**ESSEX CHIEF OFFICERS SPECIALIST HOUSING GROUP**

# HOUSING ACT 1985 - Section 352
# HOUSES IN MULTIPLE OCCUPATION: Adequate Means of Escape from Fire and Other Fire Precautions

## Legal Duties and Agreed Liaison between District Councils and Essex County Council Fire and Rescue Service

## 1.0 Background

1.1 On 14th May 1992 the Department of Environment issued new guidance to Local Authorities regarding enforcement of Section 352 of the Housing Act 1985 to make houses in multiple occupation fit for the number of occupants. Section 5 of Circular 12/92 deals with technical aspects of means of escape from fire and associated fire precautions that Environmental Health Departments should have reference to when considering the adequacy of provision for each premises. The circular supersedes the earlier "Blue Guide", issued by the Home Office.

1.2 The following Code of Practice utilises and further interprets the information in this document and has been produced to serve as an "Essex-wide" standard reflecting experience gained by inspecting officers from Environmental Health Departments and the Essex County Fire and Rescue Service. Ordinarily initial inspections will be carried out by EHOs, but on some occasions it may be of benefit to undertake joint inspections with fire prevention officers. Circumstances will dictate when this is necessary e.g. when large or unusual buildings are being considered, or at the request of either Authority.

## 2.0 Application

2.1 Circular 12/92 divides HMOs into "hostels" and self-contained unit types but does not clearly define these categories. The "self-contained unit" type would include bedsitting rooms with shared facilities and flats or flatlets being wholly or partly self-contained. Hostels will, by their nature, be offering more temporary accommodation with a greater degree of management control and service provision. For instance, common lodging houses will be classed as hostels as will be guest houses occasionally or exclusively accommodating persons having no other permanent address. Generally there will be some degree of meal provision in hostels as in traditional "Bed and Breakfast" establishments. New and existing purpose-built blocks of flats or maisonettes will not be covered by the provisions unless an individual unit is itself in multiple occupation. Building Regulations 2000 will apply to new developments.

2.2 The differentiation between the two categories is based upon the assumption that more people will be accommodated in hostels as opposed to bedsit type accommodation. This is not significantly the case with respect to Essex Authorities where few large hostels are to be found. With this in mind the Code of Practice generally accepts a convergence of standards stipulated for both categories with greater emphasis placed upon storey height.

2.3 This Code of Practice is restricted to assessing the means of escape from fire from 2, 3 and 4 storey buildings. Joint inspections will be expected in buildings over four storeys. There is a mandatory duty on the Local Authority to act where they discover an unsatisfactory three storey HMO having a combined floor area of at least 500 sq. metres. Again this situation is unlikely in Essex and joint inspections will be the norm.

2.4 Larger group homes used by the NHS to house mentally handicapped persons will be assessed with reference to DHSS Technical Memorandum 88 but the following guidance will still be useful in interpreting the standards.

2.5 Local Authorities maintain the power to accept an undertaking or make a Closing Order, with reference to Sections 365 and 368, where there is inadequate means of escape from fire. This part closure action is ancillary to Section 352 notice procedure and can be used, for example, to close basements or upper storeys. Consultation is again required with the Fire Brigade before a Closing Order is made or a formal undertaking is accepted from the landlord.

2.6 The Code is not intended to advise on means of escape works to premises subject to Section 72 of the Building Act 1984.

## 3.0 **Inspection Procedure**

3.1 Following the initial inspection the Environmental Health Officer will prepare a Schedule of Works together with a sketch plan of the premises. The plan should state whether the HMO is either a "self-contained unit" or a "hostel" type. Symbols on drawings should use those shown on the "Key Plan" included as Appendix A.

3.2 The proposed scheme will then be sent to the local Essex County Fire and Rescue Service Division Headquarters for observations and consultation. A written reply will be returned with the proviso that ultimate approval and enforcement lies with the Local Authority. It may be appropriate to discuss differences of opinion prior to any written response. The Local Authority would normally expect the attendance of the Fire Prevention Officer at any subsequent Appeal hearing should the notice be challenged.

3.3 Recommendations involving structural alterations will have to comply with current Building Regulations with appropriate liaison being made within individual Local Authorities.

3.4 Finally it should be remembered this Code of Practice is not prescriptive and cannot seek to cover every eventuality. Reference should be made to Circular 12/92 where there is any doubt, and of course, appropriate liaison made with Essex Fire and Rescue Service, as necessary.

## 4.0 **1st Amendment (December 1994)**

4.1 The Code of Practice has been amended to incorporate the provision of single point smoke detectors in two storey HMOs with lathe and plaster ceilings, as a compensating feature. (See Paragraphs 1.2.1 and 1.2.3, Page2, and Paragraph 2.1.3, Page 9).

4.2 Such provision has not been made a requirement in all 2 storey HMOs, but may be recommended as an addition to any minimum statutory notice requirements.

## 5.0 **2nd Amendment (November 1996)**

5.1 The Code of Practice has been amended to reflect the Guide on Fire Safety for Houses in Multiple Occupation produced by the CIEH in 1995.

5.2 The changes include:-

- single point smoke detection should now be required to all 2 storey HMOs, as well as any single storey HMOs including flats in multiple occupation (FMO's)
- where there is a mixed HMO and commercial use of any building, joint inspection with the Fire Service will be the norm.
- references incorporated to flammability of furniture and colour coding of fire doors.
- fire safety signs in HMO's where needed must now include pictograms (running green man) under health and safety provisions.
- fire extinguishers must now all be red (chromed finish not allowed - labels will differ in colour to denote type of use).

## 6.0 **3rd Amendment (November 2004)**

6.1 After consultation between the Specialist Housing Group and the Essex Fire & Rescue Service, the Code of Practice has been amended to reflect the changes brought about by amendments to British Standards, changes brought about by the Building Regulations 2000 and a consideration of the alternative use of sprinklers.

The revised Code of Practice has been approved by the Chief Fire Officer, Essex County Fire & Rescue Service and will be applied to the statutory consultation process under Section 352 of the Housing Act 1985.

It is recognized that it may well be necessary to further review the Code following likely future changes in the Building Regulations as a result of the current 2004 ODPM review of Approved Document B (Fire Precautions) and possibly as a result of the Fire & Rescue Services Bill (Regulatory Reform Order) which may affect the future joint working roles of the Fire Service.

A further review of the Code will also take place after any relevant issues under the revised BS5839-6:2004 have been introduced.

Similarly, it is recognized that sprinkler standards are liable to need review as a result of the amendments to the Draft for Development Standards DD 251 and DD 252 currently being fed into the British Standards Institution and the BRE studies on water mist alternative systems.

6.2 The current changes include:-

- textual changes merely updating the references to current Building Regulations or British Standards.

- requirements and advice to conform with the revised specifications for design, installation, commissioning, inspection and servicing of alarm systems under BS 5839.

- the acceptance by the Essex Fire & Rescue Service of the use of sprinkler systems to provide satisfactory alternative compliance with section 352 and/or as guidance to voluntary provision or grant specification (in accordance with appendix L – Essex Fire & Rescue Service "Residential Sprinklers and Design Freedoms for Existing Houses in Multiple Occupation (For 1,2 and 3 Storey Buildings)" .

  **Sprinkler systems are encouraged by the Essex Fire & Rescue Service to reduce the extent of damage to property, eliminate false alarms and, most importantly, to minimize and help eliminate the loss of life.**

- wherever possible, consolidation into a single electronic version of the code, introduction and annex information.

**Technical Guidance: Provision of Means of Escape from Fire and Other Fire Precautions in HMOs**

| REQUIREMENTS | ADDITIONAL COMMENTS |
|---|---|

## 1.0 STRUCTURAL PROTECTION AND DESIGN OF ESCAPE ROUTES (Including Internal Stairways, Corridors, Hallways and Lobbies)

All escape stairways should, wherever practicable, be separated from adjoining landings and corridors by fire resisting doors and partitions thus effectively forming protected lobbies between staircase and accommodation.

This is an ideal; it is unlikely that "double door" protection will be practicable in HMO's covered by this Code. The risk is offset in 3 & 4 storey HMOs having single staircases by "active" methods of fire protection (refer to section 5 below).

Each route of escape should lead to a place of safety such as the street.

Means of escape should not terminate in, for instance, an enclosed yard where occupants would still be in danger. [Difficulties can exist in applying the legislation since it is not possible to specify any works outside the house. Similarly Circular 5/90 states that, in the case of flats, work may only be required within the flat itself and not parts of the building outside the flat.]

### 1.1 Walls forming Escape Routes

1.1.1 Protected route enclosing wall construction to be 30 Minutes fire resisting to British Standard 476 formed by, for example,

i) Brick/blockwork and wall plaster.

ii) 13 mm. thick plaster on both sides of expanded metal lathing on timber studding.

iii) 12.5 mm. thick plasterboard, asbestos free wallboard or asbestos free millboard on timber studding.

iv) 75 mm. thick concrete or clay blocks, plastered on both sides.

v) Metal screening covered with 10 mm. plasterboard, asbestos free wall board or asbestos free mill board.

vi) Or any other method conforming to Building Regulations 2000 Approved Document B.

Existing (sound) lath and plaster partitions are deemed to be acceptable.

Check that partitions fully extend flush to floors and ceilings without gaps and that voids and wall cavities do not prejudice the fire separation.

Particular attention must be given to protecting service ducts, pipework openings, cable trunkings etc. which penetrate fire resisting walls. These must be properly enclosed and fire stopped. The advice of the Fire Officer should be sought if cavity barriers or fire dampers are considered necessary.

Walls separating buildings to be 60 mins. fire resisting.

See Section 7 for fire separation between adjoining commercial parts.

**1.1.2 Wall Surface Finishes**

Materials to be not less than Class 1 finishes for surface spread of flame (BS 476- Pt. 7:1997)

Lightweight partitioning or wall cladding constructed of timber, hardboard (faced or otherwise), chipboard, blockboard or plywood is unacceptable. Small isolated panelled areas (e.g. dado boarding) may be acceptable especially if flame retardant finish is applied.

Thin vinyl and paper coverings are satisfactory, but non-flame retardant heavy flock wallpapers cannot used unless treated with flame retardant.

**1.2 Ceilings over Escape Routes**

1.2.1 Ceilings within protected routes to be 30 minutes fire resisting construction to British Standard 476 e.g.

Existing (sound) lath and plaster ceilings are acceptable only where single point smoke detectors are provided as a compensating factor (see 1.2.3 below). "Sound" ceilings are those that are free from significant holes, bulges, loosely keyed areas or cracking that might otherwise prejudice the integrity or stability of the ceiling in a fire.

Check condition of existing ceiling, any loose ceiling roses and head height obstructions.

(a) 12.5 mm. plasterboard securely fixed with joints taped and filled.

Any new ceiling to be plasterboard with floors above comprising T&G boarding or sheets of plywood or chipboard.

(b) 9.5 mm. plasterboard with 10 mm. lightweight Gypsum plaster finish.

The requirement for hardboard covering over existing floor boarding is dependent upon the storey height (see Section 4 and Section 5.3 below).

(c) Asbestos-free fire protection boarding (usually two layers laid with staggered joints).

(d) Or any other method conforming to Building Regulations 2000 Approved Document B.

**1.2.2 Ceiling Surface Finishes**

Ceiling finishes to be Class 1 surface spread of flame (BS 476-Pt 7:1997)

All timber, hardboard. chipboard, blockboard etc. linings are unacceptable. Polystyrene ceiling tiles in particular must be removed.

**1.2.3 Self-contained Smoke Alarms**

Where existing lathe and plaster ceilings are sound, then self-contained smoke alarms must be provided as a compensating feature to give early warning in event of fire.

**[**NB: Only applicable to 2 storey HMOs - see Para 4.1 below].

Such alarms should comply with BS 5446-Pt 1: 2000 and comply with the following requirements; that is:-

a) Mains operated, and installed in accordance with the manufacturers guidance.

Alarms may operate at low voltage via a mains transformer. Battery operation should only be accepted as a secondary power supply. It is recommended that alarms are fitted with a battery back up.

b) Permanently wired to a separately fused and wired circuit at the consumer unit.

c) Positioned in circulation areas i.e. hall and landing, and fixed to the ceiling near to high risk rooms, and not more than 7 m. from such rooms, and 3 m. from bedroom doors

d) Positioned more than 300 mm. from the face of a wall or a light fitting, and not over a stairwell.

A central position is preferable.

e) At least one alarm must be provided per floor, and these should be inter-connected.

