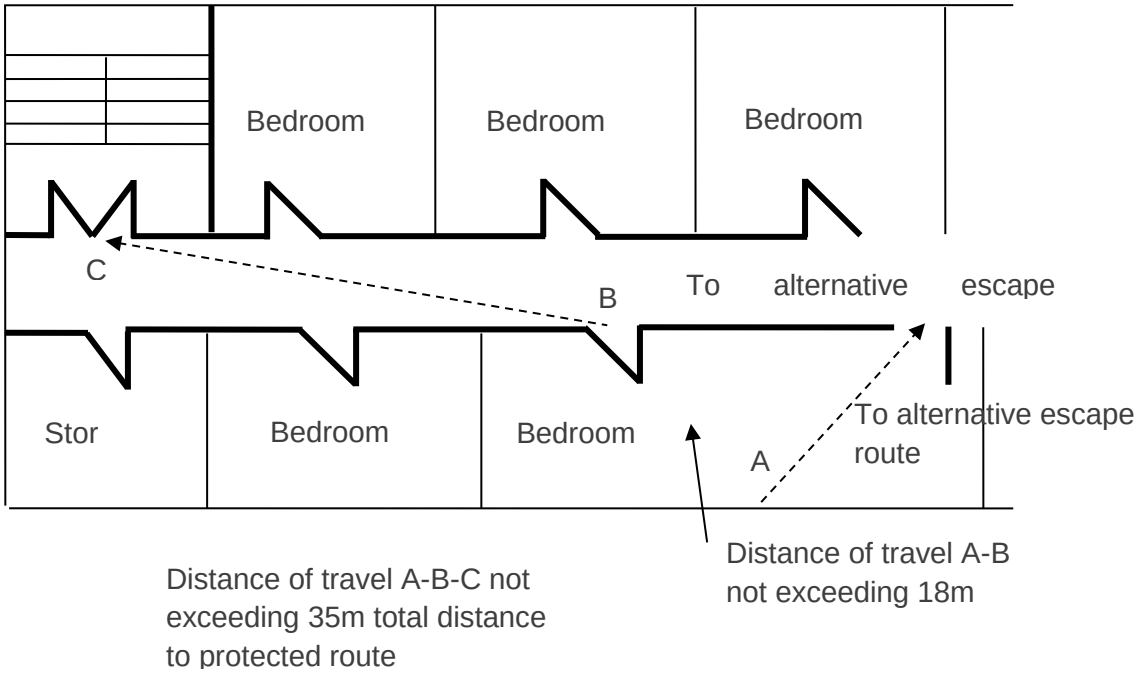
For example see diagram 4.12

NOTES

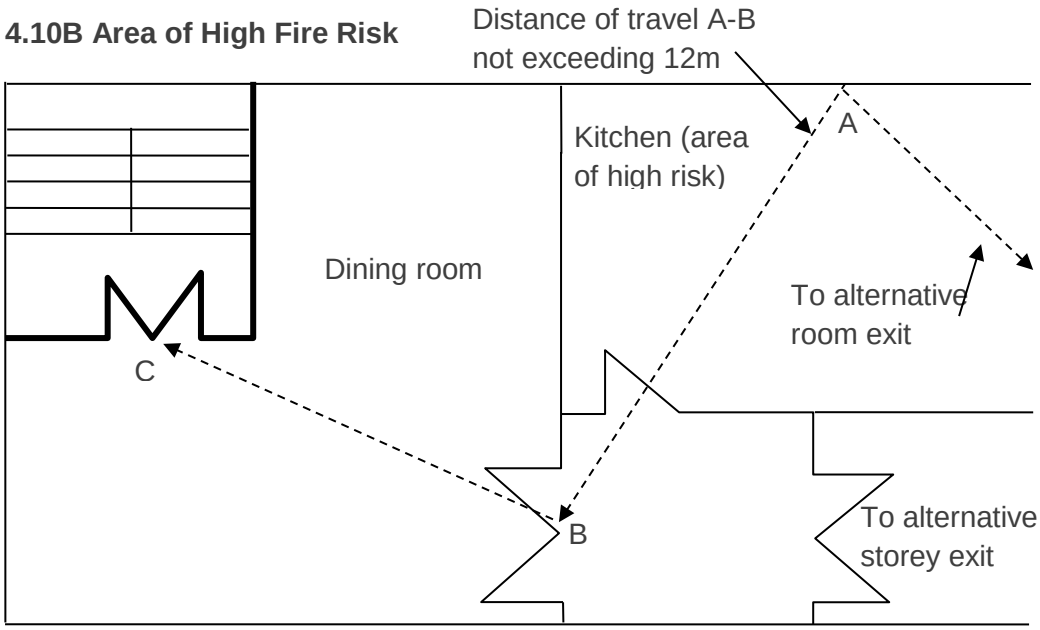
1. ALTERNATIVES UP TO 35M WHEN THE TOTAL DISTANCE TRAVELLED IS NOT WHOLLY WITHIN THE AREA OF HIGHER FIRE RISK.
2. ALTERNATIVELY WHERE ONE OF THE EXITS FROM THE ROOM IS A FINAL EXIT AND NOT LESS THAN THREE EXITS WITH WIDTHS COMPLYING WITH SECTION 4.10.4 (WIDTH OF EXIT), ARE PROVIDED.
3. ALTERNATIVELY UP TO 18M WHEN THE TOTAL DISTANCE OF TRAVEL IS NOT WHOLLY WITHIN THE AREA OF HIGHER RISK.

