

NHSScotland 'Firecode'

Scottish Health Technical Memorandum 84 Version 3

Fire risk assessment in residential
care premises



**This document forms part of
NHSScotland Firecode Edition No 3**

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Disclaimer

The contents of this document are provided by way of guidance only. Any party making any use thereof or placing any reliance thereon shall do so only upon exercise of that party's own judgement as to the adequacy of the contents in the particular circumstances of its use and application. No warranty is given as to the accuracy of the contents and the Property and Environment Forum Executive, which produced this document on behalf of NHSScotland Property and Environment Forum, will have no responsibility for any errors in or omissions therefrom.

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Guidance revised 1 April 2003.
All previous versions are superseded.



About this publication

This Scottish Health Technical Memorandum is an important component of NHSScotland Firecode. It provides a fire engineering approach to achieving acceptable standards of fire safety in residential care premises. It also provides guidance on additional measures which may be applicable, in certain circumstances, to new build schemes.

The interaction between physical fire precautions, fire hazards, the number of residents, the management policies and the availability of adequately trained staff will determine the overall level of fire safety within the residential care premises.

Version 3 has been specifically developed to reflect the 6th Amendment of the Technical Standards to the Building Standards (Scotland) Regulations. The original Version 1 of SHTM 84 issued April 1998 was adapted for Scotland by a working group chaired by NHS Estates comprising representatives from:

- the Chief and Assistant Chief Fire Officers Association;
- the Institute of Building Control;
- the Institute of Fire Safety.

The NHSScotland Property and Environment Forum thank HSS Northern Ireland for their generosity in allowing their original document to be used as the basis for SHTM 84.

The primary remit of Health Boards with regard to fire safety is the safety of patients, visitors and staff. For all premises under their control they will need to select and effectively implement a combination of measures to achieve an acceptable level of fire safety, taking into account:

- the guidance in this memorandum;
- the relevant guidance contained in other parts of NHSScotland Firecode;
- all relevant legislation and statutes;
- the advice and approval of local building control and fire authorities.

REVISIONS

This Version aligns SHTM 84 with the 6th Amendment of the Technical Standards to the Building Standards (Scotland) Regulations



The term 'Trust' used herein means an NHSScotland Trust, Island Health Board or Property Holding Body. In due course the term Health Board may replace Trust eg NHS Borders.



1. Introduction and scope

General application

- 1.1 SHTM 84 provides recommendations and guidance to address the special requirements of fire safety in residential type premises used to provide care for NHSScotland patients.
- 1.2 SHTM 84 provides guidance on assessing fire precautions in new and existing premises. In preparing the guidance it has been assumed that when the premises were built or converted, they complied with the relevant standards applicable current at the time of approval. The assessment process assesses some precautions against the requirements of the Building Standards (Scotland) Regulations.

These are:

- surface finishes;
 - travel distances;
 - stairways;
 - emergency lighting;
 - structural elements;
 - compartmentation;
 - sub-division of cavities.
- 1.3 SHTM 84 also provides guidance on the issues listed below and has been updated to reflect the requirements of current legislation and British Standards.
- detection and alarm systems;
 - textiles and furniture;
 - fire safety training;
 - bedding and sleepware;
 - fire signs and notices;
 - manual fire-fighting equipment.
- 1.4 The guidance is appropriate for premises providing residential type accommodation where the following type of nursing and clinical care is provided:
- care for elderly people;



- care for people suffering from mental illness;
- care for people with learning difficulties.

However, it should not be used for premises where bedrooms are located on a floor which is four or more storeys above the ground.

1.5 The guidance in this revised document comes into operation in April 2003.

Philosophy

1.6 Residential care premises are home for many people. Therefore, in providing an acceptable level of fire safety, there should be recognition of the need to maintain a homely, non-institutionalised environment. This document attempts to achieve this by considering the full range of issues which affect fire safety in residential care premises, including:

- the number of residents;
- the physical abilities of the patients;
- fire hazards within the premises;
- management policies;
- the availability of sufficient staff adequately trained in fire safety;
- the physical fire precautions;
- the levels of security required.

1.7 Where residential care premises include a significant non-residential function, for example a day centre or a training workshop for non-residents, it may be appropriate to consider the fire safety of these areas separately and to refer to more appropriate guidance should that be available.