More than one alarm per floor may be needed where there are long corridors, or changes in direction etc. Emphasis must be given on installing to manufacturers specifications. Electrical cable between alarms need not have special fire survival properties.

f) Not to be fixed near to, or above heaters, heating duct or in bathrooms, showers or working areas.

i.e. away from sources of steam, smoke or fumes that might trigger false alarms.

g) The wiring installation to conform to the latest I.E.E. Regulations.

h) Instructions on the operation of the alarms to be provided to the occupiers.

**1.3 Glazing in Escape Routes**

1.3.1 Glazing panels within walls forming a protected route to be of the same fire resisting standard as the wall in which it is situated i.e. usually one half hour to BS 476.

Wall glazing is usually present to afford borrowed light to stairways and lobbies (e.g. transom lights) which, though beneficial, may be removed in lieu of normal (natural and artificial) and escape lighting.

1.3.2 Generally no <u>new</u> uninsulated glazed elements should be allowed between bedrooms and stairway. Refer to Circular for limitations on use in "double door" situations.

Unlikely to find ½ hr. intumescent/insulating glass in residential situations because of cost. Relaxation can be given to existing Georgian wired glass door transoms which, if openable, must be fixed shut.

1.3.3 Glazing panels (not exceeding 1.2 sq. metres) to be set in hardwood frames secured by 13 mm. deep screwed hardwood beading and bedded in intumescent paste.

Existing wired glass panels with softwood frames and beadings may remain in situ provided they are sound and well fixed.
(NB see 1.4.1 below for glazing in doors).

## 1.4 Door Openings in Escape Routes

New British Standard 476-22: 1987 and BS 8214: 1990 (FD 30s) half hour fire check doors to all rooms opening into protected stairway except WC/ bathroom doors containing no fire risk (e.g. no gas water heaters or store cupboards).

Upgrading existing unprotected doors is generally not practical or economic but may be unavoidable in listed buildings. Upgrading to the Trada Design could be acceptable in such situations. Existing door frame linings and stops will be accepted provided they are in good condition. Check fit of door to existing frame for 3 mm. maximum gap (maximum 6 mm. at bottom edge).

Doors separating buildings to be 60 minutes fire resisting.

Whilst there is no stipulation on minimum door widths in dwelling houses, a minimum of 800 mm. is reasonable.

If a new door opening is to be created e.g. within a new partition, a new half hour door and frame set to British Standard 476 should be installed.

Doors on escape routes wherever possible should not obstruct normal movement and if necessary be recessed.

Doors should generally open in the direction of escape.

This is not mandatory unless door provides egress for over 60 occupants.

Doors on escape routes should open clear of the stairs without reducing the width of any escape route across a landing.

Consult Fire Officer when considering unusual features such as double doors assemblies, restricted door widths, sliding doors and where wheelchairs require evacuation.

### 1.4.1 Door Vision Panels

Vision panels where required, to be half hour fire resisting glazing to BS 6262: 1982. Unless intumescent/ insulating glass the panel to be restricted to 0.1 $m^2$ bedded in intumescent paste, strip or mastic and fixed with 13 mm. hardwood beading. The panel should be in the top section of the door.

6 mm. wired glass vision panels are useful where the opening swing of the door could be hazardous (e.g. kitchen double swing doors) or where the enclosed stairway is entered from a protected hallway, lobby or corridor (e.g. sub-dividing corridor doors). Vision panels should not usually be placed in the entrance doors to lettings.

### 1.4.2 Smoke Control to Doorways

All fire check doors (except cupboard/ storeroom doors) to have flexible edge smoke seals to BS 476-31.1 rebated and pinned or taped (according to proprietary type used) centrally into the top and both sides of the door or frame. (See also 1.4.3.(d) "Postal Slots")

"Cold smoke" seals such as brush or neoprene blade types are acceptable. It is not mandatory to additionally fit intumescent strips to doors or frames but these are recommended. Many products combine an intumescent core material with a protruding brush.

### 1.4.3 Door Furniture

Poorly fitted or inappropriate ironmongery can seriously weaken the fire resistance of doors and can hamper unaided escape.

**(a) Door Hinges**

Half hour fire check doors are required to have 1½ pairs of hinges securely screwed to door leaf and frame as detailed in British Standard 4787: Part 1: 1980.

Intumescent plugs and strips can be used to insulate the hinge fixings.

Hinges should have a melting point greater than 800°C, be at least 100 mm. long and suit the thickness of the door.

Rising butt hinges must not be used.

**(b) Door Locks**

Only simple fastenings permitted on escape routes which are clearly visible and can be immediately opened by persons escaping without the use of a key.

eg: lever handled latches, night latches and barrel bolts. Traditional "yale" type cylinder locks are also acceptable. However, rim deadlocks incorporating a snib on the lock case which makes the turn knob inoperable are unacceptable. Flush bolts should be similarly discouraged. No restriction on letting room, toilet or bathroom doors.

Existing unauthorised fastenings should be removed and the fire resistance made good.

BS EN 1125: 1997 and BS EN 12209: 2003 Panic Bolts and Panic Latches to be used where escape door could be used by 50+ persons or where it forms an exit from a "high fire risk" area.

The need for panic fastenings in HMOs covered by this code are rare. Kitchens in such premises will not require panic bolts.

Break glass locks can be used on emergency escape final exit doors, but the health and safety risks of the use of glass in situations where there may be bare feet should be taken into consideration.
"Keys in boxes" are not acceptable.

Types of door locks on cupboards are not controlled.

Cupboard locks will usually be key operated mortice lever deadlocks or padlock and hasp.

It is recommended that doors within escape routes (eg sub dividing corridor doors) are kept free from fastenings other than ball or roller catches or failing this, only fastened by a simple lever handled latch.

**(c) Door Closers/Electronic Door Control Equipment**

All doors required to be fire resisting (except cupboard doors) to have automatic self closing devices capable of closing the door from any angle and against any latch.

Overhead, floor spring and double chain "perkomatic" types generally suitable in this situation. Unsuitable types include: rising butts, coiled gate springs and "Gibraltar" jamb-fixed closers.

Door closers on final exit doors are unnecessary and should be avoided.

Electromagnetic door holders/ releases are permitted where the doors do not enclose the stairway (eg sub-dividing corridor doors). The door automatically closes when the AFD system is activated and thereon acts as an ordinary self-closing mechanism.

These are used where there is a need to hold open the fire door due to its frequent use or the nature of the occupation (eg Rest Homes). These are rarely seen in smaller HMOs and the advice of Fire Officer should be sought in such cases.

"Delayed Action" closing features are useful where elderly or disabled persons are resident or in stores areas. Stand open devices, which are not electro-magnetic door holders (EMDHs), but hold the door open at 90° are not permitted.

**(d) Postal Slots in Doors**

Postal slots in FD30S accommodation entrance doors to have a maximum size of 250 mm. X 38 mm. and be fitted between 1450 mm and 760 mm. from floor level with internal and external close fitting metal sprung flaps.

Gravity flaps not acceptable. Flaps to have a melting temperature greater than 800°C (e.g. steel or brass not aluminium or plastic).

Smoke seals should be fitted unless a totally enclosed collecting box, which is of fire resisting construction, is provided over the slot on the inner face of the door.

Free standing and wall mounted postal boxes are available as alternatives.

**(e) Signs on Fire Check Doors**

"FIRE DOOR - KEEP SHUT" signs on both faces of fire doors.

Not necessary for entrance doors to self contained units or hostel bedrooms or fire doors within lettings.

Alternatively, "AUTOMATIC FIRE DOOR - KEEP CLEAR" "CLOSE AT NIGHT" signs where electro-magnetic door closers are used.

Fire safety signs to comply with BS 5499:- Pt 1: 2002 and BS 5499-4: 2000. However, existing effective signs need not be replaced merely because they do not comply with latest BS.

"FIRE ESCAPE - KEEP CLEAR" signs to be fixed at eye level on emergency exit doors likely to become obstructed.

**1.5 Loft Hatches in Escape Routes**

Timber loft hatch covers to be lined on the roof side with 9 mm. fire protective boarding. Edge of opening to be fitted with stops 25 mm. deep x 35 mm. wide fixed with screws at 230 mm. centres.

Smoke seals not required.

**1.6 Escape Staircase Construction**

Flights of stairs, balustrades and handrails to comply with Building Regulations and maintained in sound condition and good repair.

Spiral staircases should be discouraged. Portable or manipulative apparatus such as fold-down ladders, chutes, lowering ropes and other means of emergency rescue are not acceptable as means of escape in lieu of stairways.

Low level windows and other vulnerable glazing on stairways should be adequately protected by physical guarding and, as necessary, be of safety glass quality in accordance with BS 6262: 1982.

This is a general health and safety feature but can be included on specifications due to the means of escape aspect.

**1.7 Escape Route Corridors**

Corridors forming part of protected routes should be enclosed by fire resisting construction (as described in Paras 1.1 and 1.2). Items within corridors are controlled in the same manner as protected staircases.

Where corridors connect the accommodation with stairways is it generally possible to achieve "double door" protection.

As a general principle, it is useful to sub-divide corridors to restrict passage of smoke by FD20S doors with self-closing devices but need only be required in such partitions where corridors exceed 30 m. in length.

Corridors generally to be minimum 800 mm.

There is no minimum exit width for HMOs covered by this Code but escape routes should certainly be not less than width of "inflowing" doors and final exit doors.

**1.8 Cupboards within Escape Routes**

**1.8.1 Understair Cupboards within Escape Routes**

Soffit and spandrel to be lined with 13 mm. plasterboard or 9 mm. fire board with close fitting joints.

Existing lath and plaster soffits acceptable if sound.
Check for gaps around pipe and cable penetrations.

Unprotected understair cupboard doors to be lockable BS 476 fire check doors with 25 mm. x 35 mm. door stops. "FIRE DOOR - KEEP LOCKED" signs displayed on the outside.

Where understair doors are of an awkward size or shape lining of existing door by fire protective boarding would be acceptable.

**1.8.2 Other Cupboard within Escape Routes**

Landing cupboards, airing cupboards and enclosures housing cylinder/boiler/ immersion heaters to be lined with 13 mm. plasterboard or 9 mm. fire board with close fitting joints.

Water tank enclosures having no other storage purpose can be ignored.

Alternatively free standing or built-in landing cupboards may be completely removed and wall, ceiling and floor surfaces made good.

Existing doors may either be replaced with new B.S. 476 fire check doors (FD 30) or be lined with 9 mm. fire board; 25 mm. x

35 mm. door stops to be provided in both cases. An effective door lock to be provided together with a "FIRE DOOR - KEEP LOCKED" sign on the outside.

**1.9 Items within Staircase Enclosures**

Protected stairways should be virtually "fire sterile" areas. The following items are not permitted:-

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.

Paraffin heaters particularly unsuitable.

e) Cooking appliances.

f) Upholstered furniture.

g) Wardrobe or other storage furniture.

h) Coat racks or hooks.

i) Storage of any kind (excluding that housed in cupboards designed as described in 1.8 above).

j) Lighting involving the use of naked flames.

i.e. gas or oil lamps.

k) Gas meters and other pipework other than those installed in accordance with Gas Safety (Installations and Use) Regulations 1998.

British Gas to be notified of unsatisfactory installations.

**1.10 Gas Meters within Escape Routes**

Old gas meters not complying with the Gas Safety (Installations and Use) Regulations 1998 should either be replaced by a new fire resisting unit or be enclosed in a fire resisting box.

Owners can usually arrange suitable replacement and, if required, re-location by contacting the Gas Board.

**1.11 Floor Coverings within Escape Routes**

New stair and landing carpeting to be labelled as conforming to low radius fire spread test standard (BS 4790: 1987) and be securely fixed to prevent tripping hazard.

Usually only shag pile carpets with low wool content will need removal.

Loose and worn carpets should be replaced or securely fixed.

**1.12 Ventilation of Stairways**

It is advantageous for there to be a permanent opening staircase vent 1 $m^2$ or 5% of the cross sectional area of stairway whichever is the greater at the top of an uninterrupted staircase shaft.

This may be satisfied by openable windows but otherwise impracticable to achieve in most existing situations and should only be insisted upon if major alterations are intended.

**1.13 Lifts**

Refer to Circular 12/92 and, as necessary, contact Fire Prevention Officer for advice on protection of lift shafts.

Lifts are a rare feature in HMOs covered by this guide.

**1.14 Natural and Artificial Lighting of Escape Routes**

Adequate normal lighting to be provided along all parts of the escape route to a place of safety. Light switches to be conveniently placed on each floor and wired so that each switch operates the entire staircase lighting.

If used, press button slow release switches must be set to operate lighting for 5 minutes in a two storey house and 10 minutes in a 2, 3 or 4 storey house.