Diagram 4.10 Escape in More than One Direction

4.10A Sleeping



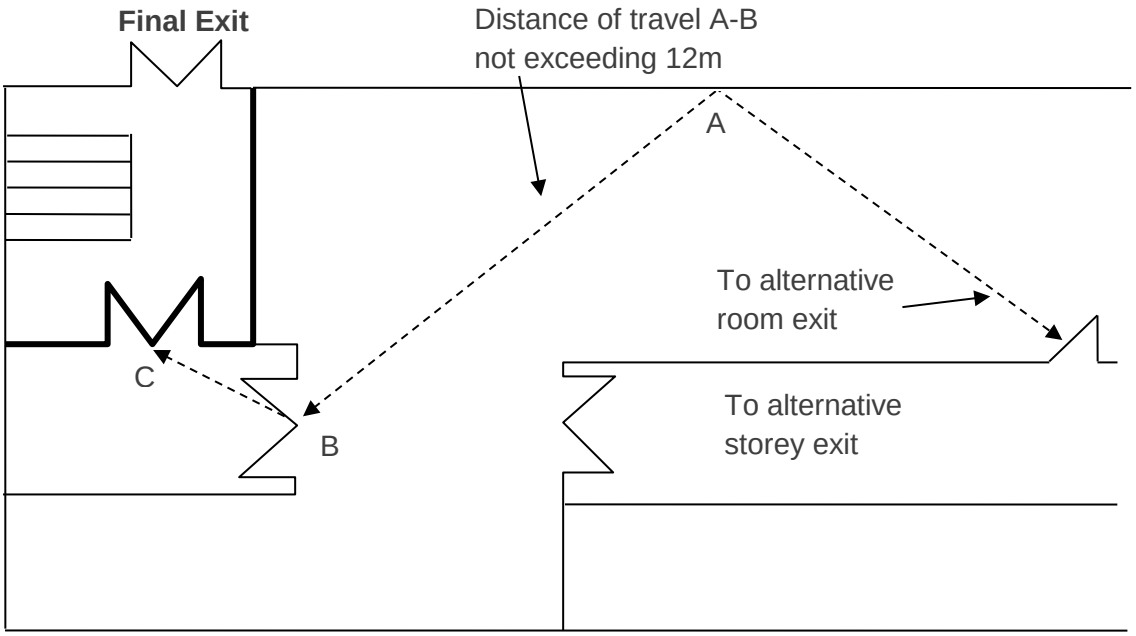
4.10B Area of High Fire Risk



Diagrams and tables derived from DOE Circular 12/92 page27- 28

Key: _____ Fire resisting construction

4.10C All Other Situations

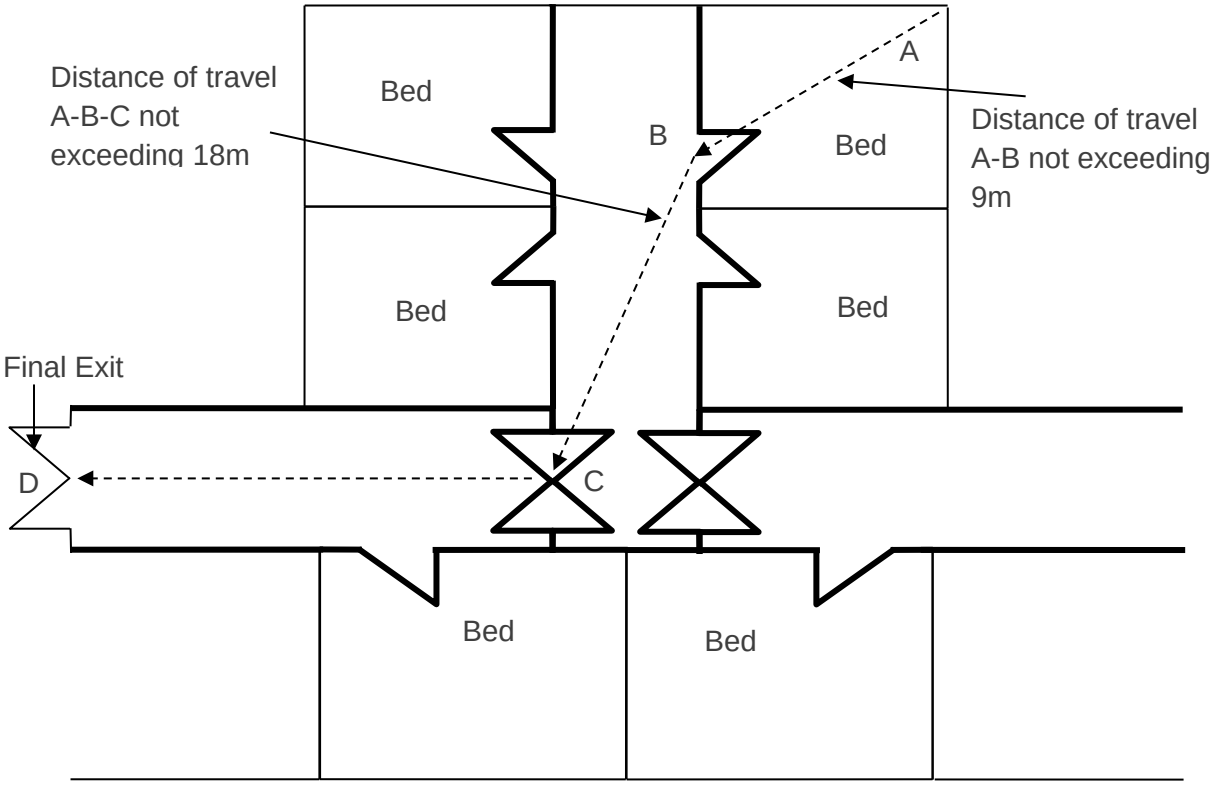


Distance of travel A-B-C not exceeding 35m total distance to protected route

Diagrams and tables derived from DOE Circular 12/92 page27- 28

Key: _____ Fire resisting construction

4.11A Sleeping Area



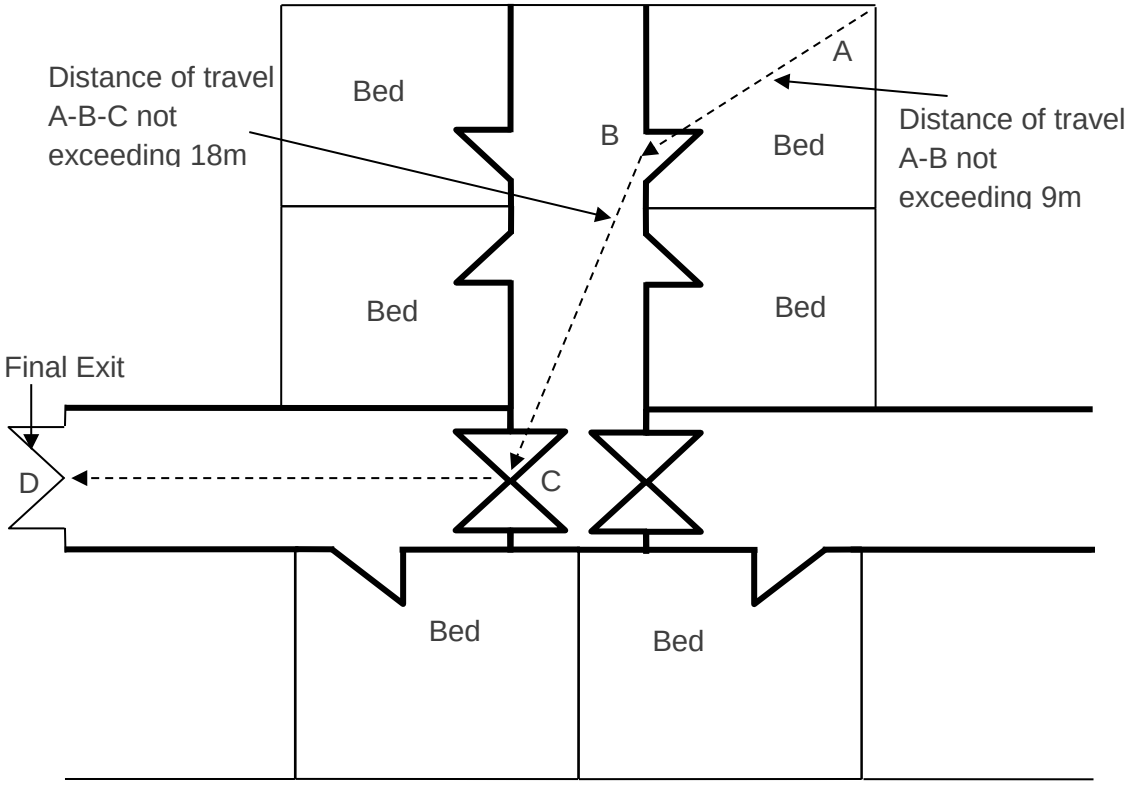
Distance of travel A-B-C-D not exceeding 35m (see paragraph 4.10.1)

DIAGRAMS AND TABLES DERIVED FROM DOE CIRCULAR 12/92 PAGE27- 28

KEY: _____ FIRE RESISTING CONSTRUCTION

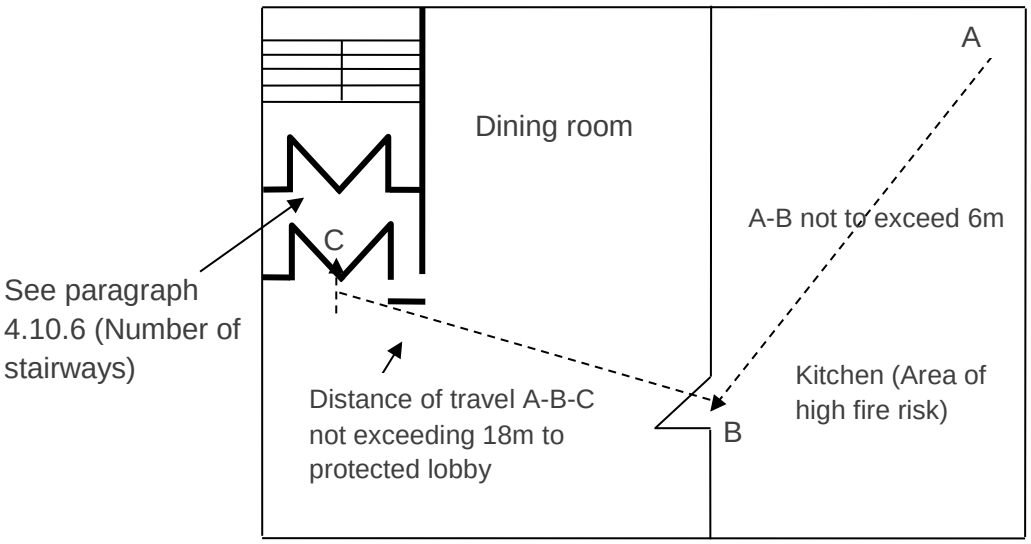
Diagram 4.11 Escape in one Direction only

4.11A Sleeping Area

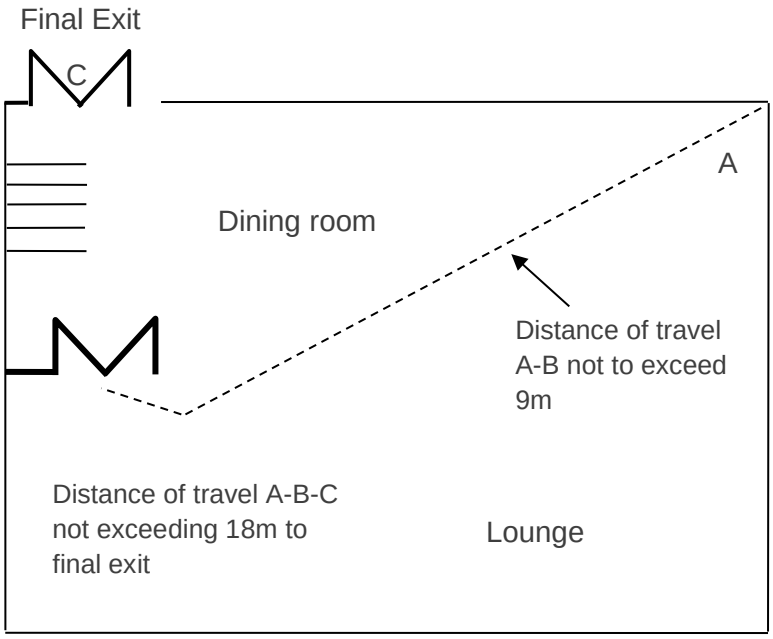


Distance of travel A-B-C-D not exceeding 35m (see paragraph 4.10.1)

4.11B Area of high risk



4.11C All other situations



Diagrams and tables derived from DOE Circular 12/92 page 29

4.11.2 Initial Dead End

In any situation where an escape route consists initially of a dead end and then has alternative routes to a final exit or door to a stairway which is a protected route the distance in the room and the dead end together should not generally exceed the appropriate distance in column b of Table 4.2 and the total distance of travel should not exceed the distance shown in column b of Table 4.1 appropriate to the location which it is being measured. See diagram 4.11 for example.