Existing residential care premises

1.8 This document provides guidance on assessing fire precautions in existing residential care premises:

- [Paragraphs 4.1 to 4.6](#) provide guidance on the acceptable standards to be applied in relation to fire hazards:
 - 4.1: Ignition sources – management issues;
 - 4.2: Ignition sources – fire hazard rooms;



- 4.3: Combustible materials – surface finishes;
 - 4.4: Combustible materials – textiles and furniture;
 - 4.5: Combustible materials – bedding and sleepware;
 - 4.6: Combustible materials – other materials.
 - Paragraphs 4.7 and 4.8 provide guidance on the effective management of fire safety within the premises:
 - 4.7: Prevention – management;
 - 4.8: Prevention – training.
 - Paragraphs 4.9 to 4.20 provide guidance on the level of physical fire precautions which should be provided and maintained in existing buildings:
 - 4.9: Prevention – fire notices and signs;
 - 4.10: Communications – alarm and detection systems;
 - 4.11: Means of escape – travel distances;
 - 4.12: Means of escape – refuge;
 - 4.13: Means of escape – bedrooms;
 - 4.14: Means of escape – stairways;
 - 4.15: Means of escape – security;
 - 4.16: Means of escape – emergency lighting;
 - 4.17: Containment – structural elements;
 - 4.18: Containment – compartmentation;
 - 4.19: Containment – sub-division of concealed spaces;
 - 4.20: Extinguishment – manual fire-fighting equipment.
- 1.9 The interdependency of managerial and physical fire precautions cannot be over-stressed and for this reason any fire safety strategy for residential care premises should cover all the hazards and precautions outlined in this



document. The proposed management provisions should be discussed with the Fire Brigade.

New residential care premises

- 1.10 This document may also be used to determine the physical fire precautions, which will be appropriate for new residential care premises. However, it should be noted that these are in addition to the mandatory requirements in Parts D and E of the Technical Standards to Building Standards (Scotland) Regulations.

Size of premises

- 1.11 Residential care premises vary greatly in size and in the number of residents. Occasionally a distinction is made between the standards appropriate for different sizes, and for the purposes of this guide they will be divided into two categories:

- Medium premises 4 - 9 residents;
- Large premises 10 or more residents.

Use by competent persons

- 1.12 This document should be used by competent persons employed as:
- Property/Estates/Building/Engineering Officers, Facilities Managers and Health/Fire Safety staff employed by a NHSScotland Trust;
 - architectural, building and engineering consultants;
 - Building Control officers;
 - fire safety consultants;
 - fire officers of the local Fire Authority.

Persons will be considered competent where they have sufficient technical training and experience, both to understand fully the requirement of fire safety procedures and management involved, and to undertake properly the measures referred to in this document.



Consultation

- 1.13 Due to the often conflicting requirements between fire safety and nursing care, it is essential that early consultation takes place between the design team, the client, and all relevant enforcing authorities. Depending on the nature of the scheme it may also be advantageous to involve the client's insurers in the consultation process.
- 1.14 It is not possible to provide absolute safety from fire. The guidance in this document should reduce the risk to patients, visitors and staff as far as reasonably practicable.

Fire safety during building operations

- 1.15 A significant number of fires occur as a result of building activity. The site activities of contractors should be adequately supervised and controlled. It should be ensured that adequate precautions against fire are in place and regular contact with contractors is maintained to ensure compliance with the agreed fire safety policy.
- 1.16 Guidance on fire safety on construction sites is provided by:
- 'Fire prevention on construction sites', a joint Code of Practice published by the Building Employers Confederation, the Loss Prevention Council, and the National Contractors Group (ISBN 0-902167-17-0);
 - 'Standard fire precautions for contractors engaged on Crown works', published by Department of the Environment, The Stationery Office (ISBN 0-11-75223-5);
 - 'Designing for health and safety in construction' published by the Health and Safety Executive;
 - 'The Construction (Health, Safety and Welfare) Regulations' 1997

Other NHSScotland Firecode guidance

- 1.17 This SHTM should also be read in conjunction with the guidance contained in the latest revisions of the following NHSScotland Firecode documents:

SHTM 81, Version 3 Fire precautions in new hospitals;

SHTM 82, Version 2 Alarm and detection systems;



SHTM 82, Supplement A Version 1	Automatic fire control systems and voice alarm systems
SHTM 83, Version 2	Fire safety in healthcare premises – General fire precautions;
SHTM 85, Version 3	Fire precautions in existing hospitals;
SHTM 86, Version 3	Fire risk assessment in existing hospitals;
SHTM 87, Version 2	Textiles and furniture;
SFPN 3, Version 2	Escape bed lifts;
SFPN 4, Version 2	Hospital main kitchens;
SFPN 5, Version 2	Commercial enterprises on hospital premises;
SFPN 6, Version 2	Arson prevention and control in NHS healthcare premises;
SFPN 7, Version 2	Fire precautions in patient hotels;
SFPN 10, Version 2	Laboratories on hospital premises.