Borrowed natural light is beneficial but not essential. (NB unless exceptional circumstances exist, escape lighting only required for 3 storey buildings and above - see Section 5.2).

**1.15 External Stairways Forming Escape Routes**

External escape stairs must be made protected routes ie. doors opening onto stairway below the top floor exit to be self closing FD30S fire check doors. Windows below or level with the staircase and less than 1.8 m. horizontally from the stairway to be fixed type and be half hour fire resisting.

Not applicable to accommodation stairways.

Staircase design to Building Regulations. Attention should be paid to potential algal growth on treads and the possibility of obstructing the escape route where stairs are not commonly used.

Fire resistances must be increased to 60 minutes if the openings connect with commercial parts.

All stairways should be lit.

Adjacent street lighting may be sufficient if artificial lighting is not present. Escape lighting luminaires may also be necessary of the building is over 2 storeys in height. (See Section 5.2).

Ideally new external staircases should be sheltered from the weather.

Weather-proofing existing external staircases should not be insisted upon.

## 2.0 ACCOMMODATION

### 2.1 Enclosing Individual Occupancies

2.1.1 Walls dividing occupancies need only be half hour fire resisting to BS 476 if they are self contained units.

There is no control over partitions between hostel bedrooms which have no cooking facilities.

Top storey walls sub-dividing bedsits need to extend to the underside of the roof if the ceiling is not half hour fire resisting.

Generally more practicable to provide suitable ceilings.

2.1.2 Loft hatches and ceiling vents should be sealed and lined on the room side with fire resisting materials as necessary. Stops to be provided around hatches continuing in use.

2.1.3 Floors between residential accommodation must be half hour fire resisting (see later guidance regarding separation from commercial occupancies and where hardboarding is required).

Examine ceilings beneath for their fire resistance potential. Existing (sound) lath and plaster ceilings are acceptable only where single point smoke detectors are provided as a compensating feature (see 1.2.3 above). "Sound" ceilings are those that are free from significant holes, bulges, loosely keyed areas or cracking that might otherwise prejudice the integrity or stability of the ceiling in a fire.

2.1.4 The soffit and spandrel of any escape stairway which encroaches into the accommodation must be protected on the room side by half hour fire resisting construction.

### 2.2 Enclosing a "Higher Fire Risk"

Higher fire risk areas include commercial kitchens, boiler rooms, workshops or fuel stores. 60 minute fire protection is required to these parts.

These are rarely found in HMOs covered by this code. Domestic type boiler enclosures and kitchens will only need 30 minute protection. The only possible exception to the latter would be a large scale commercial kitchen as found in a large hostel.

### 2.3 Enclosing Other Common Parts

Bath/shower rooms, WC compartments and other areas having no fire risk do not require protection.

Bathrooms which have gas water heaters or storage facilities will require protection unless, in the latter situation, the cupboard is itself made fire resisting.

### 2.4 Surface Finishes

Surface linings and finishes in hostel accommodation to be Class 1 for surface spread flame defined by BS 476-Pt 7: 1997.

Refer to Annex B of Circular for more detail. The guidance allows the use of some non flame retardant materials to walls of small rooms not exceeding 4m$^2$. The distinction is insignificant in almost all cases.

Floor coverings within accommodation is not restricted.

Decorative finishes such as thin paper coverings or emulsion paint or plasterwork are acceptable.

There is no control over finishes in self contained units.

**2.5 Travel Distances**

Refer to Circular 12/92 for details of travel distances relative to hostels and self contained units.

No comment is made since travel distances are unlikely to be exceeded in HMOs covered by this guide where accommodation immediately adjoins the protected stairway.

**2.6 Inner Rooms and Access Rooms**

These requirements can be applied to both hostels and self contained units (unlike that quoted in the circular).

Alternatively,

**2.6.1 Bedrooms should not be entered through a living room or kitchen.**

i) Construct a half hour fire resistant internal corridor to give direct egress from the bedroom to the staircase.

or

ii) Create a permanent enlarged opening between the kitchen and bedroom removing any interconnecting doorway so that they effectively become one room.

or

iii) Reverse the uses of the rooms so that the kitchen or living room is the more remote (NB internal kitchen door to be FD 30S).

2.6.2 Bedroom doors should be nearer to an exit from the accommodation than kitchen or living room doors.

Whilst this is the rule, positions of doors may not be so critical since kitchen door must be FD 30S and especially if smoke detection provided.

2.6.3 The travel distance from any point within an inner room to the nearest exit should not normally exceed:-

6m - if inner room used as a bedroom or kitchen. or

9m - if used for any other purpose (eg lounge).

The usual remedy where such travel distances are exceeded is to provide an independent exit from the inner rooms as i) above.

## 3.0 MISCELLANEOUS FIRE PRECAUTIONS

### 3.1 Exit and Directional Signs

Any available exit door which is not a normal route of travel should be indicated by a "FIRE EXIT" sign to satisfy BS 5499: Part 1 and be fixed above door opening.

It is not necessary to display signs where the front entrance door also serves as an exit. Sign to be white lettering on green background (refer to B.S. if in any doubt about type and size of sign). If impossible to position above door, fix where it is likely to be seen on route of escape and not be obstructed.

Locations of alternative exits can be emphasised if not immediately obvious to residents by directional Fire Exit signs i.e. "FIRE EXIT" with directional arrow fixed between 2 and 2.5 metres above floor level in conspicuous positions.

"Running green man" pictographic symbols and other reasonable alternatives are acceptable. Existing effective signs need not be replaced merely because they do not comply with the latest BS.

Signs should be visible under natural and/or artificial lighting also, if provided, escape lighting.

BS 2560 illuminated Exit "box type" signs and self luminous signs are acceptable, but are not mandatory.

### 3.2 Fire Fighting Equipment

For most HMOs the following equipment should be recommended:-

a) 1 No. BS 5306-8: 2000 9 litre water (13A) extinguisher to be wall mounted on brackets at each exit and on each landing. (NB 5.5 litre AFFF extinguishers (13A) can be substituted for water types).

In practice, extinguishers should only be required in premises where there is effective on-site management who are likely to supervise and maintain the equipment (eg Housing Association hostels and rest homes), due to likelihood of vandalism etc. If required, to be maintained in accordance with BS 5306-3: 2003. The Fire Prevention Officer should be contacted if in any doubt as to the scale and type of provision.

b) 1 No. BS 5306-4: 2001 CO2 extinguisher and a fire blanket to be wall mounted within shared or commercial kitchens.

Fire blankets alone are acceptable in small kitchens since $CO_2$ extinguishers can prove dangerous if used in confined areas. Fire blankets to be of woven synthetic fibre cloth not less than 1220 x 900 mm. in suitable containers to conform to BS 7944: 1999.

### 3.3 Fire Instructions

#### 3.3.1 Self Contained Units

"Basic reminders on fire precautions for residents of self-contained units" should be brought to the attention of residents. (See Appendix B)

The assumption is that occupiers of bedsitting rooms and flats will be more familiar with their surroundings. Important information can be disseminated to occupiers directly or via the landlord.

"FIRE ACTION" Notices (Appendix N1) may also be distributed if there is a single stage alarm system.

### 3.3.2 Hostels

Framed Appendix N2 Notices should be exhibited in staff accommodation and on all notice boards where there is resident management and there is a single stage alarm system.

Greater detail on fire instruction, drills, staff training and record keeping is contained in Section 5 of Circular 12/92 but this will not normally form part of Statutory Notices. Nevertheless, Appendix C "Staff fire instructions and drills in hostel-type accommodation" can be sent to hostel managers, which expresses good practice.

"FIRE ACTION" Notices (Appendix N1) should be displayed in bedrooms.

In larger premises where the escape route is less obvious a single line drawing should be incorporated showing the route to the staircase from that floor.

## 4.0 ONE AND TWO STOREY HMOS

These will include bungalows.

**4.1** These HMOs will need to satisfy all of the above requirements but generally it will be too onerous to insist upon emergency lighting, and full automatic fire detection and alarm systems. Hardboarding of upper floors will not be mandatory. Fire Instruction Notices and fire fighting equipment will not usually be necessary but may be recommended to owners.

Account is taken of the lower fire risk arising from the use of one and two storey buildings.

Circular 12/92 in paragraph 3.1 suggests that a fire alarm is necessary in all parts of (all) hostels. This should only be considered for exceptionally large two storey hostels where the advice of the Fire Prevention Officer should be sought.

B.S 5446-Pt. 1: 2000 self-contained smoke alarms may be required by statutory notice to enhance fire safety.

Single point detectors solely operated by batteries are not recommended. If smoke detection is specified, it should be similar to that required for dwellinghouses under Building Regulations Approved Document B1 i.e. sensors to be permanently wired and interconnected; positioned on circulation areas on each floor near kitchens and bedrooms.

## 5.0 ADDITIONAL REQUIREMENTS FOR THREE AND FOUR STOREY HMOS

This section deals with additional requirements beyond those described in Sections 1, 2 & 3.

### 5.1 Automatic Fire Detection and Alarm System

B.S. 5839-Part 1: 2002 "L2" category systems will be required in all 3 and 4 storey buildings.

The inference in Circular 12/92 that an AFD system is not necessary if "double door protection" is provided in a three storey hostel, should be ignored.

The alarm system must be completely automatic - the compensating use of hand bells or gongs might only be acceptable when the main alarm system is temporarily out of use (refer to Fire Officer for temporary arrangements).

Installations must also comply with the latest edition of the I.E.E. Wiring Regulations.

Conventional single stage bell-sounder alarm systems will be the norm. The Fire Service should be contacted for advice where more sophisticated systems are envisaged (e.g. where disabled people require warning and evacuation).

The essential features of such a system are as follows:-

#### 5.1.1 Zones

A single zone is acceptable where combined floor areas do not exceed 300 sq. metres and where carrying out a fire search would not be difficult (e.g in contrast to where a complex layout exists).

In larger buildings each floor and each stairwell should be a separate zone.

Manual call points may be included in the zone for each storey but, to avoid misleading indications of fire, it is recommended that they either be arranged as a separate zone or be included in the zone covering the staircase enclosure.

No zone should include areas outside the multiply occupied parts of the building**.**

Some buildings will have a combination of uses such as a ground floor shop floor unit with first floor offices and a flat in multiple occupation on higher floors. Whilst it is advantageous to interconnect the alarm systems serving each occupancy it will in practice be impossible to require such protection by Notice. Reliance will necessarily be put on structural protection of these parts and use of independent escape routes.

### 5.1.2 Manual Call Points

Manual call points to BS EN 54-11: 2001 to be fully integrated with the AFD/alarm system.

Call points should be sited at approximately 1.4 metres from floor level on each landing and at each final exit. No person should have to travel more than 30 metres to activate the alarm.

Additionally, call points can be provided within or in close proximity to isolated "higher fire risk areas" (e.g. remote boiler rooms having separate access and egress).

Break-glass type fitments to be fixed in conspicuous positions, well illuminated and free of obstructions.

### 5.1.3 Detection Equipment

Smoke detection to be provided within escape routes. Smoke detectors to be positioned on each landing or hallway within the stairway including the top of the staircase and all circulation spaces.

Consult B.S. 5839 and Fire Officer for any smoke detection required within lift shafts.

As a rule of thumb the furthest distance from any point within a room to a smoke detector should be not more than 7.5 metres and 5.3 metres for heat detectors. They should not be mounted within 500 mm. of walls or major obstructions.

As far as the circular is concerned an "L2" system includes the provision of smoke detectors in bedrooms and heat detectors in kitchens, bedsit rooms with cooking facilities, plant rooms and bathrooms containing a fire risk. Smoke or heat detectors should be installed in communal day lounges if they adjoin escape routes. Detection will not be necessary in small store rooms which are enclosed by fire resisting construction.

Smoke detectors should be of optical type and comply with BS 5839-5: 1998 and BS 5446: 2000.

Optical type sensors are more sensitive to large particles found in dense smoke (such as upholstery fires) whereas ionisation type detectors are more suitable for flaming fires. Unfortunately optical type detectors are particularly sensitive to tobacco smoke and thus more susceptible to false alarms. Ionisation detectors should be fitted in areas not required for means of escape where it is anticipated that optical detectors may be unsuitable.

Other types of detector (such as carbon monoxide fire detectors) may be suitable. The Fire Prevention Officer will give advice if requested.

Heat detectors should comply with BS EN 54-5: 2001. Flame detectors are not suitable in any circumstances.

Fixed temperature heads should be preferred to rate-of-rise detectors.