4.11.3 Means of Escape (Stages)

Requirements regarding means of escape are set out in the following paragraphs with specific reference to each of the relevant stages i.e.
Stage 1 Travel within rooms
Stage 2 Travel from rooms to a stairway or final exit
Stage 3 Travel within stairways and to final exits.

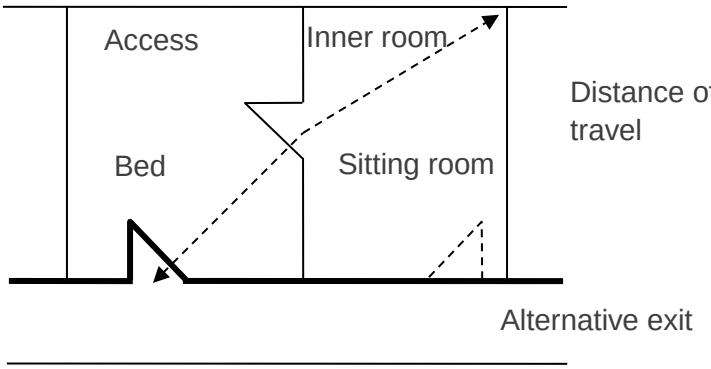
4.11.4 Stage 1 – Travel within Rooms (Category)

Inner and access rooms

The distance of travel from any point in an inner room to the nearest exit from the access room should not exceed:

(a) from an inner room used as sleeping accommodation 6m
(b) from an inner room constituting an area of higher fire risk 6m
(c) from an inner room used for any other purpose: 9m (see note 4 and diagram 4.12).

Diagram 4.12



Diagrams and tables derived from DOE Circular 12/92 page 30

Key:_____ Fire resisting construction

NOTES

1. NO ACCESS ROOM SHOULD BE AN AREA OF HIGHER RISK.
2. IF NO OTHER MEANS OF ESCAPE CAN BE PROVIDED FROM THE INNER ROOM, THE INNER ROOM SHOULD BE ONLY USED FOR SLEEPING ACCOMMODATION IF THE ACCESS ROOM IS USED SOLELY FOR THE SAME PURPOSE.
3. UNLESS THERE ARE OVERRIDING CONSIDERATIONS (E.G. PRIVACY, SECURITY) A CLEAR VISION PANEL SHOULD BE PROVIDED IN A SUITABLE POSITION BETWEEN THE ACCESS ROOM AND AN INNER ROOM AND, IF APPROPRIATE, BETWEEN THE ACCESS ROOM AND A CORRIDOR OR OTHER AREA LEADING FROM IT. THIS WILL PROVIDE A FACILITY FOR THE RESIDENTS OF THESE ROOMS TO RECEIVE AN EARLY VISUAL WARNING OF FIRE IN THE ROOM OR AREA THROUGH WHICH THEY MAY HAVE TO PASS TO REACH A PLACE OF SAFETY WHERE VISION PANELS ARE INSTALLED IN WALLS ADJOINING AN ESCAPE ROUTE IT WILL BE NECESSARY TO SATISFY THE APPROPRIATE FIRE RESISTANCE STANDARD OF THE ELEMENT.
4. WHERE AN INNER ROOM FORMS PART OF AN AREA CONTAINING NO SLEEPING ACCOMMODATION THE RESTRICTIONS ON DISTANCE OF TRAVEL RECOMMENDED IN SECTION 4.11.4 (INNER AND ACCESS ROOMS) NEED NOT APPLY IF FROM THE POINT OF EXIT FROM THE INNER ROOM THERE IS ESCAPE IN MORE THAN ONE DIRECTION THROUGH THE ACCESS ROOM (SEE SECTION 4.11.5 (ESCAPE IN MORE THAN ONE DIRECTION)).

Number of exits

More than one exit will be required from:

(a) a room occupied by more than 30 people;

(b) a room in which the distance to be travelled between any point and the existing exit exceeds the appropriate distance recommended in Table 4.2.

Width of exits

The width of an exit from any room should not normally be less than 750mm having regard to the room's use. In a room with more than one exit for means of escape, the width of each exit should not be less than:

(a) 750mm for an occupancy of up to 50 persons; or

(b) 850mm for an occupancy of 51 to 110 persons; or

(c) 1100mm for an occupancy of 111 to 220 persons.

An additional 5mm per person for openings serving more than 220 persons.

Siting of exits

In a room requiring more than one exit, the exit will be satisfactorily sited if:

(a) the angle between lines defining the routes from any point in the room to the exits is not less than 45º; or
(b) from any point at which the angle is less than 45o the distance to be travelled between the point and the nearest exit does not exceed the appropriate distance of travel recommended in Table 4.2.

4.11.5 Stage 2 – Travel from Rooms to a Stairway or Final Exit

Escape in more than one direction

Escape in more than one direction in Stage 2 may be any point from which there are different routes leading to:

(a) separate stairways (including external stairways) which are protected routes; or
(b) separate final exits; or
(c) a combination of (a) and (b); or
(d) (a) or (b) and a door in a separating wall between premises which are separated by fire resisting construction. (This situation is only acceptable where the premises are governed by legislation or are directly under the control of the one occupier.

Corridors

In all corridors serving sleeping accommodation and those which form dead ends the walls, partitions and ceilings forming the corridor should be of fire resisting construction and all room doors (except doors to toilets containing no fire risk) opening on to the corridor should be fire resisting and self closing. Doors to cupboards in corridors should be kept locked shut when not in use. A sign with the words “Fire Door – Keep Locked” should be permanently displayed on the outside of all fire doors to cupboards. Corridors, where possible, should connect directly with exits from the storey.

i. Where an escape route consists initially of a dead end and then has alternative routes the alternative routes should be separated from each other by self-closing fire doors at the junction of the dead end (see diagram 4.12, Table 4.2)
ii. The dead end portion of the route should not exceed the distance of travel set out in Table 4.2.

Corridors exceeding 30 metres should be subdivided so as to restrict the free travel of smoke throughout the length of the corridor. Doors provided for the sole purpose of restricting the passage of smoke need not be fire doors providing they are fitted with suitable smoke seals, are of substantial construction and are self closing.

Accessibility should be in accordance with Part R “Access to and use of Buildings” of the Building Regulations (Northern Ireland) 2012 (as amended)

4.11.6 Stage 3 – Travel within stairways to Final Exits

Number of stairways

Ideally more than one stairway should be provided. However, it is appreciated that there may be circumstances where such provision would be impractical due to structural reasons or

conflict with accommodation layouts. In such cases a single storey stairway may be considered satisfactory if:

(a) the floor area of any upper storey of the building does not exceed 200m2; and distances of travel conform to those given in Table 4.2;
(b) the building has no more than four floors or, if the house has more than four floors no upper floor is at a height of more than 11 metres;
(c) the stairway conforms with one of the arrangements shown in diagram 4.7, and
(d) in a building more than 2 floors in height access to the stairway from any rooms (other than a toilet containing no fire risk) is through two sets of fire doors. Where it is impractical to achieve this in premises of not more than three floors in height a suitable alternative may be achieved by the provision of fire doors to rooms opening into the stairway with an enhanced automatic fire warning system (as per BS5839 Part 1; Category L2) subject to a suitable maintenance agreement, and adequate fire risk management;

Enclosures of stairways

A. All stairways required for means of escape should be separated from the remainder of the building by fire resisting construction and self-closing fire doors so to form a stairway enclosure.

B. In premises requiring the provision of more than one escape route the method whereby a stairway is separated from the remainder of the building should be such as to ensure that a person need not pass through a stairway enclosure to reach an alternative escape route. If this is not possible the stairway should still be separated and it may be reasonable for an alternative route to by-pass the stairway by means of balconies or by means of a by-pass corridor or exceptionally, intercommunicating doors between rooms. By-pass corridors and doors should be of appropriate fire resistance (where necessary) and of suitable width (see section 4.11.4 width of exits). By-pass or intercommunicating doors should be kept free of obstruction and available at all times.