Other legislation

1.18 Other relevant legislation includes:

- Fire Precautions (Workplace) Regulations 1997 (as amended);
- The Construction (Design and Management) Regulations 1994 (amended 2000);
- The Management of Health and Safety at Work Regulations 1999;
- Disability Discrimination Act 1995.



2. Glossary of terms

For the purposes of this document the definition of terms provided in Part A of the Technical Standards to the Building Standards (Scotland) Regulations should be used. The Standard specified for 'hospitals' in the Technical Standards apply to all healthcare premises where there is patient access. The following additional definitions also apply:

- **circulation space:** the communication routes both within the department/management unit and giving access to other parts of the hospital, and to all necessary fire escape exits;
- **fire hazard:** a set of conditions in the operation of a product or system with the potential for initiating a fire;
- **fire precautions:** measures which can be taken to reduce the likelihood of ignition occurring and/or to mitigate the consequences should ignition occur. Precautions are considered under five headings, each of which is defined below:
 - a. **prevention:** precautions to control potential ignition and fuel sources, to ensure that fires do not start; prevention also includes general fire precautions;
 - b. **communications/alarm and detection:** precautions which inform the occupants and fire brigade when a fire starts;
 - c. **means of escape:** precautions which enable the occupants of the building to escape to a place of safety away from the effects of the fire;
 - d. **containment:** precautions which contain the fire to the smallest possible area, and control the threat to life, safety and the extent of property damage;
 - e. **extinguishment:** precautions, which ensure that the fire can be extinguished quickly and with minimum disturbance to the function of the hospital and damage to its premises.
- **fire resistance:** ability of an element of building construction, component or structure to fulfil, for a stated period of time, the required load-bearing capacity, fire integrity and/or thermal insulation and/or other expected duty in a standard fire-resistance test;
- **ignition sources:** heat sources or flames which may cause ignition;
- **progressive horizontal evacuation:** evacuation of patients away from a fire into a fire-free compartment or sub-compartment on the same level;
- **protected shaft:** a shaft which enables persons, air or objects to pass from one compartment to another, and which is enclosed with fire-resisting construction;



- **refuge** : a place of temporary safety within a building; this should be adjoining compartment or sub-compartment capable of holding all those threatened, without a significant change in level and from which there is potential for further escape should that become necessary;
- **Technical Standard(s)**: refers to the 6th Amendment of the Technical Standards to the Building Standards (Scotland) Regulations 1990.



3. Fire risk assessment in existing premises

- 3.1 This document can be used to undertake an assessment of fire precautions in existing residential care premises. To conduct such an assessment the six stages set out below should be followed.

Stage one: people

- 3.2 Assess the number of residents in the residential care premises to determine whether it is medium or large. By assessing the risk to residents who are likely to be the most vulnerable in a fire, the responsibility to assess the risk to the staff and visitors will also have been partly fulfilled.

Stage two: hazards

- 3.3 Identify and assess the fire hazards in the residential care premises using the guidance in [paragraphs 4.1 – 4.6](#):
- 4.1: Ignition sources – management issues;
 - 4.2: Ignition sources – fire hazard rooms;
 - 4.3: Combustible materials – surface finishes;
 - 4.4: Combustible materials – textiles and furniture;
 - 4.5: Combustible materials – bedding and sleepware;
 - 4.6: Combustible materials – other materials.