Spacing, area coverage and siting of sensors will vary between different products. Emphasis must be placed upon the installer fitting detectors to manufacturers specifications.

### 5.1.4 Alarm Sounders

A minimum of two sounders must be provided ideally to achieve a sound level of 75 dB(A) at bed heads with all doors shut.

Two sounders are required even if sound level can be achieved with one (due to possible failure of a single fitment).

Usually one sounder to each landing or corridor will be sufficient. In practice the sound level is unlikely to be achieved if the sleeping room is separated from the sounder by more than one doorway. Sound levels can be measured but it will usually be sufficient that the alarm can be clearly heard in the most remote occupied part.

### 5.1.5 Control and Indicating Equipment

Control and indicating equipment must comply with BS EN 54-2: 1998.

Fire alarm panel to be positioned at the main predicted point of entry for fire fighting personnel and where readily accessible to any members of staff.

Panel usually sited in entrance hall with "repeater" boards only necessary in large HMOs having multiple access points.

Panels should show zones, give indication of mains power supply together with circuit faults and disconnections which would disable detectors or call points.

Fault warning also to be given by an audible sounder (different from the normal alarm) in addition to visible indicator.

Manual controls to be labelled as to their function.

Adjacent to the control panel (or in the possession of an authorised person) there should be a correctly orientated plan of the premises unless there is a diagram on the equipment; operating instructions in the event of fault; and log book recording inspections and tests or incident details.

See BS 5839 for routines for design, servicing, testing and certification.

Responsibility for silencing alarms should remain with authorised person(s) living or working on the premises.

A "head tenant" may be made responsible for such duties but key switches to fire alarm panels should not be made generally available.

### 5.1.6 Wiring

Properly secured fire resisting cables should be used.

e.g. Mineral insulated copper sheathed cables such as "pyro" cable meeting B.S. 6207-3: 2001.

Consideration must be given to protecting cables likely to be subject to physical damage.

**e**.g. Plastic trunking or screwed metal conduit might be necessary for Pirelli 2000 cable.

Fire signals must be transmitted to ancillary equipment (such as EMDH's).

Refer to earlier section 1.4.3.(c)

**5.1.7 Power Supply**

The mains electricity supply must be backed up by an automatically connected battery - powered standby supply.

Self contained sensors relying solely on battery power are unacceptable.

**5.1.8 Communication with Fire and Rescue Service**

A resident supervisor can be delegated responsibilities in any emergency routine. The arrangement for telephoning the Fire and Rescue Service can be stipulated in Staff Fire Notices (see appendix N2).
Special telephone lines can be designated for emergency use. In the majority of HMOs the availability of a telephone should not be relied upon and Statutory Notices cannot usually specify their provision.

**5.1.9 Certification of AFD/Alarm System**

**The design, installation, commissioning, inspection and servicing must be certified in the appropriate form given in BS 5839**-Pt 1: 2002. **("Model G Certificate") - see Annex G of that code.**

For the most part, the design and specification of equipment will have to be left with installers with regard being had to the compatibility of components. Although demonstrations can be carried out for inspectors, much reliance will be put upon receipt of properly completed certificates.

Periodic inspections should be carried as required by B.S. 5839-Pt 1: 2002.

**5.2 Emergency Lighting System**

An emergency lighting system should be provided to operate upon the failure of any lighting circuit serving the escape route(s). All systems must be installed to comply with B.S. 5266-Part 1: 1999.

Emergency lighting is not required <u>within</u> accommodation.

**5.2.1 Specifications for new emergency lighting systems:**
should be for an NM/3 design (i.e. a non-maintained system for three hours duration of lighting output).

Existing systems will be acceptable if NM/2 or NM/1 and there is a straight forward downward escape.

**5.2.2 If normal lighting fails escape lighting must be available** to:-

a) Indicate clearly and unambiguously the escape route(s);

Exit signs should be illuminated (see Para 3.1) but need not be of the internally illuminated box type.

b) Illuminate such routes to allow safe movement towards and through the exits provided.

The position of luminaires should lead the escaping person to a place of safety. Exterior escape lighting may be necessary to achieve this. Consideration must be given to illuminating potential hazards, changes of level and direction.

c) Ensure that fire alarm call points and fire fighting equipment provided along escape routes can be easily located.

**5.2.3 Horizontal illumination:**

at floor level on the centre line of a defined escape route shall not be less than 0.2 lux. For escape routes up to 2 metres wide 50% of the route width should be lit to a minimum of 0.1 lux.

In practice these levels are usually greatly exceeded. It may be difficult to carry out a convincing demonstration to allow measurement so a commonsense approach should be followed on inspection.

**5.2.4 Siting of Luminaires**

Luminaires should be positioned:

a) Near the intersection of corridors;

b) At each exit door;

Downward illumination from an internally illuminated sign may suffice.

e) Any other change of floor level;

Adequate street lighting may suffice but additional lighting will usually be required if an exit doorway leads onto an external staircase.

f) Outside each final exit and close to it;

g) Near each fire alarm call point;

h) Near fire fighting equipment;

i) To illuminate exit and safety signs.

See Paragraph 3.1.
NB for the purpose of this Section "near" is normally be considered to be within 2 metres measured horizontally.

Luminaires will either be positioned near the tops of walls or be ceiling mounted.

It will usually be sufficient for luminaires to be fitted on landing and hallway ceilings over stair flights and adjacent to the main entrance/exit door.

Luminaires must be designed and constructed in accordance with BS EN 60598-2-22 and must comply with its non-flammability provisions.

External parts should also be subject to the 850°C hot wire test; any burning parts should self extinguish within 30 seconds**.**

**5.2.5 Power Supply**

Non-maintained emergency lighting luminaires may either be self contained or slave units (with a central battery supply).

It is not usually economic to provide a central battery supply.

**5.2.6 Wiring and Control Equipment**

The installation will have to comply with the latest edition of the I.E.E. Wiring Regulations.

Wiring to self contained units are <u>not</u> considered part of the emergency lighting circuit.

Such systems will <u>not</u> require special fire protection (e.g. pyro cabling).

The emergency lighting system should have suitable means of simulating failure of normal supply for test purposes. Access to such controls should be restricted.

This might be by a central isolating/test switch. However, the same effect can be achieved by "pulling the fuses".

### 5.2.7 Certification and Testing of Emergency Lighting System

A completion certificate should be issued in the model form given in BS 5266. (Refer to Annex B).

The system to be tested in accordance with BS 5266-1 1999 (including a 3 yearly full duration test by an acceptably qualified installer or inspector and thereafter an annual full duration test) and a Test Certificate issued in the model forms given in BS 5266 Annex C. A log book should be kept by the owner or manager.

NB BS 5266-1 1999 also requires daily visual checks, monthly energising of the system to check all luminaires function and 6 monthly energising of the system for 1 hour or 15 minutes depending upon the system.

Advice on routine serving and testing (including that expected of the HMO manager) is given in BS 5266.

### 5.3 Hardboarding of Floors

To qualify as "modified" half hour fire resisting all floors in 3 and 4 storey buildings other than the lower floor to be covered with 3.6 mm. hardboard.

See paras 1.2 and 2.1.3 for ceiling construction guidelines. Hardboarding will not be required if floorboards or sheets are tongued and grooved. Hardboard sheets to be laid staggered and skew nailed to existing floorboards.

## 6.0 ADDITIONAL REQUIREMENTS FOR ALL HMOs WITH BASEMENTS

**6.1 "Working" Definition of a Basement:**

Means any storey which is wholly or mainly below the building's principal entrance.

NOTE: Building Regulations define a basement to be "a storey with a floor which at some point is more than 1.2 metres below the highest level of ground adjacent to outside walls".

**6.2 Fire Separation from Ground Floor**

**6.2.1 Floors above basements:**
must be at least 30 minutes fire resisting except for two storey HMOs without AFD which must have 60 minutes fire separation.

This requirement applies both to basements which are used for human habitation and those used for other purposes (such as storage areas).

See also 6.3.1 regarding this exception.

**6.2.2 The basement should be separated from the ground floor by:**
2 No. half hour fire resisting doors: One at basement level and one at ground floor level.

This usually entails the formation of a protected staircase with a half hour fire resisting enclosure at the foot of the stairs. A FD30S door being provided at the head of the stairway and an FD30S door set in a new opening to the basement landing enclosure.

Where the basement area is sub-divided into letting rooms; the basement landing should be protected from each of these letting rooms by FD30S doorways and half hour fire resisting walls. (NB the walls sub-dividing the basement rooms will also have to be half hour fire resisting if they comprise self-contained units).

See Diagrams 1 & 2 in Appendix F.

**6.2.3 Owners may be given a further option where the basement is uninhabitable <u>and</u> there is no intention to use it for any purpose.**

The prohibition upon use of the basement can be further reinforced by inviting the landlord to make an undertaking as to its closure such that it will not be used for occupation or storage.

In such cases:-

a) All combustible materials to be removed from the basement area and

This may be achieved by flooring over the stairwell or providing solid vertical partitioning with no openings beneath the first floor staircase spandrel.

b) All access points to the basement are permanently sealed.

**6.3 Means of Escape from Basements**

**6.3.1 Secondary means of escape will only be required where the basement floor is in excess of 150 sq. metres.**

Smoke or heat detectors will be necessary within all the relevant basement parts in all situations except that of a two storey HMO above a basement with 60 minutes fire resisting ground floor. Notwithstanding this exception landlords should be encouraged to provide AFDS if the basement is occupied and there is an inter-connecting staircase.

Some basements may have staircases (internal or external) or final exits (e.g. sloping sites) which directly connect to the outside air.

**I**f egress is possible from all parts of the basement without necessitating use of the internal (upward) routes of escape the basement storey could be considered as a ground floor. For example, a two storey HMO with basement could be considered as a three storey HMO requiring only single door protection and AFD.

**6.3.2 Unoccupied basements**

used solely for storage which are only occasionally visited by staff may not need to comply with the normal rules over door fastenings but a safe system of work must exist to ensure that all exit routes are freely available in the event of emergency and that any alarm can be raised.

## 7.0 ADDITIONAL REQUIREMENTS FOR HMOs ADJOINING COMMERCIAL PREMISES

**7.1 HMOs of whatever description, must be structurally separated (horizontally and vertically) from offices, shops and factories by imperforate construction which affords a fire resistance of not less than 60 minutes.**

Difficulties can exist where the landlord has less than absolute control over altering construction on the "risk side" e.g. where it is necessary to over-board ceiling within another occupancy below the HMO.

**7.1.1 Examples of 60 minutes separating wall construction to British Standard 476:-**

Earlier advice regarding surface spread of flame requirements are applicable.

a) Solid masonry wall (with or without plaster finish) to at least 100mm thick (75mm if non load bearing).

b) 120mm reinforced concrete wall with at least 25mm cover to the reinforcement.

c) Timber studwork with 25mm plasterboard lining (both sides) in two layers with joints staggered and exposed joints taped and filled.

d) Or any method conforming to current Building Regulations Approved Document B.

Because of the practical difficulties which are often associated with providing necessary fire separation and Notice enforcement, joint inspection of mixed use buildings will be required with the local Fire Prevention Officer.