C. Ideally stairway enclosures should lead to a final exit. Where there is only one stairway from the upper floor(s) of a building and a final exit cannot be provided from the stairway enclosure, one of the following arrangements should be adopted:

    i. the provision of two exits from the stairway enclosure each giving access to final exits by way of routes separated from each other by fire resisting construction; or
    ii. the provision of a protected route from the stairway enclosure which is deemed to be an extension of the stairway enclosure leading to a final exit.

Where there is more than one stairway from the upper floor(s) of a building and there are no final exits from the stairway enclosures, the stairways and the routes to their final exit(s) should be separated from each other by fire resisting construction and fire doors so that an outbreak of fire at any point cannot affect more than one escape route from one of the stairways simultaneously.

When the stairway is enclosed in accordance with section 4.11.6 (Enclosures of stairways parts B or C) and has a final exit from the enclosure and the only doors in the enclosure are:

(a) to toilets containing no fire risk;
(b) to protected lobbies;
(c) to corridors;
(d) to lift wells contained within a stairway enclosure;
(e) to final exits;

it should be regarded as a protected route.

Where a stairway can be considered a protected route, it will not be necessary to have regard to distance of travel in Stage 3. Where this is not the case, the Stage 3 section of the escape route should be regarded as forming part of the total distance of travel permitted (see column b of Table 4.1 and 4.2).

Table 4.3 Minimum Requirements for Means of Escape

Applicable to HMO properties occupied by no more than 6 non vulnerable individuals

CATEGORIES A, B, C & D				
Number of Storeys	Protected Escape Route(1)	Emergency Egress Windows	Fire resistance of ceilings(2)	Doors and Frames
1	No, unless the total travel distance from within a bedroom to the final exit is more than 18m or 12m in areas of higher fire risk	If no alternative escape route exists on the ground floor leading to their own exits an emergency egress window from the storey is required.	Nominal 30 minutes fire resisting construction	Close fitting doors and frames
2 (no storey more than 4.5m)		As for a single storey property and each 1st floor habitable room(3)(4)(5)	Nominal 30 minutes fire resisting construction	Close fitting doors and frames

1) All properties with a basement require a protected escape route and the basement to be separated from the ground floor by 2 x FD30S, the basement should have 2 exits or one exit plus an emergency egress window

2) The ground floor shall be separated from any basement by 60 minutes fire resisting construction. This may be reduced to 30mins in a basement of less than 150m2 where extended coverage to all rooms in the basement is provided by an automatic fire detection system to BS5839: Part 6: Grade A, Category LD1.

3) Compensatory features in the form of FD30S may be installed as an alternative to an emergency egress window in each 1st floor habitable room (a minimum of one suitably sited escape window will still be required from the 1st floor).

4) Compensatory features in the form of a Grade D, Cat LD1 fire alarm system to BS5839-Pt6 may be installed as an alternative to an emergency egress window in each 1st floor habitable room (a minimum of one suitably sited escape window will still be required from the 1st floor).

5) Habitable room – See Section 4.10.1

Table 4.4 Minimum Requirements for Means of Escape

Applicable to all Category A, B, C & D HMO properties other than those specified in Tables 4.3

CATEGORIES A, B, C & D				
Number of Storeys	Protected Escape Route(1)	Emergency Egress Windows	Fire resistance of ceilings(2)	Doors and Frames
1	30 minutes fire resisting construction.	If no alternative escape route exists on the ground floor leading to their own exits an emergency egress window from the storey is required.	Nominal 30 minutes fire resisting construction	FD30S
2 (no storey more than 4.5m)	30 minutes fire resisting construction.	Every storey which does not have alternative escape routes leading to their own exits should have an emergency egress window for escape and rescue purposes.	Nominal 30 minutes fire resisting construction	FD30S
3 (no storey more than 7.5m)	30 minutes fire resisting construction.	Ground and first floor storeys which do not have alternative escape routes leading to their own exits should have an emergency egress window for escape and rescue purposes	30 minutes fire resisting construction	FD30S
4 or more	30 minutes fire resisting construction(3)	Ground and first floor storeys which do not have alternative escape routes leading to their own exits should have an emergency egress window for escape and rescue purposes	30 minutes fire resisting construction	FD30S

1) All properties with a basement require a protected escape route and the basement to be separated from the ground floor by 2 x FD30S, the basement should have 2 exits or one exit plus an emergency egress window

2) The ground floor shall be separated from any basement by 60 minutes fire resisting construction. This may be reduced to 30mins in basement of less than 150m2 where extended coverage to all rooms in the basement is provided by an automatic fire detection system to BS 5839: Part 6: Grade A, Category LD1 or BS5839: Part 1 Category L2 for properties of 3 or more storeys (including the basement)

3) Each Storey that is over 7.5m above ground level shall have an alternative escape route leading to its own final exit. Where access to an alternative escape route is through the protected stairway, the protected stairway shall be subdivided by 30 minutes fire resisting construction at or about 7.5m above ground level as shown in diagram 4.7. The floor at or about 7.5m above ground level should be constructed to 30min nominal fire resistance.

Table 4.5 Minimum Requirements for Means of Escape (Applicable to all Category F HMO properties).

Number of Storeys	Protected Escape Route(1)(2)	Fire resistance of ceilings(3)	Flat Entrance Doors and Frames	Internal Entrance Hall
1	30 minutes fire resisting construction.	Nominal 30 mins fire resisting construction	FD30S	No flat should be so planned that any habitable room is an inner room. See also clause 4.8.2.b for the provision of lobbies to the common stairwell
2 (no storey more than 5m)	30 minutes fire resisting construction.	Nominal 30 mins fire resisting construction	FD30S	
3 (no storey more than 7.5m)	30 minutes fire resisting construction.	60 minutes fire resisting construction between flats	FD30S	
4 or more	30 minutes fire resisting construction.	60 minutes fire resisting construction between flats	FD30S	

1) All properties with a basement require a protected escape route and the basement to be separated from the ground floor by 2 x FD30S

2) The ground floor shall be separated from any basement by 60 minutes fire resisting construction. This maybe reduced to 30mins in basements of less than 150m2 where extended coverage to all rooms in the basement is provided by an automatic fire detection system to BS5839: Part 6: Grade A, Category LD1 or BS5839: Part 1 Category L2 for properties of 3 or more storeys (including the basement)

5.0 Stairways

5.1 Ventilation of stairways

In a single stairway building which continues uninterrupted to the top floor it would be advantageous for provision to be made for ventilating the stairway in the event of fire. In circumstances where ventilation of the stairwell can be achieved this should be equivalent to a permanent operable venting of 1 square metre or 5% of the cross sectional area of the stairway enclosure, whichever is the greater. However ventilation of stairways is not always an option in some HMO properties or the desired opening size may not be achievable. Consequently it is the intent of the technical guidance to achieve stairway ventilation where practical.

5.2 Unacceptable Items within Stairway Enclosures

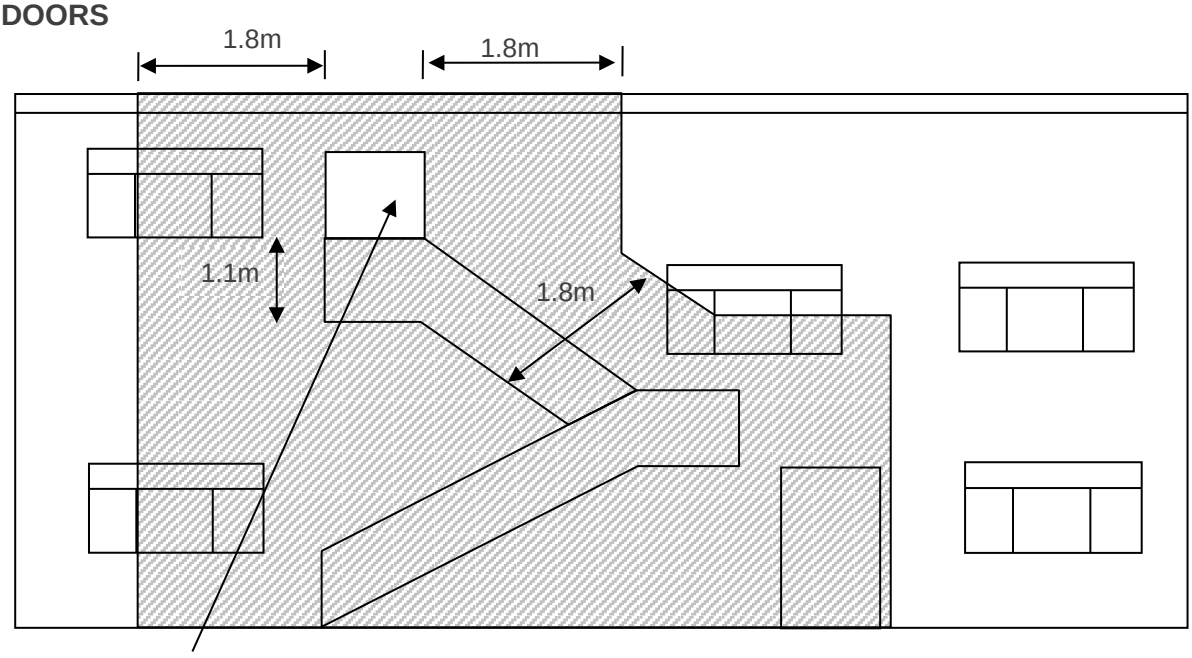
a) Portable heaters of any type.
b) Heaters which have unprotected naked flames or radiant bars.
c) Fixed heaters using a gas supply cylinder.
d) Oil-fuelled heaters.
e) Cooking appliances.
f) Washing machines or tumble dryers
g) Upholstered furniture.
h) Wardrobe or other storage furniture.
i) Coat racks.
j) Storage of any kind unless it is kept in a locked cupboard, which is constructed to the same standard of fire resistance as the enclosure to the stairway and is provided with a smoke detector.
k) Lighting involving the use of naked flames.
l) Gas meters other than those installed in accordance with appropriate Gas Safety Regulations. Gas pipes must be made of a material with a high melting point to comply with Gas Safety Regulations. Where a gas installation has been installed a suitable gas detector should be provided.
m) Existing meters are to be encased so as to provide half hour fire resistance.