Stage three: precautions

- 3.4 Use the guidance in [paragraphs 4.7 – 4.20](#) to assess the fire precautions and fire safety management in the residential care premises:
- 4.7: Prevention – management;
 - 4.8: Prevention – training;
 - 4.9: Prevention – fire notices and signs;



- 4.10: Communications – alarm and detection systems;
- 4.11: Means of escape – travel distances;
- 4.12: Means of escape – refuge;
- 4.13: Means of escape – bedrooms;
- 4.14: Means of escape – stairways;
- 4.15: Means of escape – security;
- 4.16: Means of escape – emergency lighting;
- 4.17: Containment – structural elements;
- 4.18: Containment – compartmentation;
- 4.19: Containment – sub-division of concealed spaces;
- 4.20: Extinguishment – manual fire-fighting equipment.

- 3.5 The process of assessment is partly by visual survey of the building and partly by desktop analysis of plans, policies and records. SHTM 84 is only a guide to identifying the level of fire safety and it is not a precise tool. It is a matter of professional judgement as to what degree of tolerance can be expected in the assessment and this is one reason why the competence of assessors to conduct fire risk assessments is essential.

Stage four: assessment record

- 3.6 The significant findings of the assessment should be recorded in writing. Where the hazard/precaution complies with the specified requirement it is acceptable. A fire safety audit sheet is provided in the [Appendix](#), and it is recommended that one of these be completed for each residential care premise.

Stage five: action

- 3.7 Having completed the assessment, appropriate action should be taken to deal with any hazards/precautions which have been identified as unacceptable. Such action may be:
- to remove or reduce any of the fire hazards identified as unacceptable;



- to improve the existing fire precautions identified as unacceptable; and/or
- to undertake an analysis of the impact of the unacceptable hazard/precaution on the level of safety in the building and hence to:
 - i. identify appropriate remedial work; and/or
 - ii. review management provisions.

Stage six: audits

3.8 Having completed the process of assessment and undertaken any required improvement works and/or changes to management procedures, it will be necessary to establish a system for auditing the assessment to ensure that it remains valid. The assessment should be reviewed, and if necessary revised, each year and whenever:

- there is reason to believe that it is no longer realistic; or
- there has been a significant change in the activity carried out in the premises; or
- there has been a significant change in the number or dependency of the residents.



4. Fire Safety Audit Guidance

Hazards

Ignition sources – management issues

Requirements

4.1 Smoking should be prohibited in fire hazard rooms and protected zones including vestibules, lobbies and stairways, unless the fire hazard room is a designated smoking room. Where smoking is permitted, sufficient and suitably placed ashtrays should be provided and inspections made at regular intervals, and about half an hour after the smoking areas have been vacated for the night. This is to ensure that the discarded smoking materials are removed and that they will not ignite other materials.

No gas or electric cookers or portable heating appliances should be located within circulation spaces.

Electrical:

- instructions should be readily available for all equipment;
- extension leads, adaptors etc. should only be used subject to the advice of a suitably qualified member of staff;
- electric blankets should be maintained and serviced in accordance with the manufacturers' guidance;
- the wiring of plugs should be carried out by competent persons;
- electrical equipment should only be used for its intended purpose;
- all new electrical fittings and installations should be checked by a qualified person prior to operation and comply with the requirements of BS 7617 and current IEE regulations.

Individual heaters, where provided, should be installed in a fixed position, guarded and used in accordance with the manufacturers' instructions. LPG naked flame or exposed element heaters should not be used.

An effective programme of planned preventative maintenance should be operated throughout the premises with an agreed procedure for reporting faults. Once reported, action should be taken to repair any faults or otherwise ensure that the equipment is made safe.



Ignition sources – fire hazard rooms

4.2 Certain rooms within patient access areas of healthcare premises, by their use, constitute a particular fire hazard. The boundaries of these rooms should be regarded as the enclosing construction and be of fire resisting construction to ensure that they do not present a serious hazard. Such rooms may include:

- kitchens;
- laundry rooms;
- stores for highly flammable or combustible materials (e.g. linen stores);
- smoking rooms;
- lift motor rooms;
- large dayrooms (those intended for more than 10 residents).

Requirement

Fire hazard rooms must comply with the requirements for sub-ompartmentation of Part D of the Technical Standards. Walls may be terminated at ceiling level provided that the ceiling is non-demountable and that openings in the ceiling comply with the requirements of Part D of the Technical Standards.

Combustible materials – surface finishes

4.3 To inhibit the spread of fire within the building the internal linings should:

- offer adequate resistance to the spread of flame over their surfaces; and
- where they are located in a circulation space, have a low rate of heat release when ignited.