**7.1.2 Examples of 60 minutes fire resisting ceilings to BS 476:-**

a) Reinforced concrete floor not less than 95mm thick with not less than 20mm cover on the lowest reinforcement.

b) Not less than 30mm plasterboard with joists staggered and exposed joists taped and filled.

c) Or any method conforming to Building Regulations 2000 Approved Document B.

| APPENDICES | |
|---|---|
| Appendix A | Key plan to symbols and abbreviations |
| Appendix B | Basic reminders on fire precautions for residents of self-contained units |
| Appendix C | Staff fire instruction and drills in hostel-type accommodation |
| Appendix D | BS 5266 Emergency lighting – Model completion certificate for new installation or alterations (Annex B of BS 5226-1:1999) |
| Appendix E | BS 5839 Model Certificates for Design, Installation, Commissioning and Inspection and Servicing of a Fire Alarm System (Annex G of BS 5839-1:2002) |
| Appendix F | Diagrams – Fire protection to basements |
| Appendix G | Fire doors – colour coding |
| Appendix H | Surface finishes for hostels and self-contained accommodation |
| Appendix I | Flammability of upholstered furniture |
| Appendix J | Fire Action Notices |
| Appendix K | Staff fire notices |
| Appendix L | Residential Sprinklers and Design Freedoms for Existing Houses in Multiple Occupation (For 1, 2 and 3 Storey Buildings) |

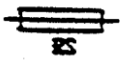
# Appendix A



**FIRE PRECAUTIONS ACT 1971**
(as amended)

## KEY PLAN TO SYMBOLS AND ABBREVIATIONS

(Only those symbols and abbreviations used on the plan(s) and included in this key are applicable to this Certificate).

| SYMBOLS OR ABBREVIATIONS | ITEM | DESCRIPTION |
|---|---|---|
|  | FIRE RESISTING DOORS | Having regard to the relevant provisions of British Standard 476:Part 22 and the need to provide 30 minutes fire resistance the Fire Authority was satisfied, at the time of the inspection with the standard provided by doors so indicated. Where the period of fire resistance is accepted as exceeding 30 minutes, that period is as shown in minutes.<br>Associated fan lights and transom lights over these doors are of fire resisting glazing and fixed shut. |
| * | EXITS NOT FORMING PARTS OF MEANS OF ESCAPE | Exits so indicated are not part of the specification of means of escape. |
|  | ROLLER SHUTTERS | Doors so indicated are roller shutter. |
| SC | SELF CLOSING DEVICES | Doors so indicated are fitted with devices, other than rising butt hinges, which will maintain the door(s) effectively self-closing and are permanently marked with a notice bearing the words "FIRE DOOR - KEEP SHUT" or words to the like effect. The notice to satisfy the requirements of BS.5499:Part 1:1990. |
| SC/A | AUTOMATIC RELEASES | Doors so indicated are provided with automatic releases which are designed to hold a fire resisting door or leaf of a fire resisting door in the fully open position and to permit the door or leaf to close automatically upon the actuation of the fire alarm system.<br>a) **Life Risk** - Premises where sleeping accommodation is provided. The doors to be marked with a notice "AUTOMATIC FIRE DOOR - KEEP CLEAR - CLOSE AT NIGHT"<br>b) **Day Risk** - Premises where no sleeping accommodation is provided. The doors to be marked with a notice "AUTOMATIC FIRE DOOR - KEEP CLEAR".<br>The notices to satisfy the requirements of BS.5499 : Part 1 : 1990. |
| SD | SECURITY DOORS | Doors so indicated are provided with approved special fastenings. |
| FFF | DOORS FREE FROM FASTENINGS | Doors so indicated are free from all forms of fastenings other than ball or roller catches. |

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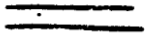
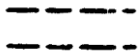
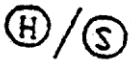
# KEY PLAN TO SYMBOLS AND ABBREVIATIONS

| SYMBOL OR ABBREVIATIONS | ITEM | DESCRIPTION |
|---|---|---|
|  | FIRE RESISTING CONSTRUCTION | Having regard to the relevant provisions of BS.476 : Part 22 and the need to provide 30 minutes fire resistance, the Fire Authority was satisfied at the time of the inspection with the standard provided by construction so indicated. |
|  | GANGWAYS | Having regard to Item 1 of Schedule 2 to this Certificate and the need to keep escape routes free from obstruction, gangways so indicated are identified by conspicuous and permanent floor markings showing an escape route of a minimum width of 1 metre within which there shall be no obstruction to persons making their way out of a building in the event of a fire. |
| FRG | FIRE RESISTING GLAZING | When incorporated into walls, screens, and partitions glazing so indicated is accepted as satisfying the criteria of insulation and integrity when tested in accordance with BS.476 : Part 22 and as having fire resistance of 30 minutes and is fixed shut. |
| FRG/H | HEIGHT ABOUT FLOOR LEVEL | Glazing so indicated is not lower than 1.06m from floor level. |
| VP | VISION PANEL | Doors or partitions so indicated are provided with a panel of clear glass not less then 0.1 sq.m. in area. |
| VP/FRG | VISION PANEL - FIRE RESISTING GLAZING | Having regard to the relevant provisions of BS.476 : Part 22 and the need to provide 30 minutes fire resistance the doors so indicated are provided with a glazed panel not greater than 0.1 sq.m. in area constructed from 6mm thick wired glass or unwired Borosilicate glass or unwired laminated glass incorporating intumescent layers. The glass is bedded in position using intumescent paste, strip or mastic and beads will provide 15mm cover to the edge of the glass. Screens and partitions so indicated satisfy the standards set out in BS.476 : Part 22. |
|  | HOSE REELS | Hose reels so indicated are equipped with non-kink reinforced rubber hose of adequate length not less than 20mm internal diameter, and which terminates in a hand controlled nozzle not less than 5mm diameter. Each reel is permanently connected to a water supply and is capable of delivering a sustained jet of water reaching at least 6m. |
|  | FIRE EXTINGUISHERS - WATER TYPE | Portable "WATER TYPE" fire extinguishers so indicated conform to BS.5423 and are hung on wall brackets with the top of the extinguisher at about 1m from floor level. |
|  | FIRE EXTINGUISHERS- FOAM TYPE | Portable "FOAM TYPE" fire extinguishers so indicated conform to BS.5423 and are hung on wall brackets with the top of the extinguisher at about 1m from floor level. |

# KEY PLAN TO SYMBOLS AND ABBREVIATIONS

| SYMBOL OR ABBREVIATIONS | ITEM | DESCRIPTION |
|---|---|---|
|  | FIRE EXTINGUISHERS DRY POWDER TYPE | Portable "DRY POWDER TYPE" fire extinguishers so indicated conform to BS.5423 and are hung on wall brackets with the top of the extinguisher at about 1m from floor level. |
|  | FIRE EXTINGUISHERS-CARBON DIOXIDE | Portable "CARBON DIOXIDE TYPE" fire extinguishers so indicated conform to BS.5423 and are hung on wall brackets with the top of the extinguisher at about 1.5m from floor level. |
|  | FIRE EXTINGUISHER AQUEOUS FILM FORMING FOAM (AFFF) MULTI-PURPOSE TYPE | Portable "AFFF Type" fire extinguishers so indicated conform to BS.5423 and are hung on wall brackets with the top of the extinguisher at about 1m from floor level. |
|  | FIRE EXTINGUISHER VAPORISING LIQUID TYPE | Portable "VAPORISING LIQUID TYPE" fire extinguishers so indicated conform to BS.5423 and are hung on wall brackets with the top of the extinguisher at about 1.5m from floor level. |
|  | FIRE BLANKET | Fire Blankets so indicated are in quick release containers which are hung on wall brackets with the base of the containers at about 1.5m from floor level. |
|  | FIRE ALARM CALL POINTS | Fire Alarm Call Points so indicated are as detailed in the attached Appendix B. |
|  | VISUAL WARNING DEVICES | Visual Warning Devices so indicated are as detailed in the attached Appendix B. |
|  | INTERNAL TELEPHONE FIRE ALARM SYSTEM | The Internal Telephones so indicated are as detailed in the attached Appendix B. |
|  | AUTOMATIC FIRE DETECTION HEAT/SMOKE | Automatic Detector Heads so indicated form part of the fire warning system as detailed in the attached Appendix B. |
|  | FIRE ALARM INDICATOR PANEL(S) | Fire Alarm Indicator Panel(s) so indicated are as detailed in the attached Appendix B. |
|  | MANUAL FIRE ALARM SOUNDERS | Manual Fire Alarm Sounders so indicated are as detailed in the attached Appendix B. |
|  | EMERGENCY LIGHTING POINTS | Lighting points so indicated form part of the emergency lighting detailed in the attached Appendix B. |
| KB | KEY IN BOX | Doors, windows or other openings so indicated are specified as means of escape in case of fire and are provided with a key fastened to a piece of chain of sufficient length to enable the key to be inserted into the lock, and kept in a glass fronted box fixed to the door. The box is clearly marked to identify its purpose. |

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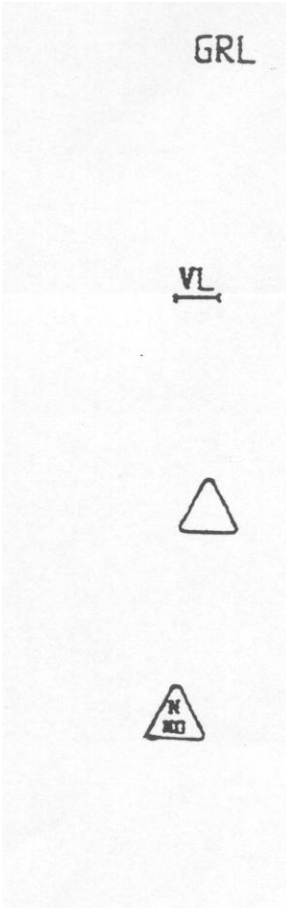
# KEY PLAN TO SYMBOLS AND ABBREVIATIONS

| SYMBOL OR ABBREVIATIONS | ITEM | DESCRIPTION |
|---|---|---|
|  | EXIT BOXES | Illuminated "EXIT sign boxes so indicated are provided with electricity from both the main and emergency supply. |
|  | FIRE EXIT SIGNS | Signs so indicated have the correct graphic symbols and the words "FIRE EXIT" or words to the like effect. The sign to satisfy the requirements of BS.5499:Part 1. |
|  | EXIT DIRECTIONAL SIGNS | Signs so indicated have the correct graphic symbol and the words "TO FIRE EXIT" or words to the like effect together with an arrow indicating the direction of travel. The sign to satisfy the requirements of BS.5499:Part 1. |
|  | GENERAL FIRE PROCEDURE NOTICE | Notices so indicated contain the information detailed in attached "General Fire Procedure" Appendix N1. The notice to satisfy the requirements of BS.5378:Part 1. |
|  | STAFF FIRE NOTICES | Notices so indicated contain the information detailed in the attached "Staff Fire Procedure Notice" Appendix N2. The notice to satisfy the requirement of BS.5499:Part 1:1990. |
|  | NOTICES ON DOORS KEEP LOCKED | Doors so indicated are permanently marked with a notice "FIRE DOOR - KEEP LOCKED". The notice to satisfy the requirements of BS.5499:Part 1 : 1990. |
|  | SLIDE TO OPEN NOTICES | Doors so indicated are permanently marked with a notice "SLIDE TO OPEN", together with an arrow indicating the direction of slide or the appropriate graphic symbol. The notice to satisfy the requirements of BS.5499:Part 1 |
|  | "FIRE ESCAPE KEEP CLEAR" NOTICES | Notices so indicated have the words "FIRE ESCAPE-KEEP CLEAR". The notice to satisfy the requirements of BS.5499:Part 1. |
|  | REFUGE AREAS | Area provided as waiting area for disabled persons during evacuation of the building in emergency conditions. |
| PB | DOORS FITTED WITH PUSH BARS | Doors so indicated are permanently marked with a notice "PUSH BAR TO OPEN" immediately above the PUSH BAR. The notice to satisfy the requirements of BS.5499 : Part 1. |
| HRL | HANDRAIL(S) | Handrail(s) so indicated are fixed at a height of not less than 840mm nor more than 1m measured vertically above the pitch line or the travel surface. |

# KEY PLAN TO SYMBOLS AND ABBREVIATIONS

| SYMBOLS OR ABBREVIATIONS | ITEM | DESCRIPTION |
|---|---|---|
|  | GUARDRAIL(S) BALUSTRADE(S) OR WALL(S) | Guardrail(s), balustrade(s) or wall(s) so indicated are fixed at or rise to a height of not less than 1.06m measured vertically above the pitch line or the travel surface. The space between the pitch line or travel surface and the underside of the guardrail or balustrade is infilled in such a manner as to prevent any person from falling through the side. |
| | VERTICAL LADDER | Ladders so indicated are not less than 500mm in width and a gap of not less than 100mm is maintained between the ladder and the face of any wall. Strings are carried up 1060mm above the floor of landings or the roof to provide a handrail. |
| | MAXIMUM NUMBER OF PERSONS ALLOWED IN ROOM | Having regard to Section 8(2) of the Fire Precautions Act 1971 the maximum number of persons allowed in a room so indicated must not be exceeded without first giving notice to the Fire Authority which will need to be satisfied that the means of escape in case of fire will not become inadequate by reason of the proposed increase. |
| | NOT NORMALLY OCCUPIED | Having regard to Section 8(2) of the Fire Precautions Act 1971 rooms so indicated must not begin to be occupied without first giving notice to the Fire Authority which will need to be satisfied that the means of escape in case of fire will be adequate for the proposed occupancy. |

**Appendix B**

# IMPORTANT!

## BASIC REMINDERS ON FIRE PRECAUTIONS FOR RESIDENTS (SELF-CONTAINED UNITS)

1. Make sure that all members of your family (age permitting) are familiar with the escape route or routes which have been approved by the local authority, and know how to call the fire brigade. The evacuation procedures should be discussed with the landlord's representatives to ensure that your information is correct. Where possible all residents should participate in fire drills.