5.3 External Stairways

Where an external escape stairway is provided, it should be a protected route and it will be necessary to ensure that the use of it at the time of a fire cannot be compromised by smoke and flames issuing from openings (e.g. windows and doors) in the external wall of the building below and adjacent to the stairway. Any door, opening onto the stairway below the top floor should be of the same fire rating and self closing. In situations where windows are less than 1.8metres horizontally from the stairway, **they should be of the fixed type** and have fire resistance of not less than 30minutes. It will also be necessary to provide lighting and consider the protection of the stairway from the weather. See **diagram 5.1**

DIAGRAM 5.1
EXAMPLE OF DEFINED ZONE FOR FIRE RESISTING WINDOWS AND DOORS

DIAGRAM 5.1: EXAMPLE OF DEFINED ZONE FOR FIRE RESISTING WINDOWS AND DOORS



Areas required to be of Fire resisting construction.

Diagram derived from BS 9991 & BS9999

5.4 Spiral Stairways (External)

These will be suitable only in situations where not more than 30 able-bodied adults would use them. They should not be more than 9metres in height or less than 1.5metres in diameter.

5.5 Ladder/Ropes etc.

Such means of escape are unacceptable in a HMO.

Examples include:

- Portable ladders and “throw-out” ladders.
- Fixed vertical and raking ladders
- Automatic lowering lines, ropes and other manipulative
- emergency devices for self rescue

5.6 Inter-Communication between Rooms and By-Pass Routes

Inter-communication between separate lettings as a means of escape is unacceptable.
A balcony can sometimes be used to by-pass a stairway enclosure and in some instances a balcony can form stage 2 of an escape route. Where a balcony forms any part of the means of escape it will be necessary to ensure that its use at the time of fire cannot be prejudiced by smoke and flames issuing from openings, e.g. windows, doors in the external wall of the building. A door to or from a balcony, which is intended for use for means of escape, should be unlocked at all times. Provision should be made to ensure that by-pass facilities do not become obstructed and are available for use at all times.

5.7 Lifts – general

Unless a lift is situated within a stairway enclosure, which is a protected route, it should be contained within a lift well enclosure of fire resisting construction in which the access doors are fire resisting.
Existing sliding fire resisting doors to lift shaft opening are sometimes ill fitting in the slides and frames and offer a poor barrier to smoke. In such cases where the opening discharges into a corridor, which is a dead end, a protected lobby should be provided at the entrance to the lift. A person should not have to pass through the lobby to reach the continuing route to escape.
Wherever practicable the lift machine should be housed in a compartment separated from the lift well by fire resisting construction. Any opening necessary in the separation between the machine room and the lift well for the operation of the lift should be as small as possible.
Where practicable, a lift well should have permanent ventilation opening at the top equal to not less than 0.1square metres for each lift in the lift well enclosure.
Lifts other than those specifically constructed for use as means of escape in case of fire, should not be used at the time of a fire as they do not afford a reliable route of escape.

6.0 Specification and guidance for fire resisting doors

All references to “fire resisting” (in relation to doors) to be taken as meaning: having a fire resistance of not less than 30 minutes when tested in accordance with British Standard BS476: Part 22 (or equivalent European Standard). Glass in any fire resisting door, wall, partition or screen should comply with British Standard Published Document PD6512: Part 3. If existing doors are to be upgraded then specific advice must be sought prior to doing any work.

It is recommended that purpose made door sets which meet the 30 minute fire resisting standard be fitted. For difficult/non standard door openings blanks can be purchased and cut down. In most cases standard fire doors can be adjusted to fit normal door opening sizes.

6.1 Hinges

All fire doors should be hung on one and a half pairs of steel hinges, to resist bowing in the event of a fire and to bear the increased weight of the door.

6.2 Self closing devices

Fire resisting doors to be fitted with external dual action hydraulic type self closing devices which are adjusted to close quickly but latch slowly so as not to wear the smoke seals or damage the door or frame. "Perco" closers are not suitable as they cause the doors to slam causing noise nuisance to occupiers and they tend to wear the smoke seals and frames causing damage over a period of time. Self closers should be attached using appropriate fixings (‘snake eye screws’) which are designed to prevent removal or tampering by unapproved persons.

6.3 Door stops and fitting

Door frames may be improved to have 25mm door stops which the doors should close onto. The benefit of doing this is that it covers minor irregularities of fit, often found when working on existing door openings. Alternatively, if purpose-made doors are used which have integral intumescent strips then standard door stops can remain.
On completion doors should be reasonably close fitting into frames with a maximum gap of 3mm between door and frame. If doors are too tight then the self closers will not work as there has to be a certain air gap around the door. In addition, heavy fire doors may drop by a millimetre or 2 over time and so tight fitting doors will stop closing and need to be adjusted. It is recommended that the door is fitted first, before fixing the stops, not the other way round.

6.4 Smoke seals

iii. Smoke seals must be fitted to all fire doors. This specification is for a “night time escape” standard and so smoke seals are more important than intumescent strips. Cool smoke, often given off by smouldering furnishings and electrical equipment, is exceptionally toxic and tends not to rise immediately; therefore smoke seals on fire doors are essential. Nylon brush or neoprene

smoke seals (draught proofing kits) are acceptable. Smoke seals can be fitted into the door itself or, a better option is to apply to the door stop so that the fire door closes onto the seals.

6.5 Use of automatic door release mechanisms

Where the use of automatic door release mechanisms are considered essential, they will only be acceptable when the following conditions are met:

The door release mechanism should conform to BS 5839: Part 3 and be fail safe (i.e. in the event of a loss of power or a fault on the system, the release mechanism should be triggered automatically).

I. All doors fitted with automatic door release mechanisms should be linked to an alarm and detection system.

II. All automatic door release mechanisms should be triggered by any of the following:
    - The actuation of any automatic fire detector;
    - The actuation of any manual call point;
    - Any fault on the fire alarm and detection system;
    - Any loss of power to the alarm and detection system.

III. Each door fitted with an automatic door release mechanism should be closed at a pre-determined time each night and remain closed throughout the night. If, for management reasons this is impractical, it should be the specific responsibility of a nominated competent member of staff to operate the release mechanism at least once a week to ensure:
    - The mechanisms are working effectively;
    - The doors close effectively into their frames.

IV. The alarm and detection system and the release mechanisms should be subject to an effective maintenance contract with a competent maintenance contractor.

6.6 Door furniture (Easy Opening Devices)

Where the use of Easy Opening Devices (E.O.D.) are deemed necessary see section 4.4, door handles should be chosen so that they give security but do not allow tenants to be locked out of their lettings by the action of the self closers. For this reason, the best design is a simple mortice lock and door handles which require a key to lock the door, but the inside has a thumb turn instead of a key (thumb turns may not be suitable if the occupant suffers from arthritis in the hands or has other hand movement restriction, alternative EOD should be provided). This means that the occupant can escape from the room in an emergency without relying on a key. A rim lock with a roller-ball is also acceptable.

All final exit doors should also have this type of lock or a simple latch lock which allows exit without using a key in the event of an emergency. Care must be taken when installing security locks to final exit doors, so that this requirement is not overridden.

7.0 Emergency/escape lighting

7.1 1, 2 and 3 Storey HMO's.

Emergency/escape lighting is not required in 1, 2 and 3 storey HMOs
Except
If the route of escape is complex or lengthy or
The HMO is occupied by more than 6 persons or
Where no natural light is available
Where it is provided then it shall conform to paragraph 7.2 below.