Requirement

The wall and ceiling finishes must comply with the requirements for internal linings of Part D of the Technical Standards.

Notes

The finish applied to a wall, floor or ceiling can contribute to the spread of a fire. Some finishes will allow fire to transfer from one area to another very quickly by 'surface spread of flame'. This not only makes the fire difficult to control, but provides additional fuel, which will increase the severity of the fire.

Small areas with finishes which have a lower level of fire safety performance than specified, are permitted provided that they do not amount to more than 5% of the total wall areas eg notice-boards. Where walls are covered by temporary surfaces such as posters, fabrics, prints, decorations, etc, the significance of these need to be considered.



Where walls have been subject to repeated painting over a number of years with gloss paints, the accumulated thickness of paint film may present a problem and provide for rapid transfer of fire over its surface. Where this situation exists, specialist technical advice should be obtained. The use of anti-graffiti and intumescent paints requires careful consideration, especially when they are applied over existing painted surfaces. Full technical guidance should always be obtained from the manufacturer.

Assessment of the level of fire safety performance of surface finishes is described in the Technical Standards, Part D: DTS D1.3 T3.

Combustible materials – textiles and furniture

- 4.4 Textiles and furniture supplied by the owners and managers should meet the following requirements.

Requirements

All textiles and furniture must comply with the requirements of the Furniture and Furnishings (Fire) (Safety) Regulations 1988 (as amended).

In addition, when new textiles and furniture are purchased they must comply with the requirements of SHTM 87 'Textiles and furniture'.

Notes

The provision of textiles or furniture by residents should be restricted to their own bedroom. If the bedroom is shared with other residents, or if the items give particular cause for concern, it may be necessary to take extra precautions. Such extra precautions might include the provision of automatic fire detection in the resident's bedroom, where this is not already required under Section 13.

Textile fabrics which are capable of meeting these standards include durably flame retardant treated cotton and 100% flame-retardant polyester. Also suitable, if available, is 100% modacrylic. It should be emphasised that retaining the flame retardant properties is dependent upon correct laundry procedures being followed. Careful note should be taken of all wash and care instructions provided. Advice should be sought from the supplier if no such instructions are provided.

Combustible materials – bedding and sleepware

- 4.5 Bedding and sleepware supplied by the owners and managers should meet the following requirements:



Requirement

All bedding and sleepware must meet the requirements of SHTM 87 'Textiles and furniture'.

Notes

It is recommended that bedding and sleepware provided by the residents should also achieve the same standards.

Many products such as mattress overlays, fleeces and underpads are used in the care of residents with, or with a pre-disposition to, pressure sores. They are usually placed within the bed assembly, or on easy chairs or wheelchairs. Where possible these products should meet the requirements of BS7175 Section 3 using ignition sources 0 and 5. However, nursing or medical advice should be sought if there is likely to be a conflict between a resident's needs and fire safety.

Combustible materials – other materials

- 4.6 The control of combustible materials by attention to 'good housekeeping' can reduce the likelihood of fire. Practices which should be followed are:

Requirements

- the avoidance of the use of highly flammable materials and liquids wherever possible;
- the appropriate storage and disposal of aerosol sprays, taking into account the quantities involved;
- the care and cleaning of any soft toys in accordance with the manufacturers' instructions in order to maintain the flame retardancy required under the Toys (Safety) Regulations 1989;
- the careful checking of any soft toys donated to the home to ensure that the flame retardancy requirements of the Toys (Safety) Regulations 1989 are achieved;
- the orderly stacking in stores of linen, paper or plastic packaging;
- the storage of equipment and packages in designated areas only, and not in plant rooms, service voids and shafts, circulation space, etc;
- regular checks to prevent the accumulation of rubbish in stairway enclosures and 'out of sight' spaces such as plant rooms, service voids and shafts, basements, dead-end corridors, behind radiators;
- the proper control and disposal of packaging, waste and other combustible rubbish.