2. Buildings which have been inspected under housing legislation in relation to means of escape in case of fire, will he required to maintain specific escape routes. These will normally involve the internal stairway down to the street, and every resident will be required to ensure that their front entrance door or other doors between their accommodation and the stairway are maintained self-closing and also that the stairway is not obstructed or used for storage purposes of any kind.

3. Even when you are at home do not leave children alone, especially in rooms where heating or cooking appliances are in use, and keep matches and lighters out of their reach.

4. Never fill a chip pan more than a half full of oil or fat and never leave the pan unattended with the heat turned on. If you do have a chip pan fire don't move it and don't throw water on it -turn off the heat if it is safe to do so, smother the flames with a damp cloth, fire blanket or the chip pan lid and leave the pan to cool for at least half an hour.

***5.*** Keep an eye on the elderly - make sure they take sensible fire precautions, especially with cigarettes and pipes. Remind them to follow the manufacturers' instructions when using electric blankets.

6. Don't smoke in bed - it is a major cause of fires in the home**.** Always finish your last cigarette or pipe before going into the bedroom and make sure that you have put it out properly.

7. Wherever possible portable heaters should not he used but when this cannot be avoided they should be kept well away from furniture and furnishings. See that nothing can fall onto them and that they are in a place where they cannot be knocked over. Paraffin heaters should never be filled while they are alight.

8. Do not keep spare paraffin containers in your fiat or room. Ask your landlord or caretaker whether the building has a safe place, approved by the local authority, in which they can be stored.

9. Routine precautions at bedtime should include the following:

   (a) Switch off all electrical appliances (except those that are designed to be left on all the time) and remove the plugs carefully - not by pulling the flex.

   (b) Check for burning cigarettes or pipes.

   (c) Put a guard on any open fire.

   (d) Close the doors of unoccupied rooms.

(Fire Service: FIRE.REM)

**Appendix C**

# IMPORTANT!

## STAFF FIRE INSTRUCTION AND DRILLS
### (HOSTEL-TYPE ACCOMMODATION)

1 In the event of a fire the safety of residents is enhanced by the ability of available staff to respond promptly. It is of vital importance therefore that all members of staff should be made aware of and instructed and trained to ensure that they understand the fire precautions applicable to the building and the action to be taken in the event of fire. This should include staff on shift duties or other regular ditties outside the normal working hours. The aim and training appropriate to their responsibilities in the event of an emergency. These should be based on written instructions.

2 All residents in hostel-type accommodation should be made aware of the evacuation procedures to be followed in the event of a fire and should be encouraged to participate in fire drills.

3 Instructions should be given by a competent person at such intervals as will ensure that all members of staff are instructed at least twice in each period of 12 months.

4 Instructions and training for staff generally should cover the following matters:

i) The action to be taken upon discovering fire.
ii) The action to be taken upon hearing the fire alarm.
iii) Raising the alarm and the location of alarm call points and alarm indicator panels.
iv) The correct method of calling the fire brigade.
v) The location and use of fire-fighting equipment.
vi) Knowledge of the escape routes.
vii) Appreciation of the importance of fire doors and of the need to close all doors at the time of a fire and on hearing the fire alarm.

5 Except in small hotel-type establishments, practice fire drills should be carried out at least twice a year. These should assume conditions in which one or more escape routes is obstructed by smoke. During these drills the fire alarm should be operated by a member of staff who is told of the supposed outbreak and, thereafter, the fire routine should be rehearsed as fully as circumstances allow, in small premises where not more than two members of staff are available the exercise could take the form of a walk over the escape routes, checking fire doors, the position of fire alarms and fire-fighting equipment.

6 Such details as are necessary to show the training and instruction given should be recorded. The following are examples of matters which may need to be included in such a record:

i) Date of the instruction or exercise.
ii) Duration.
iii) Name of the person giving the instruction.
iv) Names of the persons receiving the instruction.
v) The nature of the instruction, training or drill.

7 In all hostel-type premises one person should heave overall responsibility for organising staff training and co-ordinating the actions of any staff in the event of a fire.

8 At conspicuous positions in bedrooms and all other parts of hotel-type premises, printed notices should be exhibited stating in concise terms the action to be taken on discovering a fire, on hearing the fire alarm and the designated area of assembly. A single line drawing should be incorporated showing the appropriate area of the floor in which the room is situated and the escape stairways serving that floor. The instructions should also appear in any other languages commonly used by residents. Notices giving more detailed accommodation and on all notice boards. The notices should be framed and glazed or otherwise protected to prevent defacement and be permanently fixed in position.

9 Advice to owners and occupiers of purpose built self-contained fiats and maisonettes is contained in BS 5588: Part 1 "Fire Precautions in the design, construction and use of buildings. Part I Code of Practice for residential buildings".

**Appendix D**

**Model Completion Certificate for New Installation or Alterations to Emergency Lighting**

- Contained in BS 5266-1:1999 Annex B © BSI 1999

- **NB This certificate is subject to BSI copywrite and may thus not be reproduced or published in detail in this Code of Practice.**

- It is recommended that individual practitioners obtain a copy of the BS Model Certificate for their own use as a comparison to ensure that contractors are using the correct format.

**Essentially, a certificate should:**

- Contain the details of the occupier or owner, the address of the property and telephone number and the designer, installer's and verifier's name address and telephone number

- Refer to any relevant drawings numbers.

- State (by signature of each of designer, installer and verifier, their qualifications and date of signing) that a each of named designers/installers/verifiers certify that the emergency lighting installation, or part thereof, at the stated premises has been designed/installed/ inspected and tested by them and to the best of their knowledge and belief, the system complies with the appropriate recommendations given in BS EN 1838 and BS 5266 `Emergency Lighting' Part 1:1999 `Code of practice for the emergency lighting of premises other than cinemas and certain other specified premises used for entertainment', published by BSI, for a category .....* installation, except as stated below on the certificate. [* This can be M/1, 2 or 3 or NM/1, 2 or 3 as appropriate (see **6.12** of BS 5266-1:1999)].

- Append photometric design data to the certificate including (by the verifier) light loss factors on photometric design, or the test data obtained from either authenticated data (see BS EN 1838) or the measurements carried out in accordance with annex A of BS 5266-1:1999.

- Should, where a certificate relates to a major alteration or addition, be accompanied by an `Emergency Lighting– Periodic inspection and test certificate' for the entire emergency lighting installation (see **11.2** of BS 5266-1:1999) The model form of this certificate is contained in BS 5266-1:1999 Annex B **(**© BSI 1999) and has a tick box type schedule to assist in reporting on log book, drawings, signs, luminaires, significant décor changes, general condition, markings, operating voltage, battery replacement information, wiring, battery charging, battery back up systems, etc.

**NB Acceptable qualifications are** - a suitably qualified electrical engineer or a member of the Electrical Contractors' Association or the Electrical Contractors' Association of Scotland; or a certificate holder of the National Inspection Council for Electrical Installation Contracting; or a qualified person acting on behalf of one of these (in which case it should be stated on whose behalf he is acting). Where acceptable to the enforcing authority the authorized representative of a manufacturer of emergency lighting equipment may be deemed to be a suitably qualified person.

## Appendix E

**Model Completion Certificate for New Installation or Alterations to Fire Alarm System**

- Contained in **BS 5839-1:2002 Annex G** © BSI 2002

- **NB These certificates are subject to BSI copywrite and may thus not be reproduced or published in detail in this Code of Practice.**

- It is recommended that individual practitioners obtain copies of the relevant BS Model Certificates for their own use as a comparison to ensure that contractors are using the correct format.

- **BS 5839-1:2002 Annex G** contains model certificates for: **G.1 Design, G.2 Installation, G.3 Commissioning, G.4 Acceptance, G.5 Verification, G.6 Inspection and Servicing and G.7 Modification.**

**Essentially, a certificate should:**

- Contain the address of the property and the designer, installer's, verifier's, etc name address and telephone number.

- State (by signature of each of designer, installer, accepter (optional), verifier, inspector and servicer and modifier and date of signing) that each competent person(s) responsible for the design/installation/commissioning/acceptance/(optional) verification/inspection and servicing/modification of the fire alarm system certifies that the installation for which they are responsible complies to the best of their knowledge and belief with the described category/specification and with the recommendations of Section 2/4 / Clause **39/43/45/46.4** of BS 5839-1:2002, except for the variations (see BS 5839-1, Clause **7**), if any, stated in the certificate.

  (Clause **45** of BS 5839-1:2002 refers to quarterly inspection of vented batteries/periodic inspection and test/inspection and test over a 12 month period (to be deleted as applicable)).

- State that the extent of liability of the signatory is limited to the system described in the certificate.

**G.1 Design certificate**

This shall contain/certify that:

- Brief description of areas protected (not applicable for Category M, L1 or P1 systems).
- Measures incorporated to limit false alarms. Account has been taken of the guidance contained in Section 3 of BS 5839-1:2002.
- Either that the system is manual and that the type and siting of manual call points takes account of the guidance contained in Section 3 of BS 5839-1 or that the system incorporates automatic fire detectors, and account has been taken of reasonably foreseeable causes of unwanted alarms, particularly in the selection and siting of detectors.
- If an appropriate analogue system has been specified.
- If an appropriate multi-sensor system has been specified.
- If a time-related system has been specified.

- That fire signals from automatic fire detectors result initially in a staff alarm, which delays a general alarm/transmission of signals to an alarm receiving centre (delete as applicable) for ……..min.
- Appropriate guidance has been provided for the user to enable limitation of false alarms.
- Other specified measures.

**The Design Certificate also contains the following guidance:**

- **Installation and commissioning** - It is strongly recommended that installation and commissioning be undertaken in accordance with the recommendations of Section 4 and Section 5 of BS 5839-1:2002 respectively.
- **Soak Test -** As the system incorporates no more than 50 automatic fire detectors, no soak test is necessary to satisfy the recommendations of BS 5839-1:2002.
- **Verification –** whether or not optional verification that the system complies with BS 5839-1:2002 should be carried out, on completion, in accordance with Clause **43** of BS 5839-1:
- **Maintenance** - It is strongly recommended that, after completion, the system is maintained in accordance with Section 6 of BS 5839-1:2002.
- **User responsibilities** - The user should appoint a responsible person to supervise all matters pertaining to the fire alarm system in accordance with the recommendations of Section 7 of BS 5839-1:2002.

**G.2 Installation certificate**

- This also needs to state that wiring has been tested in accordance with the recommendations of Clause **38** of BS 5839-1:2002 and that test results have been recorded and provided a specified person.
- Unless supplied by others, the "as fitted" drawings have to have been supplied to the person responsible for commissioning the system [see **36.2**m) of BS 5839-1:2002].

**G.3 Commissioning certificate**

This has to certify that:

- All equipment operates correctly.
- Installation work is, as far as can reasonably be ascertained, of an acceptable standard.
- The entire system has been inspected and tested in accordance with the recommendations of **39.2**c) of BS 5839-1:2002.
- The system performs as required by the specification prepared a named person, a copy of which has been received:
- Taking into account the guidance contained in Section 3 of BS 5839-1:2002, no obvious potential for an unacceptable rate of false alarms has been identified.
- The documentation described in Clause **40** of BS 5839-1:2002 has been provided to the user.
- Identification of necessary work which should be completed before/after (delete as applicable) the system becomes operational.
- Identification of potential causes of false alarms that should be considered at the time of the next service visit.
- Before the system becomes operational, it should be soak tested in accordance with the recommendations of **35.2.6** of BS 5839-1:2002 for a period of: ……(Enter a period of either one week, such period as required by the specification, or such period as recommended by the signatory to this certificate, whichever is the greatest, or delete if not applicable).

**G.4 Acceptance certificate**

This should certify:

- That all installation work appears to be satisfactory.
- That the system is capable of giving a fire alarm signal.
- That the facility for remote transmission of alarms to an alarm receiving centre operates correctly. (Delete if not applicable.)
- That the following documents have been provided to the purchaser or user: "As fitted" drawings, operating and maintenance instructions, certificates of design, installation and commissioning, a log book.
- That sufficient representatives of the user have been properly instructed in the use of the system, including, at least, all means of triggering fire signals, silencing and resetting the system and avoidance of false alarms.
- That all relevant tests, defined in the purchasing specification, have been witnessed. (Delete if not applicable.)
- A specification of work required before the system can be accepted.