7.2 HMO's with 4 or more Storeys

Emergency/Escape lighting should be provided throughout the escape route of all HMOs with 4 or more storeys and may be required in communal rooms.
When the supply to the normal lighting or parts of the normal lighting to a HMO fails, emergency escape lighting is required to fulfil the following functions:

a) to indicate clearly and unambiguously the escape routes;
b) to provide illumination along such routes to allow safe movement towards and through the exits provided;
c) to ensure that fire alarm call points and fire fighting equipment provided along the escape routes can be readily located.

Emergency lighting should be provided in accordance with BS 5266-1. Emergency Lighting. Code of practice for the emergency escape lighting of premises.

Regard must be had to BS5266 Part 1 together with BS EN 1838 in relation to the siting of the luminaries. The number and position of luminaries will also be further dependent on the layout of the premises and the product chosen.

In addition to providing the minimum luminance the Emergency/Escape lighting should indicate clearly the exit route and highlight any hazards such as staircases, changes in floor levels or changes in direction.

The whole system shall be tested and maintained regularly in accordance with the requirements of BS 5266 Part 1.

8.0 General provisions

8.1 Electricity Supply to Normal Lighting and Emergency Lighting

There should be continuity of supply to the emergency lighting systems serving the house and to the ordinary domestic lighting circuits serving the common areas. Prepayment meters of whatever kind serving these installations are prohibited.

8.2 Room Layout and other Miscellaneous Matters

A major principal of room layout is that escape should not involve travel from a lower risk room through a higher risk room.

8.3 Siting of Cooking Facilities

Cooking facilities shall be safely situated and should not, for example, be located immediately adjacent to room exits or an emergency egress window.

8.4 Notices and signs

8.4.1 Notices and signs are not required in 1, 2 and 3 storey HMOs

Except
If the route of escape is complex or lengthy or
The HMO is occupied by more than 6 persons

Where it is provided then it shall conform to paragraph 8.4.2 below.

8.4.2 Notices and signs should be provided throughout the escape route of all HMOs with 4 or more storeys and may be required in communal rooms.

All fire safety signs, notices and graphical symbols should conform as far as practicable with BS 5499-4 BS5499-10 and BS4599-11 as appropriate and the Health and Safety (Signs and Signals) Regulations (NI) 1996. Existing signs and notices need not be replaced immediately if they are fulfilling their purpose effectively. They should, however, be examined and be replaced if they are found to be inadequate.

9.0 Pipes and ducting penetrating fire separating elements

9.1 Where a pipe passes through a fire separating element it should be fire stopped in accordance with Paragraph 4.43 of Technical Booklet E which supports The Building Regulations (Northern Ireland) 2012 (as amended).

9.2 Where a ventilation or air conditioning duct passes through a fire separating element it should be fire stopped in accordance with Paragraph 4.44 of Technical Booklet E which supports The Building Regulations (Northern Ireland) 2012 (as amended).

10.0 Supported living accommodation

The following section is a guide to help identify the degree of fire safety in supported living accommodation and not a definitive benchmark standard. It will be a matter of professional judgement based on a detailed fire risk assessment, taking into consideration the vulnerability of the occupants and the level of support provided to determine the level of tolerance that will be considered acceptable.

The measures in this section are supplementary to the guidance contained in other sections of this document.

The guidance contained within this section of the document should not be used for premises where residents or staff will be accommodated on a floor more than two floors (7.5m) above the ground or access level or where the property is occupied by more than 6 people.

It would be more appropriate to use **Health Technical Memorandum 84: Northern Ireland Fire code - Fire Safety in Residential Care Premises** for Supported Living Accommodation outside of the parameters specified above.

10.1 Ignition Sources

The management of the premises should be such that all reasonable provision is made to reduce the possibility of unwanted ignition, including

- On no account should smoking be permitted in bedrooms
- An approved person should check electrical equipment prior to it being used for the first time
- Electrical equipment should be subject to portable appliance testing
- Electrical sockets should not be overloaded.
- Electric blankets should be used, stored and maintained in accordance with manufacturer's instructions.
- There should be no cooking appliances used outside of kitchen areas.
- Electrical equipment should only be used for its intended purpose and operating instructions should be readily available
- The use of portable heaters is prohibited.
- Open fires should be subjected to a detailed risk assessment of their use. In all cases, an open fire should be provided with a suitable fireguard.
- An effective programme of planned preventative maintenance should be in place with an agreed procedure for the reporting of faults

10.2 Fire Hazard Rooms

If not otherwise specified to a higher standard within this guide, all fire hazard rooms should be enclosed in 30 minute fire-resisting construction. Where positive action self-closing

devices are fitted to fire doors, consideration should be given to the fitting of free swing units. **See Section 6.5**

10.3 Combustible Materials

Controlling combustible materials by good housekeeping can reduce the likelihood of fire occurring. Good housekeeping should ensure the control of

- Flammable liquids.
- The storage of rubbish and other combustible rubbish pending disposal.
- The control of aerosols, and
- How linen, paper, plastics and cardboard are stored.

In addition an audit should be undertaken at least annually or more frequently if concerns are identified to ensure the likelihood of fire is not increased through excessive amounts of textiles, furniture or equipment which does not conform to standards prevalent at the time.

10.4 Textiles and Furniture

All textiles and furniture should comply with the following legislation or any statutory amendment
Consumer Protection Act (NI) 1987
The Furniture & Furnishings (Fire) (Safety) Regulations 1988

10.5 Bedding and Sleepwear

Bedding and sleepwear should not present any additional hazard to residents. It is appreciated that in these types of premises, residents will provide their own nightwear. As a minimum standard, it is strongly recommended that where possible all sleepwear achieve the requirements of the Nightwear (Safety) Regulations 1985.

10.6 Management

Adequate management controls need to be in place to safeguard residents, staff and visitors against the risk of fire. In particular:

- A clearly, defined fire safety policy addressing the specific needs of the home.
- A suitable, up-to-date, emergency plan based on the fire risk assessment, which is brought to the attention of all staff.
- An appropriate number of available staff, who have received fire safety training.
- A fire safety training programme that addresses the risks faced within the home.
- Means of escape are readily available at all material times.
- Records of staff training should be kept for 3 years.
- All fire safety equipment should be maintained in efficient working order and regularly tested by a competent person, in accordance with the requirements of

the current relevant British Standard. Records of all such maintenance and tests should be kept for a period of 3 years.

10.7 Training

All staff (including temporary and agency staff), and where appropriate, residents, should be given information, instruction and training about the precautions to be taken or observed within the home.
Fire drills should be held as appropriate, in accordance with the recorded findings of the fire risk assessment.
Persons identified in the emergency plan as being responsible for supervising, controlling and putting into effect the plan should be given such additional training as necessary to enable them to perform their duties.

10.8 Signs and Notices

Signs and notices should be provided in accordance with Section 8.4 of this document, such signs may be waivered if a suitable and up-to-date risk assessment indicates that they would not be beneficial.

10.9 Alarm and Detection System

The system installed shall be a system complying with BS5839-6 of Grade A, Category LD1, with detectors sited in accordance with the recommendations of BS5839-1 for a Category L1 system.

Where residents may have difficulty in correctly using manual call points, they should only be provided for staff use and sited accordingly

Consideration should be given to the audibility of the alarm system throughout the premises. The recommended level in BS5839-1, of 65dB(A) may be too high for supported living accommodation. Therefore in staffed accommodation and subject to a suitable and up-to-date risk assessment, this may be reduced to 45 – 55dB(A) in general areas in the home and 75dB(A) at the staff bedhead. In accommodation without 24-hour staff support, the level subject to a suitable and up-to-date risk assessment, may be reduced to 45 – 55dB(A) in general areas in the home and 75dB(A) at the bedhead of all residents.

Consideration should also be given to the mental condition of the residents so as not to cause undue stress, upon operation of the alarm.
Due regard must be given to those persons in the premises who may have a hearing or visual impairment. Such impairments must form part of a personal emergency evacuation plan for the individual.

10.10 Travel Distances

There should be adequate means of escape in case of fire, capable of being used safely and effectively at all material times. See Section 4.9.4 for no storey more than 5m above ground or access level, or Section 4.9.6 for no storey more than 7.5m above ground or access level.

The maximum distance to be travelled within any room, avoiding all obstructions, should be 9m. The maximum distance to be travelled to reach a place of safety (protected shaft or stairway, or a final exit) should be 18m.

Open plan stairways are not acceptable without the provision of a residential sprinkler system installed throughout the premises. Where the situation already exists within a property currently used for the provision of supported living, remedial action must be taken.

10.11 Emergency Lighting

Emergency lighting should be provided in accordance with British Standard 5266. Part 1. Code of practice for the emergency escape lighting of premises.

10.12 Manual Fire Fighting Equipment

Fire-fighting equipment should only be provided in unstaffed or unsupervised accommodation where an assessment of the capability of the residents has identified that it would be appropriate.