Precautions

Prevention - management

4.7 Owners and managers of residential care premises must:

Requirements

- ensure that they have a clearly defined fire safety policy for the protection of residents, staff and visitors. This should be closely linked to the general health and safety policy of the premises;
- ensure that there is an up-to-date emergency plan based on the risk assessment setting out, among other things:
 - details of the action to be taken by staff in case of fire;
 - the procedure to be followed in the evacuation of the premises in case of fire;
 - the arrangements for calling the Fire Brigade and for informing them of any special risks.
- ensure that there is an adequate number of persons, at all times, who are to be responsible for supervising and controlling the operation of the emergency plan;
- ensure that a copy of the emergency plan, and the findings of the fire risk assessment are kept in the premises and are available for inspection;
- ensure that there is one named individual with management responsibility for fire safety;
- ensure that fire drills are carried out in compliance with the Fire Plan so that all staff are well versed in an emergency evacuation;
- maintain an up-to-date drawing/plan showing the premises, which indicates automatic detection and alarm systems, means of escape, containment, positioning of fire safety signs and notices, manual fire-fighting equipment, and Fire Brigade access;
- ensure that all means of escape are maintained so that they can be safely and effectively used at all times;
- ensure that all means provided for emergency lighting, fighting fire, detecting fire and giving warning in case of fire are maintained in efficient working order and regularly tested by a competent person. Where any such means are electrically operated, the necessary power supply should, unless switched off for the purpose of altering, maintaining or testing the electrical system, be available at all times;
- keep records, which are available for inspection, for a minimum of three years, of all tests carried out on equipment for:
 - emergency lighting;



- fire fighting;
- fire detection;
- fire alarms;
- keep records of all training and fire drills.

Prevention - training

- 4.8 Owners and managers of residential care premises should ensure that all staff, including temporary and agency staff, are given appropriate information about, and instruction and training in, the fire precautions to be taken in the premises, including the action to be taken in case of fire.

Requirements

Information, instruction and training must be given at the start of the person's employment in the residential care premises, and whenever there is a change in the fire risk. It must be repeated in compliance with the Fire Plan and at least twice every year.

Practice fire drills must also be held in compliance with the Fire Plan and at least once every year.

Notes

Fire safety training should be specific to the residential care premises and should cover:

- fire prevention;
- the correct action to be taken when a fire is discovered;
- a description of the audible alarm given;
- the correct action to be taken on hearing the alarm;
- the correct action to be taken in specific circumstances e.g should a person's clothing or a pan of fat catch fire;
- evacuation and escape procedures;
- the appreciation of the importance of fire doors and their correct use, and avoidance of abuse;
- use of manual fire-fighting equipment provided, including, where appropriate, practical demonstrations;
- knowledge of the position of fire doors on escape routes.

Fire safety information, instruction and training should be provided by competent persons whether in the normal workplace or elsewhere.



In large premises, practice fire drills should assume conditions in which one or more escape routes are 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 by the staff as fully as circumstances allow. It may be appropriate to inform the Fire Brigade of the date and time of such drills in order to prevent false alarms, and in case they wish to be present.

In medium premises, practice fire drills could take the form of a walk over escape routes, checking fire doors, the position of alarms and fire equipment.

Every person identified in the emergency plan as responsible for supervising and controlling the operation of the plan should, be given access to the risk assessment and to the emergency plan, and given such additional instruction as will enable him or her to discharge those responsibilities.

Where possible, every resident should receive appropriate training in fire safety on occupation, and this should be repeated at suitable intervals. Those residents who are able should be encouraged to participate in fire drills.

Prevention – fire notices and signs

- 4.9 The purpose of fire notices is to give concise instructions on the actions to be taken on discovering a fire and on hearing the alarm. Details of the emergency plan relevant to the residential care premises should be included.

The purpose of fire signs is to direct persons towards fire exits, or to provide specific information or warning about particular equipment, doors, rooms, or procedures. They should be recognisable, readable and informative, as they convey essential information to regular and infrequent users of the premises, and the Fire Brigade. The visibility, illumination and height of display should be carefully considered. Guidance on photoilluminated signage is given in BS 5499, Pt 4, 2000.

Requirements

Fire notices and signs must comply with the statutory requirements of the Health and Safety (Safety Signs and Signals) Regulations 1996 and BS5499: Part 1: 1990 as appropriate.

In large premises, fire notices must be permanently displayed in conspicuous positions throughout the building and must be specific to that building. Additional notices giving further instruction should be displayed on staff notice boards. Fire signs must be provided, where appropriate, in conspicuous positions but these should not be to the detriment of the homely environment.



In medium premises, a fire notice must be permanently displayed in a conspicuous position, normally the staff room or office. Consideration should be given to providing fire signs which would not conflict in providing a homely environment.