**G.5 Verification certificate (optional)**

This should certify:

- That, in the opinion of the verifier, as far as can reasonably be ascertained from the scope of work described in the certificate, the system complies with, and has been commissioned in accordance with, the recommendations of BS 5839-1:2002, other than in respect of variations already identified in the certificates of design, installation or commissioning.
- That in the opinion of the verifier, there is no obvious potential for an unacceptable rate of false alarms.
- A specification of identified non-compliances with the recommendations of BS 5839-1:2002, (other than those recorded as variations in the certificates of design, installation or commissioning).

**G.6 Inspection and Servicing certificate**

This should certify:

- Relevant details of the work carried out and faults identified have been entered in the system log book.
- During the past 12 months,
  ……...……...false alarms have occurred.
- The above number of false alarms equates to ……..false alarms per 100 automatic fire detectors per annum (for Category M systems enter "Not applicable").
- A specification of the work/action is considered necessary.

**G.7 Modification certificate**

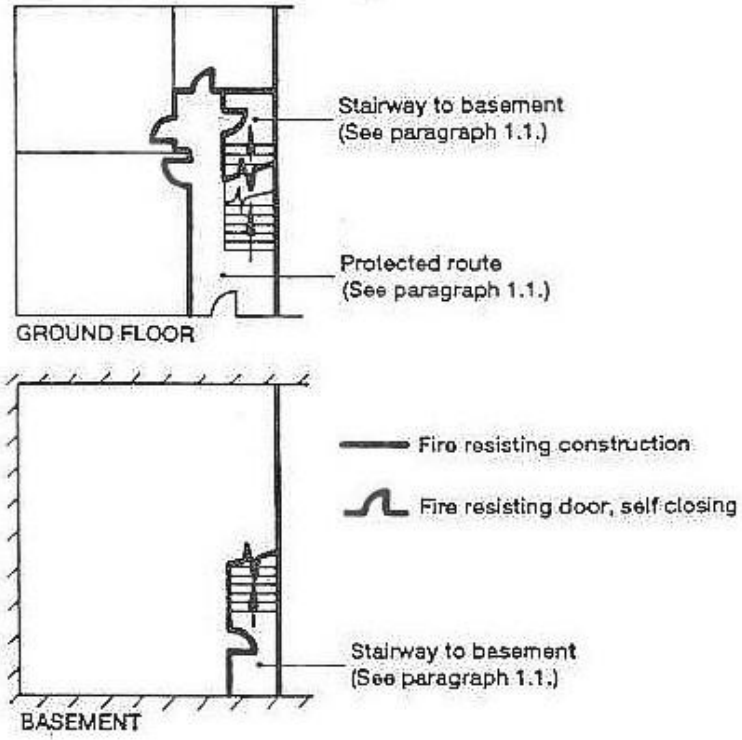
This should certify:

- That following the modifications, the system has been tested in accordance with the recommendations of **46.4.2** of BS 5839-1:2002.
- That following the modifications, "as fitted" drawings and other system records have been updated as appropriate.
- By signature, confirmation by e.g. maintenance organization, system designer, consultant or user representative that the modifications have introduced no additional variations from the recommendations of BS 5839-1:2002, other than those that may be specified.

## Appendix F

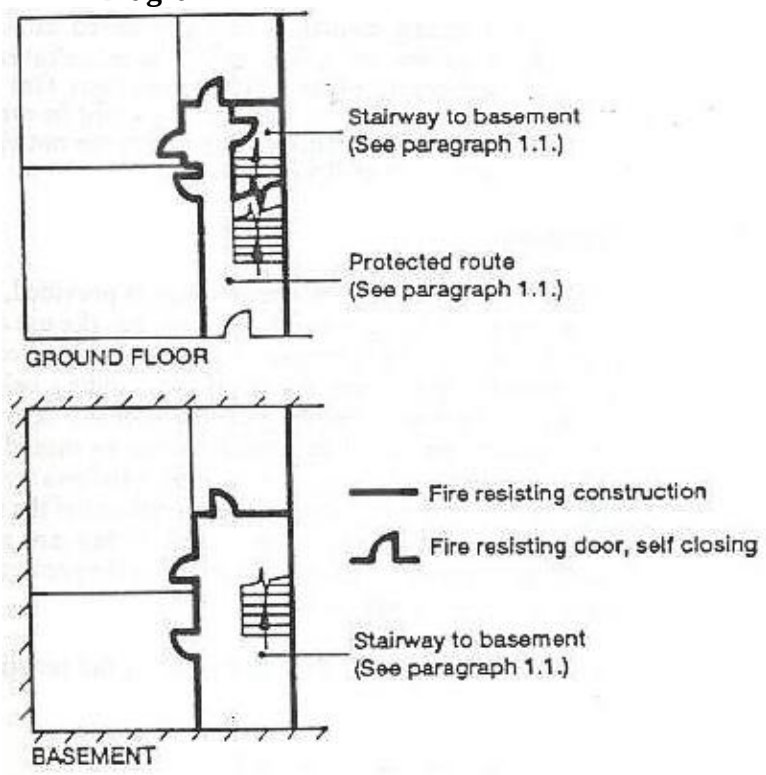
**Diagrams – Fire protection to basements**
(Extract from DoE Circular 12/92, paragraph 2.41)

**Diagram 1**




The basement is separated from the ground floor by 2 x 30 minute *fire doors*, one at the foot of the stairway and one at its head.

**Diagram 2**

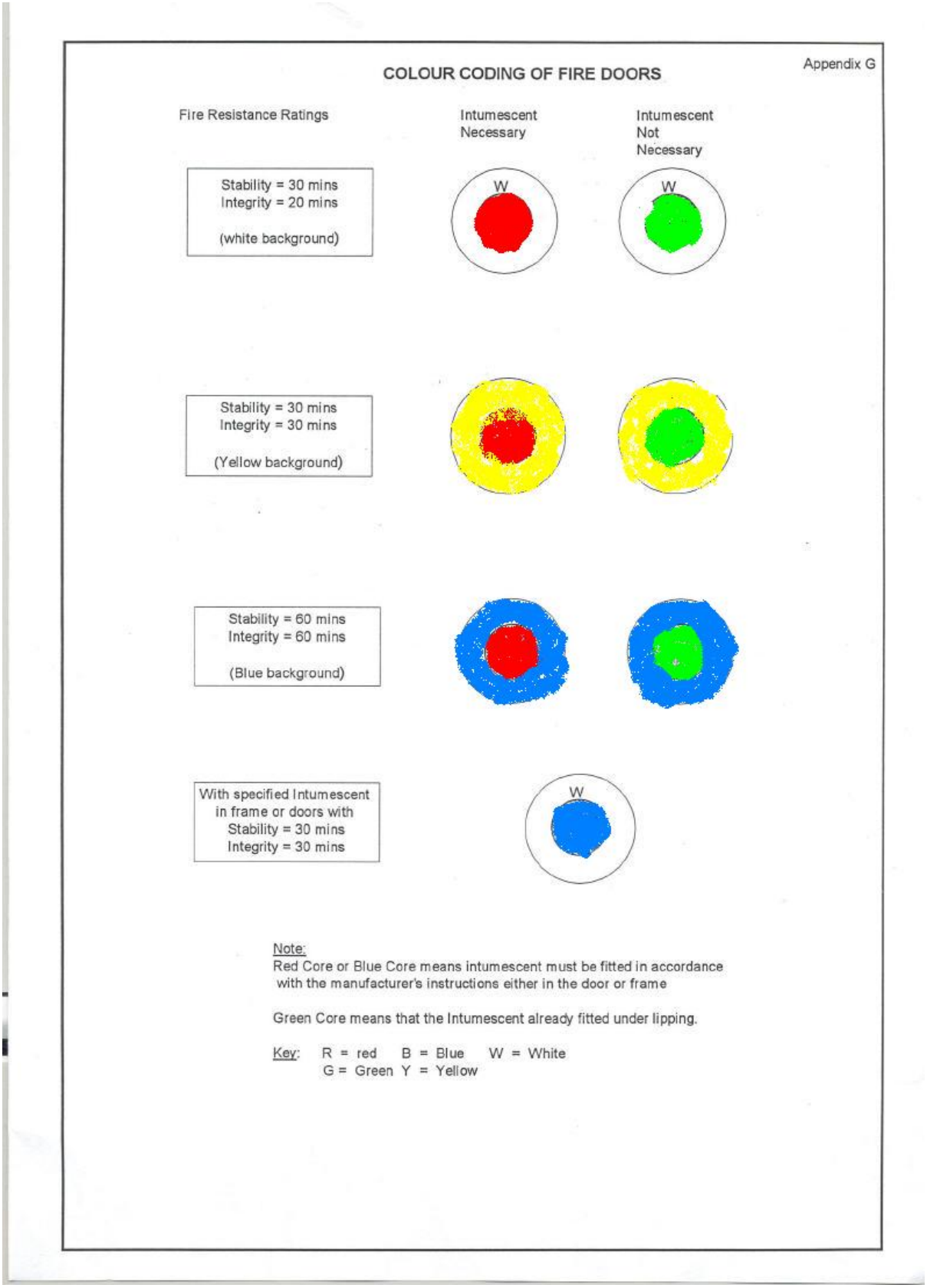



The basement is separated from the ground floor by 2 x 30 minute *fire doors*, one between any self-contained unit within the basement and one at the head of the stairway at ground floor.

## Appendix G

### Fire doors – Colour Coding

The following document has been copied in black and white from the 1996 edition of this Code of Practice as "Fire Service: Appendix G" and coloured in a very basic way to be of assistance. It is now regarded (November 2004) by the Fire Service as not very reliable as there is more than one system and it is being phased out.



Appendix G

COLOUR CODING OF FIRE DOORS

| Fire Resistance Ratings | Intumescent Necessary | Intumescent Not Necessary |
|---|---|---|
| Stability = 30 mins<br>Integrity = 20 mins<br>(white background) | W | W |
| Stability = 30 mins<br>Integrity = 30 mins<br>(Yellow background) | | |
| Stability = 60 mins<br>Integrity = 60 mins<br>(Blue background) | | |
| With specified Intumescent in frame or doors with<br>Stability = 30 mins<br>Integrity = 30 mins | W | |

Note:
Red Core or Blue Core means intumescent must be fitted in accordance with the manufacturer's instructions either in the door or frame

Green Core means that the Intumescent already fitted under lipping.

Key: R = red B = Blue W = White
G = Green Y = Yellow

**Appendix H**

**SURFACE FINISHES OF WALLS, CEILINGS ETC.**
**APPLICABLE TO SELF-CONTAINED UNITS AND HOSTEL TYPE ACCOMMODATION**

1. In the early stages of a fire in a building, the personal hazard to residents can be severely affected by the surface linings and finishes of the walls and ceilings and of partitions, space dividers and similar vertical surfaces. Materials likely to be found *in situ* in existing buildings are often difficult to assess in terms of their contribution to the spread of flame and the development of fire. **Some examples of these materials have therefore been broadly classified into seven groups with an indication as to the extent to which each group may be acceptable for particular locations as follows:-**

**A. Inorganic Group**

Brickwork, blockwood, concrete, plasterboard, ceramic tiles, plaster finishes (including rendering on wood or metal laths) and all other surfaces conforming to class O classification as defined in [Appendix A of approved Document "B" of Building Regulations 2000]. Acceptable in all locations.

**B. Cellulosic Group**

(Not flame-retardent treated).

Timber, hardboard, particleboard (chipboard), blockboard and any other material not lower than Class 3 surface spread of flame rating. Acceptable in small rooms not exceeding 4$m^2$ of floor area or on small areas of wall surface in any room (but not for ceilings). The area covered should not exceed half the floor area of the room or 20$m^2$, whichever is smaller. Not acceptable on escape routes ie stairways, corridors, entrance halls.

**C. Cellulosic Group**

(Flame-retardent treated including painting to achieve Class 1 surface spread of flame rating).

Acceptable in all rooms, provided evidence of suitable treatment is available.

**D. Woodwool Slab**

Acceptable in all locations.

**E. Plastic-thermosetting**

(Decorative laminates)

Acceptable as for Group B unless there is evidence that they are of flame-retardent grade (to Class 1 surface spread of flame rating) in which case acceptability will be as for Group C.

## F. Plastics-thermoplastics

(Expanded polystyrene wall and ceiling linings)

Acceptable as for Group B in thickness not exceeding 5 mm. on walls, 12 mm, on ceilings, with no finish applied other than a single coat of water based emulsion paint. Expanded polystyrene surfaces which have been painted with gloss paint should be removed.

## G. Thin Vinyl and Paper Coverings

(Other than heavy flock wallpaper)

Acceptable in all locations, provided they are on an inorganic surface.