10.13 Stairlifts

Where Stairlifts are considered essentials, they should only be provided on the basis of a risk assessment taking particular account of: nature of the client group: width of the stairway; and availability of staff.

10.14 Resident Sleeping Arrangements

The maximum number of residents sleeping in any one bedroom should not exceed two.

11.0 Glazing

For the purpose of this document glazing can be used to give periods of fire resistance of up to one hour, the actual fire resistance is determined by the nature and dimensions of the glass, the type of frame and method of securing the glass.

To upgrade existing HMOs it is generally acceptable to use uninsulated fire resisting glazing above 1.1 metres in height above the adjoining floor in the enclosures of a protected route (half hour fire resistance) or an area of higher risk (one hour fire resistance). However, fire-resisting glazing should not be introduced in locations where the means of escape standards would be made
worse than before.

The replacement of existing non fire resisting glazing with fire resisting glazing in existing buildings may be considered an acceptable improvement.

The limitations on the use of uninsulated fire resisting glazing in existing buildings may be considered an acceptable improvement.

The limitations on the use of uninsulated fire resisting glazing for Building Regulation purposes are described in the table below and it should be noted in this case that uninsulated fire resisting glazing is not permitted between residential/sleeping accommodation and a protected corridor or lobby.

Wired glass should not be used in panes exceeding 1.2m2 in area and should be 6mm thick for half-hour fire resistance. For one-hour fire resistance panes should not exceed 0.5m2.

The design data for wired glazing in different frames is set out below and is applicable to glazed areas in walls and partitions:-

11.1 Half hour fire resistance

The frame members and dividing bars should be not less than 56mm deep and 44mm wide with the rebate worked from the solid material. For the protection of timber beading intumescent paints have proved satisfactory, but a more durable method using metal capping is preferable.
Alternatively, non-combustible beads may be used. These should not melt or disintegrate at temperatures below 900o Celsius.

11.2 One hour fire resistance

It is impractical to use wooden frames and beading alone, however substantial they may be. Generally the glass should be held in non-combustible inserts, (proprietary systems are available), fixed to timber frames. The inserts should preferably not be of metal since it is

necessary to reduce the heat conduction and the material from which they are made should not melt or disintegrate below 900o Celsius.

11.3 Glazing in fire doors

Where existing HMOs are being upgraded fire resisting glazing is permitted in doors forming the enclosure of a protected route (half hour fire resistance) and also where enclosing an area of higher fire risk (one hour fire resistance).

Uninsulated fire resisting glazing is only permitted over 1.1metres above the adjoining floor level. Any glazing below that height should also have the appropriate insulation criterion of BS 476.
Fire resisting glazing in fixed fanlights above the door is also permitted in the above situation.

Where Building Regulations are applied to the work (e.g. conversion to self-contained flats) the limitations on the use of uninsulated glazed elements are adequately described in Table 2.8, of Technical Booklet E which supports The Building Regulations (Northern Ireland) 2012 (as amended).

Glass within fire doors or associated fixed fanlights should meet the requirements of PD 6512-3:1987, Guide to the fire performance of glass.

For half hour fire resisting glazing beading should be non-combustible or if timber is used it should be protected with intumescent paint or metal capping.

Fire resistant glazing should not be introduced in locations where the means of escape standards would be made worse than before.

11.4 Use of safety glass

Glazing which is below 800mm in walls and partitions or below 1500mm if located in a door or adjoining side panel should be constructed in accordance with the Building Regulations (Northern Ireland) 2012 (as amended).
This would require the use of a glass which either:

- Breaks safely, if it breaks (this would not usually apply to fire resisting glazing; or
- is robust; or
- is glazed in small panes; or
- is permanently protected, e.g. by robust screen.

Wired glass may in itself not satisfy these conditions and careful consideration should be given to the location of glazing particularly where guarding is also required.

The use of safety glazing which is also fire resisting, may be necessary to meet the above criteria.

12.0 USER INSTRUCTIONS AND ROUTINE TESTING.

12.1 User Instructions

The supplier of the equipment should provide the owner/letting agent with written information on the following:

I. Operation of the system;
II. Action in the event of a fire alarm signal;
III. Avoidance of false alarms;
IV. Action in the event of a false alarm;
V. Routine testing of the system;
VI. Servicing and maintenance of the system (including intervals at which any batteries should be replaced);
VII. The need to keep a clear space around all detectors and manual call points;
VIII. Special precautions relevant to any lithium batteries used in the system;
IX. Checking the system on reoccupation of the dwelling after a vacation, etc.;
X. The need to avoid contamination of the detectors by paint.

The operating instructions should be sufficient to enable a lay person to understand fully the use of all controls and the meaning of all visual and audible signals that the system is capable of giving. The instructions should describe the circumstances under which silencing and disablement facilities should be used, but should stress the importance of maintaining the system in the normal state, in which fire can be detected and the alarm signals given.

The recommended action in the event of fire should stress the importance of ensuring that all occupants leave the building as quickly as possible and that the NIFRS is summoned immediately; it should be made clear that the NIFRS should be summoned regardless of the size of the fire and regardless of whether there is a facility for transmission of alarms to a remote manned centre.

Guidance should be given to the owner/letting agent concerning common causes of false alarms and their avoidance. The landlord/agent should be advised to take precautions to prevent false alarms and damage to detectors by contamination during work that gives rise to dust, smoke, paint spray, etc. The means for resetting after false alarms should be made clear in the instructions.

The landlord/letting agent should make available to each occupant of the dwelling all the user instructions.

12.2 Routine Testing/Servicing

Fire alarm and detection systems shall be tested and maintained regularly in accordance with the requirements of BS 5839: Part 1 or 6 as appropriate.

Emergency lighting systems shall be tested and maintained regularly in accordance with the requirements of BS 5266 Part 1.

13.0 Glossary of terms

Access Room
A room through which passes the only escape route from an inner room.

Alternative escape routes
Escape routes sufficiently separated by either direction and space, or by fire-resisting construction, to ensure that one is still available should the other be affected by fire.

Circulation Area: Circulation Space
An area or space, including a stairway, mainly used as a means of passage between a room and an exit from the building.

Control and Indicating Equipment (CIE)
Component or components of a fire detection and fire alarm system through which other components can be supplied with power and which:

a) Are used:
   1) to receive signals from connected detectors, manual call points or any other device (e.g. input/output units);
   2) to determine whether these signals correspond to a fire alarm condition;
   3) to indicate any such fire alarm condition audibly and visually;
   4) to indicate the location of the danger;
   5) possibly to record any of this information

b) are used to monitor the correct functioning of the system and give audible and visible warning of any faults (e.g. short circuits, open circuits, or fault in the power supply);

c) if required, are able to pass on the fire alarms signal:
   1) to audible or visible fire alarm devices or to a voice alarm system;
   2) to the fire alarm routing function to an alarm receiving centre;
   3) to the control function for fire protection equipment or systems;
   4) to other systems or equipment, such as a mimic panel.

Dead End
Means a place from which escape is possible in one direction only or in directions less than 45 degrees apart which are not separated by fire resisting construction.

Detector
A component of a fire detection and alarm system that contains at least one sensor which constantly, or at frequent intervals, monitors at least one physical and/or chemical phenomenon associated with fire, and that provides at least one corresponding signal to initiate a warning.

Distance of travel
Means the actual distance that a person must travel between any point in a building and the nearest final exit, or door to a stairway which is a protected route, or door to a protected lobby leading to a stairway, or door to adjoining premises as the case may be.

Dwelling
A unit of residential accommodation occupied (whether or not as a sole or main residence):

- by a single person or by people living together as a family; or
- by persons who do not live together as a family, but who live in self-contained single family flats or maisonettes within the unit.

Emergency egress window
A window designed to enable emergency escape or rescue in the event of a fire. See 4.7 for details.

Final Voltage (of a battery)
The voltage at which the cell manufacturer considers the cells to be fully discharged at the specified discharge current

- fire alarm sounders;
- indicating equipment;
- a transmitter which is capable of transmitting fire alarm signals to a remote location.

Fire Alarm Sounder
A component of a fire detection and alarm system for giving an audible warning of fire.

Fire Detection and Alarm System
A system that comprises a means for automatically detecting one of the characteristics of fire and a means for providing a warning to occupants.

Fire Hazard Rooms
Are rooms or other areas which because of their function and/or content present a greater hazard of a fire occurring and developing than otherwise. Within the content of this guidance such rooms would include:
Kitchens; laundry rooms; storerooms over 1m2; designated smoking areas; boiler rooms; lift motor rooms; bedrooms and under stair stores.

Fire-resisting Construction
Construction that is able to satisfy for a stated period of time some or all of the appropriate criteria given in the relevant parts of BS 476 or European equivalent standard.

Fire Risk
A combination of the probability of fire occurring and the magnitude of the consequences of fire.

Flat
A dwelling, forming part of a larger building, that has all its rooms on one level or not more than half a storey height apart.