Communications – alarm and detection systems

- 4.10 The provision of adequate means of detecting a fire and raising the alarm are of vital importance in residential care premises. Early detection permits time for orderly evacuation and allows time for the fire to be tackled at an earlier stage, therefore reducing the risk to life, safety and damage to the building.

Requirements

In medium premises an L2 detection and alarm system designed to comply with the guidance in BS 5839: Part 1 must be provided.

In large premises, an L1 detection and alarm system designed to comply with the guidance in SHTM 82 'Fire Detection, Alarm and Control Systems' and BS5839: Part 1 must be provided.

Notes

Where an L1 detection and alarm system is required, this will require the provision of detection in roof, ceiling and raised floor voids.

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

In large premises the acoustic recommendations for audible alarms vary with the nature of the residential care premises and the level of staffing. Where there are always staff on duty and awake, the sound pressure level of alarms should be 5dB (A) above the notional noise level. Where there are staff asleep on the premises it is also necessary to provide 75 dB (A) at the bedhead in staff bedrooms. The maximum sound pressure level from the alarms should not exceed 105 dB (A) at any point in the premises.

Voice alarm systems provide significant benefits in terms of reduced response time and improved information dissemination, factors that are critical in a healthcare environment. Guidance on the voice alarm systems is given in SHTM 82 and BS 5588: Part 8.

Means of escape – travel distances

- 4.11 All residential care premises should be provided with adequate means of escape in case of fire which should be capable of being safely and effectively used at all material times.



Requirement

The maximum travel distance for either a single direction of escape, or where there is a choice of direction, must comply with the requirements in Part E of the Technical Standards.

Notes

In the measurement of travel distance, consideration must be given to the layout of the walls, partitions and furniture.

The design of circulation spaces should ensure that it is possible to evacuate all residents from the premises by the most appropriate method. In order to assess the suitability of circulation spaces, an emergency plan for the premises, stating the preferred methods of evacuation should be prepared.

Doors across circulation spaces should be fitted with glazed observation panels above and below 'middle rails' to assist wheelchair users.

Means of escape - refuge

- 4.12 In most residential care premises, staff are always present and are expected to play a role in evacuation. Should a fire start, it will be first necessary to evacuate the sub-compartment of origin, and the number of staff available will influence the speed of evacuation. Such evacuation may be progressive horizontal evacuation if there are other sub-compartments to which it is possible to move without a significant change in level, and from where there is the potential for vertical escape to the ground floor, should that become necessary.

The speed of evacuation and the number of residents who can be evacuated before staff are exhausted will depend upon the number of staff available. Therefore the number of resident beds which can be permitted in each sub-compartment depends on the minimum number of staff awake and available on the premises, normally the night-time staffing level.

Requirements

The maximum number of resident beds permitted in each sub-compartment is:

Number of awake staff	Max number of beds
Fewer than 2 staff awake at all times	5
2 or 3 staff awake at all times	7
4 or more staff awake at all times	9



Sub-compartment walls must be continued up to the underside of the floor above, or in the case of top floors, to the underside of the external roof surface.

The maximum number of beds in any one room must be no more than four.

Note

Openings must be limited to those permitted in the Technical Standards for sub-compartment walls.

Means of escape - bedrooms

Requirement

- 4.13 All bedrooms must comply with the requirements for sub-compartmentation of part D of the Technical Standards.

Notes

The fire resisting enclosure will be formed by the walls, doors and the ceiling, unless the walls are taken up to the underside of the roof.

Doors to the corridor should provide the same level of fire safety performance as the wall, as described in Technical Standard D1.3, and be fitted with an automatic self-closing device with a 'swing free' arm and activated by the operation of the detection and alarm system.

It is not expected that bedroom doors will necessarily open in the direction of escape.

It may be necessary to provide the potential for bedroom doors to be locked from the inside. However, if this is required, they should be easy to open from the inside without recourse to a key. In addition, any locking device used would have to be easy to open from the outside of the room by means of a standard key issued to all staff.

Means of escape - stairways

- 4.14 The positioning and design of stairways should ensure that it is possible to evacuate all residents, by the most appropriate method, from the premises.

Requirement

Stairways must comply with the requirements of Part E of the Technical Standards.