## H. Heavy Flock Wallpapers

Acceptable as for Group B unless there is evidence that they are of flame retardent grade (to Class 1 surface spread of flame rating) in which case acceptability will be as for Group C.

## Appendix I

## FLAMMABILITY OF UPHOLSTERED FURNITURE

The dangers posed by foam filled furniture are well documented.

This has led to the **Furniture and Furnishings (Fire) (Safety) Amendment Regulations 1993**

Persons who provide rented furnished accommodation must ensure that any new or secondhand furniture must satisfy the relevant standard of fire resistance.

All furniture had to meet the standard by December 1996.

Furniture covered by the Regulations:

- Domestic upholstered furniture, including beds, sofabeds and childrens furniture.
- Nursery furniture containing upholstery.
- Scatter cushions, and seat pads.
- Pillows.
- Secondary covers for upholstered furniture (e.g. loose covers and stretch covers).

**NOTE:**

**The Regulations do not apply to furniture made before 1950.**

**Required standard for fire resistance:**

In general upholstered articles must:

- have fire resistant filling material (i.e. combustion modified foam)
- cover fabrics which pass the match test
- cover fabric and fillings which when combined pass a cigarette resistance test.

However some natural materials e.g. cotton, wool, linen which are not resistant to the match test are permitted if a fire resistant interliner protects the filling.

**Appendix J**

## FIRE ACTION

**ON DISCOVERING A FIRE**

1. Sound the alarm.
2. Call the Fire Service.
3. Leave the building and go to the assembly point.

**ON HEARING THE FIRE ALARM**

1. Leave the building by the nearest available exit. (Do not use lifts).
2. Report to the assembly point.

**ASSEMBLY POINT IS SITUATED:**

**Single Stage Alarm**

APPENDIX N1

**Appendix K**

STAFF FIRE NOTICE

**EVERYONE MUST ALWAYS**

Prevent fire occurring by being careful with all sources of heat (smoking, heating and electrical appliances etc.).
Know the means of escape provided from the premises.
Be familiar with the fire routine and obey fire notices.
Keep exits and staircases unobstructed.
Keep fire doors closed.

**SHOULD YOU DISCOVER A FIRE (no matter how small)**

Raise the alarm by breaking the nearest fire alarm glass or operating the nearest manual alarm.

Warn personnel in the vicinity of the fire. Try to extinguish the fire by using nearest extinguisher or hose reel, BUT DO NOT TAKE PERSONAL RISK. OTHERWISE LEAVE THE BUILDING.

**ON HEARING THE ALARM**

Everyone will leave the building immediately, calmly and without fuss, by the nearest exit (do not use lifts), giving assistance to other people to ensure their safety and go to the assembly point.
The Manager, person in charge, or switchboard operator must ensure the Fire Service has been summoned.
Floor marshals will supervise the evacuation from their areas.
Do not allow persons to re-enter the building.
On arrival of the Fire Service the Officer-in-Charge should be informed that all personnel are safe, or their last known location.

**CALLING THE FIRE SERVICE**

CALL THE FIRE SERVICE IMMEDIATELY TO EVERY FIRE OR ON SUSPICION OF FIRE (the telephonist should call the Fire Service on hearing the fire alarm or being informed of fire).
Lift receiver and dial 999 (or as shown on the dial label or in dialling instructions).
When the exchange operator answers ask for FIRE, you will then be connected to the Fire Service.

When the Fire Service operator replies, state distinctly:~

**FIRE AT:**

Do not replace receiver until the address has been correctly repeated to you.

**Single Stage Alarm** (Fire Service: APPENDIX N2

**Appendix L**

# ESSEX FIRE & RESCUE SERVICE

**RESIDENTIAL SPRINKLERS AND DESIGN FREEDOMS FOR EXISTING HOUSES IN MULTIPLE OCCUPATION**
**(FOR 1, 2 AND 3 STOREY BUILDINGS)**

Essex Fire and Rescue Service strongly promote and encourage the installation of residential sprinkler systems in Houses in Multiple Occupation (HMOs).

Residential sprinkler systems dramatically enhance the fire safety features in these types of premises. In the United Kingdom no one has ever died as a result of fire in a building protected by a correctly maintained sprinkler system. A sprinkler system will detect, give warning and contain or extinguish a fire. This should assist the occupants of the building to safely evacuate

Where it is proposed to install a residential sprinkler system as a trade off the enforcing authority may request the Fire Authority to carry out a joint risk assessment. This will determine the required standard of fire safety taking into account the type of building, the layout, the number and types of occupants, the standard of management applied by the landlord and the condition of the property. Consideration will be given to Department of the Environment Circular 12/92, subsequent interim guidance and other associated standards and Approved Documents.

The risk based assessment will take account of the fire safety benefits offered by a residential sprinkler system. This should enable the enforcing authority to deviate from prescriptive codes and allow certain design freedoms (subject where necessary, to approval from the relevant building control body). The conditions and some of the design freedoms (trade-offs), which may be offered to the landlord, are detailed below: ( similar reservations to above)

**DESIGN FREEDOMS**

These are for existing 1, 2 and 3 storey premises. Cellars/basements do not count as a storey providing they are non-habitable rooms i.e. storage only. Design freedoms for premises of 4 storeys and above will be much more limited and determined by the enforcing authority on an individual basis.

**Relaxation of the requirement for periods of 30-minute fire resistance for walls, floors and doors.** However, all doors, floors, walls and partitions must be of sound construction, integrity and maintained in good condition so that escape routes can be safely used during the evacuation period.

Any glazing between habitable rooms and the stair enclosure (excluding glazing to a bathroom or wc) should be fire-resisting, but not necessarily insulating, and retained by a suitable glazing system and beads compatible with the type of glass.
Under-stair cupboards used for storage must be either sprinklered or upgraded to a fire-resisting standard.

In larger buildings where alternative escape routes/stairways are necessary, the common corridor should be sub-divided by a self-closing fire door and associated fire resisting construction so that smoke will not affect access to more than one escape route.

**Relaxation of the requirement for intumescent seals on doors leading onto escape routes.** However, doors leading onto escape routes will still require smoke seals and overhead self-closing devices (conforming to BS EN 1154 : 1997).

Three Storey HMOs

**Relaxation of the requirement for a BS 5839 Pt. 1: L2 fire warning system.** The fire alarm system must conform to the requirements of British Standard 5839: Part 6: 1995, Grade D, type LD2 system. Smoke detectors of the optical type should be provided in the common areas on all floor levels. Audibility levels of 75 dB (A) should be achieved at all bedheads with the bedsit doors closed (sounders positioned in the common areas producing approximately 100 dB (A) should be capable of producing this sound level at the bedhead as bedroom doors attenuate sound by approximately 20 dB(A)). Detectors should be interlinked and hard wired into a dedicated circuit at the dwellings main distribution board, which is under the control of the landlord (not part of any 'pay' meter circuit).

**Relaxation of the requirement for heat detectors in bedrooms/bedsits with cooking facilities.** As sprinkler heads have an effective heat sensing element, it is not necessary to provide a fire alarm heat detector. However, each bedroom/bedsit (regardless of whether or not they have cooking facilities) should be provided with a non-interlinked optical type smoke detector, which conforms to British standard 5446: part 1 and has a 'hush' type facility. These detectors should have an integral standby supply (battery back up) and be hard wired into a dedicated circuit at the dwellings main distribution board, which is under the control of the landlord (not part of the tenants electric meter/pay system). To avoid false alarms causing a disturbance and nuisance to other tenants, smoke detectors within bedrooms/bedsits should be standalone, single point detectors i.e. non-interlinked.

**Relaxation of the requirement for heat detectors in kitchens.** As sprinkler heads have an effective heat sensing element, it is not necessary to duplicate this with a fire alarm heat detector (smoke detectors are also not required in kitchens as they would generate a high incidence of false alarms).

**Relaxation of the requirement for compartmentation between different Purpose Groups.** Reduced levels of fire resistance between different Purpose Groups may be allowed providing the whole building is sprinkler to the appropriate standard.

**Relaxation of the requirement for internal fire spread (linings).** Common areas and escape routes must have a minimum class 1 classification (European Standard class C). All other areas must have a minimum class 3 classification (European Standard class D).

**Relaxation of the requirement for firefighting equipment.** Portable fire extinguishers will not normally be required. However, bedsits with cooking facilities and kitchen areas should be provided with a fire blanket (conforming to BS EN 1869).

## QUALIFYING CONDITIONS FOR DESIGN FREEDOMS

### *SPRINKLER SYSTEM*

Design and installation of the sprinkler system must be carried out by experienced sprinkler contractors who are suitably qualified and registered with the Fire Sprinkler Association Alternatively installers may be certificated under the Loss Prevention Standard LPS 1048 Scheme *Requirement for Certificated Sprinkler Installers, Supervising Bodies and Supervised Installers* providing they are able to demonstrate competence for installation of Residential Sprinkler systems.

The sprinkler system must be designed, installed and maintained in accordance with British Standard Draft for Development DD251 : 2000 or other equivalent internationally recognised standards which are approved by the enforcing authority. Sprinkler systems designed for use in HMOs should be of the Residential type. Additional requirements, clarification or deviations from DD251 are detailed below (with reference made to the DD251 clause where appropriate).

Sprinkler heads must have a quick response thermal sensitivity rating, be of the residential pattern type and conform to DD252 or Underwriter Laboratory UL1626. Concealed and recessed sprinkler heads (clause 5.2.9.2) are acceptable to the enforcing authority.

Where frost protection is necessary, the enforcing authority will not normally allow antifreeze or other system additives (clause 6.1.4) as this is likely to cause a loss of pressure and flow due to the requirement for a second check valve to be fitted (Water Regulations : Fluid Category 3 risk).

Consultation and approval from the Water Authority will be required for sprinkler installations and where it is necessary to install a larger diameter incoming cold water main in order to achieve the required sprinkler flow rates. During this consultation the opportunity should be taken to request the Water Authority to by-pass the water meter as this will enhance the flow and pressure. Alternatively a separate un-metered pipe may be installed to solely supply the sprinkler system. Flow rates can be further improved by use of full-flow rather than 'banjo' type town main connections.

It will be the responsibility of the building owner’s contractor to arrange for the measurement of the flow rate and the owner’s responsibility to arrange for any required works as may be necessary to increase the flow rate. (Where the necessary minimum flow rate is not obtainable, the alternative of a tank fed system may be considered).

A sprinkler flow switch must be installed which will activate the fire alarm system (that covers the common parts of the building) upon operation of any sprinkler head. In these circumstances providing the fire alarm is an acceptable standard, the internal audible sprinkler alarm (clause 5.3.3.1 a) will not be necessary as this is a duplicate fire warning signal (the external audio-visual sprinkler alarm must be provided in all instances). If however, it is decided that an internal sprinkler alarm is necessary, audibility levels of 75 dB (A) must be achieved at all bedheads, with the bedsit doors closed (clause 6.2.3).

It is recommended that a monitored link connected to a commercial call centre should ideally be provided so that the Fire Service (and landlord) is automatically contacted upon actuation of the sprinkler system. This link should only operate upon actuation of the sprinkler system and not have any connection to the fire alarm system.

The system stop valve must be suitably locked in the open position (clause 5.3.3.3) or have the valve handle removed to prevent accidental/deliberate supply isolation.

A pressure gauge must be fitted before the main stop valve/backflow prevention valve to enable monthly checks to be made on the town main pressure.

The approved sprinkler contractor must provide information to the landlord as detailed in clause 6.3.2 (a 24 hour contact telephone number) and also copy this documentation to the enforcing authority.

***LANDLORDS RESPONSIBILITIES***

The landlord must enter into a maintenance contract with a competent person or company to maintain the sprinkler system in accordance with clause 7 of DD251.

Landlords are responsible for ensuring that the sprinkler system is fully functional at all material times and any defects are reported immediately to the 24 hour emergency number and rectified as soon as possible (clause 6.3.2.g) The enforcing authority, (usually the local authority) in every case and the water authority where there are any water supply involvements), must be notified as soon as practical of any system defects, deficiencies or actuations.

The landlord will be responsible for checking the pressure gauge readings monthly and recording these readings in the Systems Log Book. Any significant fluctuations or pressure readings below the agreed system design must be reported immediately to the 24 hour emergency number and rectified as soon as possible and immediately reported to the enforcing authority (usually the local authority) and the water authority. The System Log Book must also be used to record all actuations, testing, maintenance, system faults and any remedial action.

Any deviations or failure to comply with any of the above conditions/design freedoms could lead to enforcement action being taken.

This guidance has been prepared jointly by The Essex Chief Environmental Health Officers Specialist Housing Group and The Essex Fire & Rescue Service