House in Multiple Occupation
The meaning Multiple Occupation is as per Article 75 of the Housing (Northern Ireland) Order 1992 as amended

Habitable Room
Any room in a dwelling other than a kitchen, utility room, bathroom, dressing room or WC.

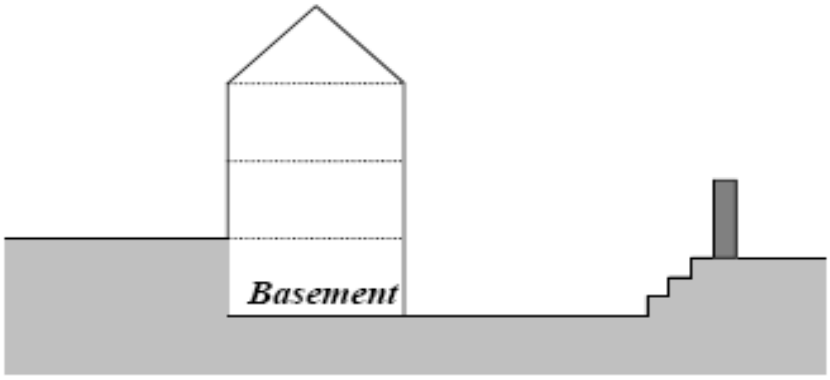
Indicating Equipment
Equipment that provides visual indication of any fire alarm or fault warning signal received from control equipment.

Inner Room
A room from which escape is possible only by passing through another room (the access room.)

Maisonette
A dwelling, forming part of a larger building, which includes rooms on two or more levels that are more than half a storey height apart

Normal Supply
The supply from which the fire detection and alarm system is expected to obtain its power

Occupied Basements
An occupied basement is one, which has either a bedroom or living room below the level of the highest external ground level. Basement



Smoke
Particulate and aerosol products of combustion, whether this is of the smouldering or open flame type.

Smoke Alarm
A device containing within one housing all the components, except possibly the energy source, necessary for detecting smoke and for giving an audible alarm.

Social Alarm System
A system that provides facilities for alarm initiation, signal transmission, alarm reception, reassurance and assistance, for use by elderly and other persons considered to be living at risk.

Standby Supply
An electricity supply that provides power to the normal fire detection and alarm system when the normal supply fails.

Storey Height
The distance in metres from the external ground level to the internal floor level of the storey under consideration.

Supported living
Accommodation in the community provided for the care and support of people with learning difficulties, mental illness, or physical disability.

Vulnerable Person
This term is defined as an elderly person (over 65), children under 10, mentally or physically impaired persons, ill or depressed persons and persons on medication and known substance abusers (alcohol or drugs).

Zone
A subdivision of the protected premises such that the occurrence of the fire within it will be indicated by a fire alarm system separately from a fire in any other subdivision.

14.0 Annex A (Informative)

The Fire and Rescue Services (NI) Order 2006 and the Fire Safety Regulations (NI) 2010

Part 3 of The Fire and Rescue Services (Northern Ireland) Order 2006 and The Fire Safety Regulations (Northern Ireland) 2010 came into effect on 15 November 2010.

The above mentioned fire safety law requires any person who has control of the premises to carry out an assessment to identify risk to the safety of persons in respect of harm caused by fire in the premises. It also requires them to take fire safety measures which are reasonable to ensure the safety of persons

The steps below are intended to help you through the process of carrying out an assessment of the fire risks in your property.

Step 1: Who is at risk?

Consider the numbers and capability of people who may occupy your property and who could be at risk. This includes occupants and any other visitors, including cleaners, tradespersons, etc. Make a note if particularly vulnerable persons are likely, such as children, elderly, or disabled persons (you will need to consider the fire safety of occupants with any special needs or vulnerabilities).

Step 2: What fire hazards are there?

Think about how a fire could start on your premises and identify sources of ignition such as cooking, heaters, open fires and smoking. Where are electrical appliances such as tumble dryers and TVs? What is the likelihood of a deliberate fire?

Consider what could burn and act as fuel for a fire. This could include furniture, bedding, laundry, wood/kindling for open fires, rubbish, flammable liquids, solvents, chemicals or gases, cooking oil, paint, white spirit, cleaning products, aerosols, LPG, or fuels such as petrol.

Consider what could happen if a fire occurred and how quickly it could spread. The construction of the property can affect how fire can spread; it may spread faster if there are multiple layers of wallpaper, polystyrene ceiling tiles or interior wood paneling. If rubbish stored outside caught fire, could it spread to inside the property or block an exit door?

Step 3: What can you do to reduce/remove risk; what fire safety measures should be put in place?

Now that you have considered the people at risk and the hazards, you can take steps as necessary to reduce the risk both of a fire occurring and of injury or loss of life should a fire occur. You may also wish to consider the risk of damage to your property, and any subsequent loss of business.

If ignition sources and fuel sources are reduced and these are kept apart, the chances of a fire starting are low. The following lists some of the actions that are advised for dwellings as part of normal community fire safety which you should consider to reduce the risk of a fire occurring:

- ensure good housekeeping, so that storage is in designated areas only; is orderly; refuse and packaging is disposed of frequently and carefully; bins are secure;
- ensure flammable materials and liquids are stored properly, away from ignition sources, electrical fuse box and meter, boilers, etc. Do not store aerosols in damp areas (such as under sinks);
- avoid the use of portable gas heaters; use only in an emergency when only butane should be used;
- ensure that electrical and gas appliances and equipment are maintained, serviced and kept in good working order. Clean extract equipment to kitchens regularly;
- replace any chip pan with a deep fat fryer with a thermostat;
- individual heating appliances should be fixed in position and guarded;
- ensure the electrical installation to the property is in good order; get it checked if in any doubt. Ensure correct wiring of plugs and correct fuse ratings;
- if anyone smokes, ensure ashtrays are provided and emptied regularly and safely. Inspect, or advise your occupants to inspect, smoking areas before bedtime;
- keep halls, corridors and stairs, which would be used to escape from a fire, clear and hazard free, and advise occupants to do this also. In particular, keep clear of items which can burn, or are a source of ignition such as electrical equipment, coat racks, refuse, laundry, upholstered furniture, portable heaters or gas cylinders;
- if your property is in an area where vandalism or deliberate fires can be a problem, consider security measures to prevent entrance to the grounds of the

property and access to refuse storage and storage of any flammable liquids/gases.

You should then consider what further safety measures are necessary to reduce the risk of injury or loss of life should a fire occur in your premises, for example:

- means for detecting and effectively warning occupants of a fire which occurs in any part of the premises;
- means to restrict the spread of fire and smoke from the source to other areas, especially the escape route;
- means of escape which are easy to use at any time by persons who are not familiar with the premises, for example occupants who have recently moved in;
- means for fighting a small fire, such as a fire in a waste bin or in a cooking pan.

Step 4: Record

A written record of your fire safety risk assessment is required. You should also record the arrangements for reviewing your fire safety risk assessment, your emergency fire action plan and the maintenance arrangements for fire safety measures.

Step 5: Review

You need to regularly review your fire safety risk assessment. Is there anything that has altered the risk and means you need to consider again the fire safety measures you have in place? For example are you doing building work, maintenance or decorative work? Do you have a different range of occupants such as more elderly or disabled?

Further information is available at www.nifrs.org/firesafe

15.0 References

1. Housing (Management of Houses in Multiple Occupation)
2. Northern Ireland Fire Code, Health Technical Memorandum 84. Fire safety in Residential Care Premises.
3. The Fire Precautions (Workplace) Regulations (Northern Ireland) 2001
4. The Housing (NI) Order 1992 as amended
5. BS476: Fire Tests on building material and structures
6. BS9991: 2011 Fire safety in the design, management and use of residential buildings – Code of practice
7. The Building Regulations (Northern Ireland) 2012 (as amended) – Technical Booklet E – Fire Safety and Technical Booklet R – Access to and use of buildings.
8. BS5266-1: 2011 Emergency Lighting. Code of practice for emergency escape lighting in premises
9. Department for the Environment (London) Circular 12/92
10. Greater Manchester HMO Fire safety Guide.
11. BS5306-3: 2009 Fire extinguishing installations and equipment on premises. Commissioning and maintenance of portable fire extinguishers. Code of practice.
12. BS5839-1: 2013 Fire detection and alarm systems for buildings. Code of Practice for system design, installation and servicing.
13. BS5839-6: 2013 Fire detection and alarm systems for buildings. Code of Practice for the design and installation fire detection and fire alarm systems in dwellings
14. Health and Safety (Signs and Signals) Regulations (NI) 1996
15. Guidance on the mandatory licensing of Houses in Multiple Occupation (Scottish Executive) 2000
16. BS5499-4: 2013 Safety signs. Code of practice for escape route signing
17. BS5499-10: 2014 Guidance for the selection and use of safety signs and fire safety notices
18. BS5499-11: 2002 Graphical symbols and signs. Safety signs, including fire safety signs. Water safety signs