Means of escape - security

- 4.15 In most situations there is no conflict between the requirements for means of escape and security. However it is accepted that in certain situations conflicts may arise, particularly in premises which provide accommodation for people with mental illness, where it may be essential to maintain a high level of supervision during an evacuation.

In these situations, doors which open automatically on the activation of the fire alarm system may not be acceptable, since patients would be able to disperse, not necessarily following the safest evacuation route, or abscond, possibly placing themselves or others at risk. It would also be more difficult to establish that everyone had been safely removed from the fire-affected area.

In areas where security is important the staffing levels should be sufficient to allow the operation of a key-operated, or other staff-controlled, evacuation system. Any slight delay in opening doors compared with an automatic system should be compensated for by the ability of a well trained staff team to organise a controlled evacuation more quickly, and with greater confidence, than if the patients had dispersed.

Requirement

Any solution proposed must be discussed and agreed with the relevant enforcing authorities, care provider and other relevant bodies.

Means of escape – emergency lighting

- 4.16 Emergency lighting is that lighting provided for use when the power supply to the normal lighting fails.

Requirement

Emergency lighting must be provided and comply with the requirements of Part E of the Technical Standards.

Containment – structural elements

- 4.17 The building should be so designed and constructed that, in the event of a fire, its fire resistance will be retained for a reasonable period. All structural elements should therefore be able to resist the effects of heat for a reasonable period of time. The purpose of providing the structure with fire resistance is:
- to minimise the risk to occupants, many of whom may still be in a temporary place of safety within the premises awaiting evacuation;
 - to reduce the risk to fire-fighters;



- to reduce the danger to people in the vicinity of the building.

For the purposes of this document structural elements are:

- a column, beam or other member forming part of a structural frame;
- a load-bearing wall;
- a floor.

Requirement

The minimum level of fire safety performance of all structural elements must comply with the requirements of Part D of the Technical Standards.

Containment - compartmentation

- 4.18 To inhibit the spread of fire within it, the building should be adequately sub-divided with fire-resisting construction into compartments and sub-compartments.

Requirement

The building must be sub-divided into compartments and sub-compartments to comply with the requirements of Part D of the Technical Standards.

Containment – sub-division of concealed spaces

- 4.19 To retard the spread of fire and smoke in concealed spaces within floors, ceilings, roofs or walls, these spaces should be adequately sub-divided.

Requirement

Concealed spaces must be sub-divided to comply with the requirements of Part D of the Technical Standards.

Extinguishment – manual fire-fighting equipment

- 4.20 All residential care premises should be provided with adequate means for fire fighting as determined by the fire risk assessment.

Requirements

In medium premises, there must be a fire blanket in kitchens, and a foam extinguisher sensibly positioned elsewhere in the building.

In large premises there must be a minimum of two water extinguishers, of 9 litre capacity or equivalent, for every 400m² or part thereof on each floor level.



Extinguishers using CO₂ or other mediums should be provided as required. Fire blankets should be provided in all kitchens.

Notes

Fire blankets should comply with the 'light duty standard' as defined in BS 6575.

Portable extinguishers should comply with BS7863: 1996, BS EN3: 1996 and be inspected and maintained in accordance with BS5306: Part 3.



Appendix – Fire safety audit summary sheet

Site

Block/Building

Block/Ward

Fire Site Plan Reference.....

SurveyorDate

Paragraph Reference		Unacceptable	Acceptable	
	HAZARDS			Comments
	<i>IGNITION SOURCES</i>			
4.1	Management Issues			
4.2	Fire hazard rooms			
	<i>COMBUSTIBLE MATERIALS</i>			
4.3	Surface finishes			
4.4	Textiles and furniture			
4.5	Bedding and sleepware			
4.6	Other materials			
	PRECAUTIONS			
	<i>PREVENTION</i>			
4.7	Management			
4.8	Training			
4.9	Fire notices and signs			
	<i>COMMUNICATIONS</i>			
4.10	Alarm and detection systems			
	<i>MEANS OF ESCAPE</i>			
4.11	Travel distances			
4.12	Refuge			
4.13	Bedrooms			
4.14	Stairways			
4.15	Security			
4.16	Emergency Lighting			
	<i>CONTAINMENT</i>			
4.17	Structural elements			
4.18	Compartmentation			
4.19	Sub-division of concealed spaces			
	<i>EXTINGUISHMENT</i>			
4.20	Manual fire-fighting equipment			